Advanced Analytics

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Introduction

Like the increasing adoption of cloud-based solutions by finance, the adoption of advanced analytics is a matter of **when — not if.**

Finance teams not only require tools that help collect and organize large volumes of operational and financial data — organizations need to actually leverage this data to create insights for decision-making. The COVID-19 pandemic is creating new pressures for CFOs and Finance leaders to finally break the month-end reporting cycle. Why? So their business partners have the ability to take mid-stream actions on daily or weekly financial & operational signals that impact financial performance — before month-end.

Did You Know...

Companies that characterize themselves as data-driven and are in the top third of their industry are **5% more productive and 6% more profitable** than their competitors.

TOP THIRD
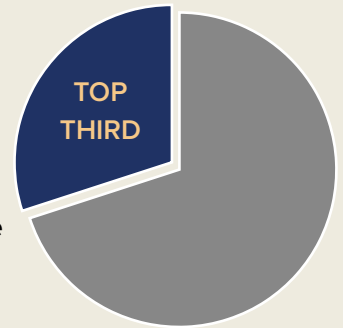
Dresner Advisory Wisdom of Crowds® Data Science and Machine Learning Market Survey
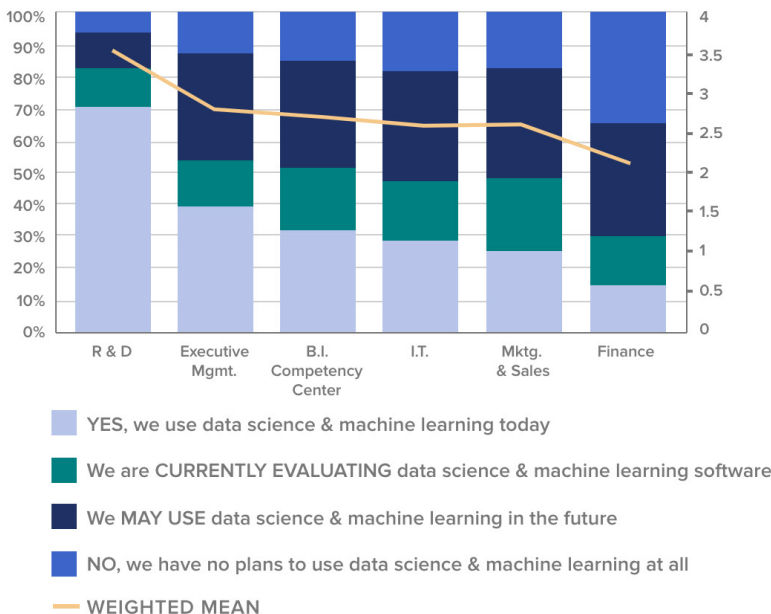
In the Office of Finance

But despite all of the potential of advanced analytics such as predictive analytics, machine learning and financial signaling, adoption amongst Finance teams is still low.

In fact, according to the Dresner Advisory Wisdom of Crowds® Data Science and Machine Learning Market Survey, **less than 20% of finance teams are deploying these technologies today.**

DEPLOYMENT PLANS
for Data Science & Machine Learning by Function

■ **YES, we use data science & machine learning today**

■ **We are CURRENTLY EVALUATING data science & machine learning software**

■ **We MAY USE data science & machine learning in the future**

■ **NO, we have no plans to use data science & machine learning at all**

— **WEIGHTED MEAN**

ADOPTION PLANS
for Data Science & Machine Learning by Function

■ **Will Adopt THIS YEAR**

■ **Will Adopt NEXT YEAR**

■ **Will Adopt BEYOND NEXT YEAR**

— **WEIGHTED MEAN**
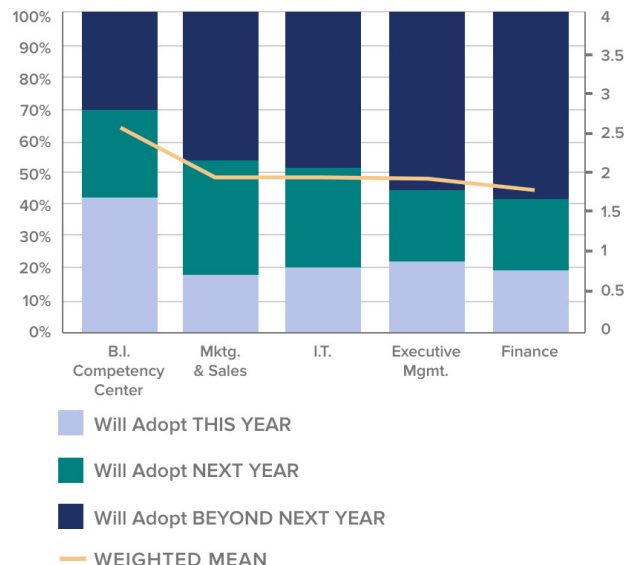
WHAT'S HOLDING US BACK?

Impacting Factors

When asked what factors were impacting their ability to produce more accurate forecasts, Finance leaders noted a lack of line management input and accountability (39%), lack of access to necessary data (38%) and ineffective software tools (32%).

OneStream's Beyond the Hype Survey notes several factors, which are:

39%	Lack of Mgmt. Input
38%	Lack of Data Access
32%	Ineffective Tools
29%	Poor Calculations and Drivers
29%	Industry / Mkt. Volatility

Figure 1
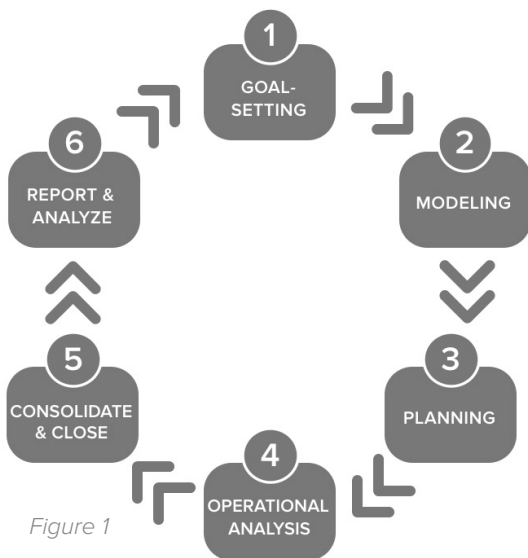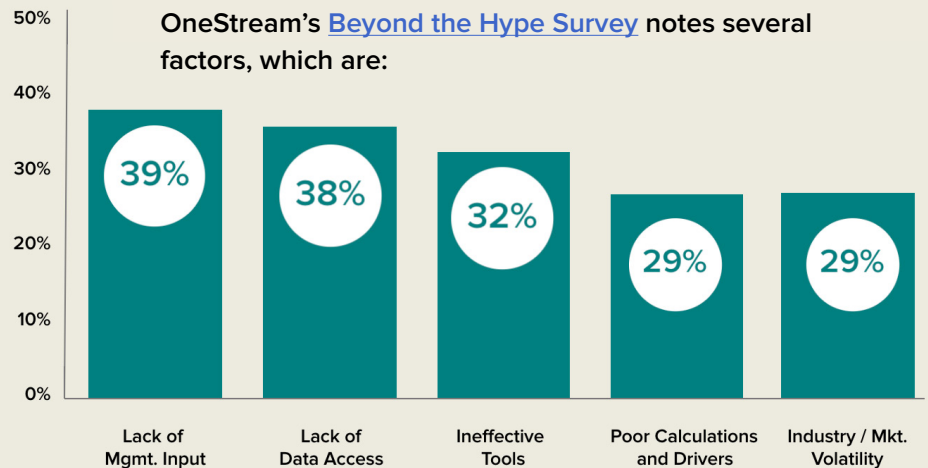
LEVERAGING ADVANCED ANALYTICS IN DAY-TO-DAY PROCESSES

To evaluate the value of advanced analytics, Finance teams should ask themselves a few simple questions. **Do we want to spend time building models or spend time interacting with them?**

Advanced analytics in Finance is just like other corporate performance management (CPM) processes such as planning, financial consolidation and **reporting**. If Finance teams spend all of their time moving data, reconciling data and building reports, they'll have no time to leverage this data to guide key decisions. **But by leveraging technology** to handle the hard work, Finance teams can shift a larger portion of their time to value-driving activities such as forecasting cash or evaluating key capital investment decisions

Creating value from advanced analytics in Finance requires a similar approach.

Within Finance processes, advanced analytics can play a powerful role in driving collaboration and effective decision-making. Consider the CPM framework (see figure 1 to the left). While there are several versions of this framework, most consistently show the role finance plays in steering organizational performance as a continuous cycle of mapping key strategies into actionable business plans.

What if you had the power to incorporate advanced analytics into these key processes, and do it directly within your day-to-day business processes? What if you could **conquer the complexity** of gathering and organizing financial and operational data or creating and maintaining predictive forecast models?

The Power of Advanced Analytics

With the sheer volume of data available and advancements in CPM software, Finance teams now (finally) have the capability to interact with advanced analytics. **And do it at scale.** How? Instead of taking on the burden of building models, Finance teams can rely on purpose-built software to help them supplement their analysis, reporting and planning processes with high-volume operational and financial signals, and with statistically significant, predictive forecasts.

HERE ARE A FEW USES CASES FOR ADVANCED ANALYTICS ACROSS THE OFFICE OF FINANCE:

CORPORATE FP&A

- ☑ **Set targets** for AOP and long-range plans
- ☑ **Validate forecasts** from business partners
- ☑ **Seed baseline forecasts** with predictive models
- ☑ **Create daily or weekly signals** on sales, gross margin and working capital drivers

SALES FINANCE

- ☑ **Seed S&OP** processes with predictive forecasts
- ☑ **Create financial signals** on daily and weekly customer AR analysis (DSO)
- ☑ **Review daily and weekly customer pacing** on unit volume or orders for top customers

OPERATIONS FINANCE

- ☑ **Analyze future labor** and material costs with predictive models
- ☑ **Create daily or weekly operational signals** on controllable cost metrics
- ☑ **Track daily production** and capacity pacing vs. plan and run rate

BRAND FINANCE

- ☑ **Extend predictive forecasting** by store, brand, department, product category
- ☑ **Analyze daily and weekly trends** in campaign performance
- ☑ **Analyze and optimize weekly pricing** and product mix trends

So what's the best way to get started? Finance teams should consider advanced analytics as part of a broader framework that includes financial signaling, predictive analytics and ML.

FINANCIAL SIGNALING

FINANCIAL SIGNALING: THE NEXT INFLECTION POINT

Financial Signaling is critical to help Finance teams to move ahead of the monthly reporting cycle by leveraging the Financial intelligence that's core for their monthly financial processes such as hierarchies, dimensionality, translations, FX rates and blending it with higher-velocity financial transactions and operational data from multiple sources.

With this unique capability, Finance teams can begin to analyze these signals on a weekly or even daily basis to compare how their key metrics and KPIs are pacing vs. their forecasts and run rates for the month.

This includes information on suppliers or customer orders and shipments, as well as core financial data around working capital metrics, marketing analytics, sales pipeline or operational performance.

PREDICTIVE ANALYTICS

PREDICTIVE ANALYTICS: LOW COST & HIGH VALUE

Predictive analytics provides the power to predict future performance based on applying predictive algorithms to historical data.

This is not new. But by automating model creation and deployment directly within CPM processes, predictive modeling is easy to execute for any planner.

This "ease of use" makes predictive models incredibly powerful for Finance teams.

UNLIMITED FORECASTING

UNLIMITED FORECASTING WITH MACHINE LEARNING (ML)

For Finance teams who need to go beyond traditional predictive analytics, ML is the answer. **ML is where people and technology come together.** For example, consider a retailer's demand forecast for Product A in Region B within Store C. To forecast at this granular level, there are so many other factors at play. How about the weather in Region B, for instance? And what if Store C built a new parking garage? Or what if a major competitor opens a location across the street or changes their pricing? Factors like these are all potential features an ML model might consider if your Finance team has made the necessary investments in data scientists.

Compared to predictive analytics, ML comes at a higher cost and is harder to scale. But if your organization is committed to the investment, there's a higher reward in terms of forecast accuracy.

Helping Finance Lead at Speed

OneStream™ unleashes the power of Finance by unifying planning, financial close & consolidation, reporting and analytics through a single, extensible solution. We empower the enterprise with financial and operational insights to support faster and more informed decision-making — all in a platform designed to continually evolve and scale with your organization.

OneStream's comprehensive platform helps Finance teams access, maintain, validate and visualize data all within a seamless and unified experience. And in doing so on both governed financial and high-velocity operational data, OneStream provides a foundation for Finance-owned transactional analysis, reporting and sharing predictive insights — to find new ways to ask "why."

And for those organizations seeking to take their advanced analytics journey even further, OneStream is investing into ML solutions that will unify the most sophisticated analytical models with everyday CPM processes.
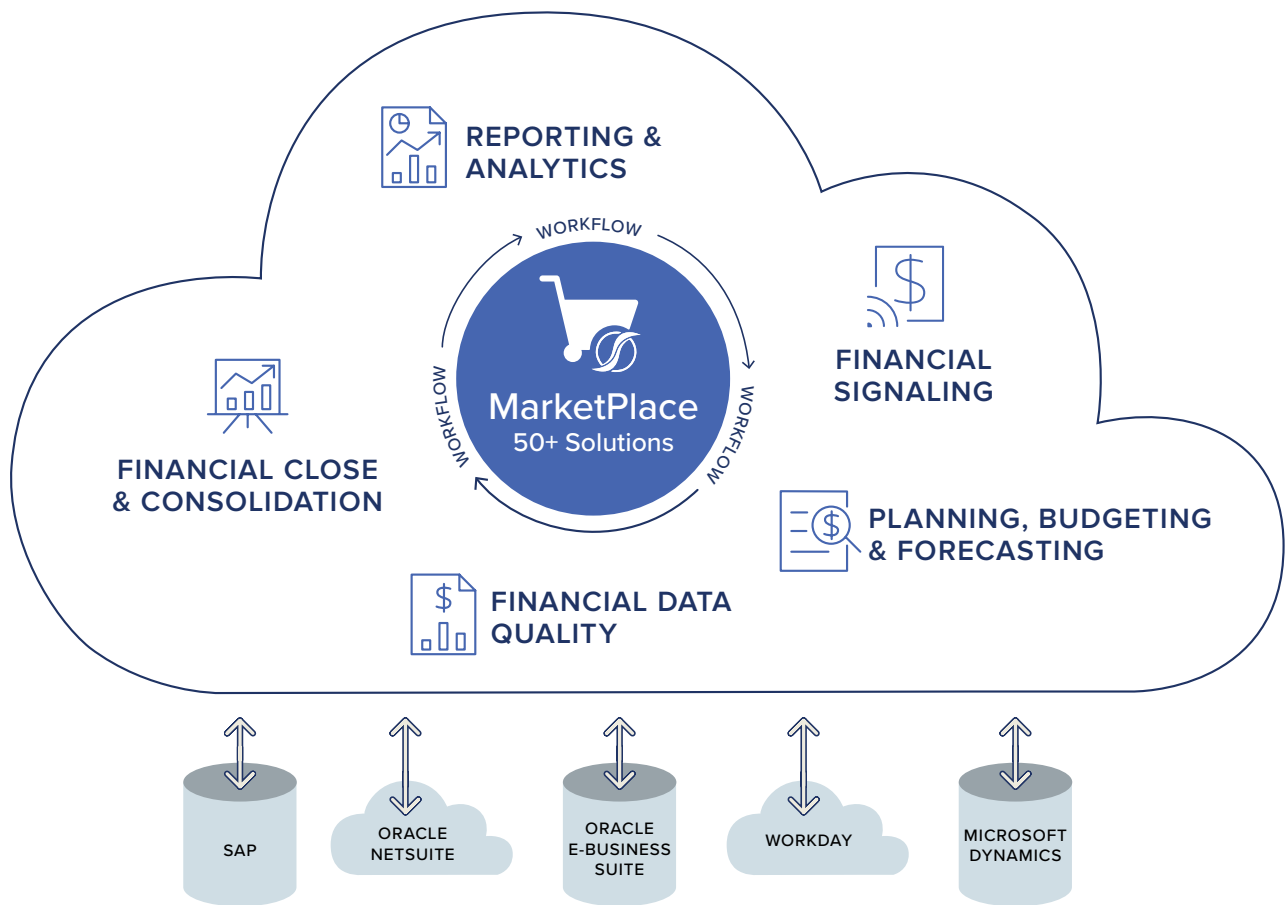
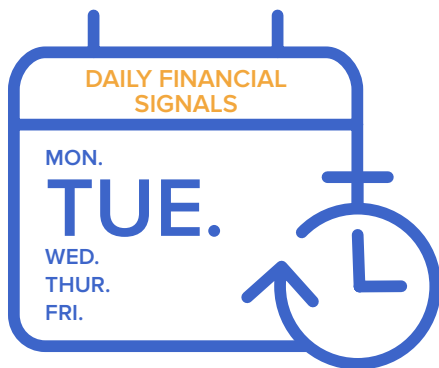# OneStream's Innovations in Advanced Analytics

ANALYTIC BLEND

Enables customers to blend governed financial information with detailed operational data in the same analytic model. By leveraging and reusing OneStream's core financial intelligence, Analytic Blend ensures that even the most granular operational data across our lines of business and functional teams are always in sync with governed financial hierarchies. And by combining analytics and transactional data too, Analytic Blend gives Finance teams the unique ability to provide Financial Signaling on weekly and even daily data to drive performance before the month-end close.

FINANCIAL SIGNALING IN ACTION
The Financial Intelligence to Make Mid-Stream Decisions that Can Impact Month-End Results

DAILY FINANCIAL SIGNALS

MON.
TUE.
WED.
THUR.
FRI.

WEEK 1   WEEK 2   WEEK 3   WEEK 4

FINANCIAL INTELLIGENCE

MONTHLY FINANCIALS

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Dailly / Weekly Operational & Financial Data

- Supplier Performance
- Orders and Shipments
- Customer Churn
- Working Capital
- Days Sales Outstanding (DSO)
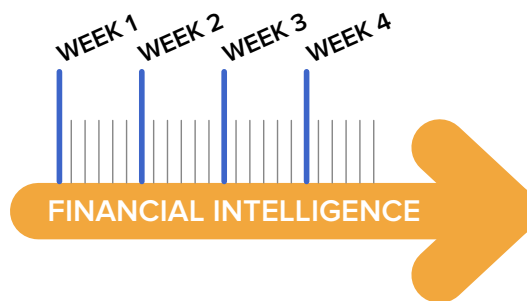
Monthly Financials

- Consolidated Actuals
- P&L, Balance Sheet, Cash Flow
- Financial Plans & Forecasts
- Operational Plans
- Management Reporting
- Analysis

PREDICTIVE ANALYTICS

Extends analytic capabilities by applying statistical models to generate predictive forecasts leveraging the same data within a single, unified platform. Downloadable from the OneStream MarketPlace™, Predictive Analytics 123 automatically generates high-predictive forecasts by leveraging 10+ built-in model types. The software runs hundreds of variations on your data and automatically reveals which of those models is optimal for you to use. Users can deploy and incorporate predictive models anywhere across the OneStream platform including workflows, all planning processes, reports and dashboards.

MACHINE LEARNING

OneStream's vision is to provide an accessible ML framework for our customers that's unified with corporate performance management (CPM) processes.
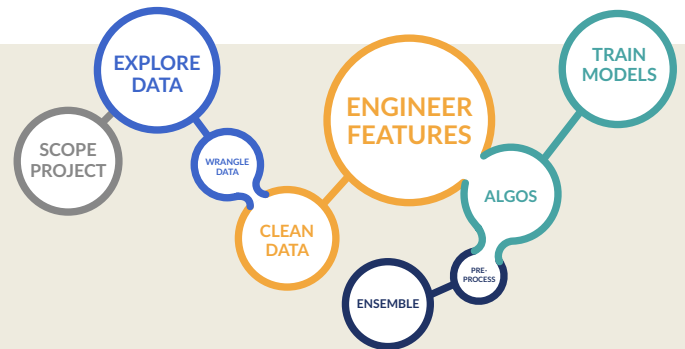
FOR ORGANIZATIONS **WITH** DATA SCIENCE RESOURCES:

ML 123 (see figure below) — will provide powerful and seamless integration with data scientist projects and link that back into core finance processes

STEP 1
Leverages our advanced data preparation engine to assist with feature engineering, such as incorporating gas prices, weather patterns and the impact of holidays.

STEP 2
Integrate data from Step 1 with OneStream's ability to integrate with 3rd party ML platforms to allow data science teams to use their tools of choice. For example, the figure below illustrates OneStream's integration with Azure ML.

STEP 3
Finally, integrate the output from the ML models back into the OneStream users' workflow, enabling data scientists to deliver ML models directly into the planning and reporting process.

FOR ORGANIZATIONS WITHOUT DATA SCIENCE RESOURCES:

Sensible ML — Sensible ML is a planned OneStream Marketplace solution currently in development. What will it do? Sensible ML gives finance teams the power to leverage ML models without the data scientist. How? By guiding users through each part of the ML model building and deployment process, including feature engineering through advanced algorithm configuration, training and deployment. Here's how it works:

- **Data Load and Tagging:** Sensible ML gathers information about the columns in the source dataset and other additional data (such as geographic data) from users

- **Forecast Horizon and Scheduling:** Users are prompted to input their proposed forecast horizon.

- **Feature Generation/Engineering:** Sensible ML generates new features using internal factors like volume, revenue as well as external factors like weather and GDP.

- **Baseline Model Comparison:** Sensible ML compares ML models with traditional forecasting methods, like grossing up prior-year results, to calculate incremental forecast accuracy.

- **Model Training and Deployment:** Sensible ML automatically trains, tunes and deploys the best performing ML model.

- **Model Presentation:** All model results and insights are tracked and presented to users however they choose within their normal OneStream planning processes.

Just like ML 123, Sensible ML is designed to **enable finance teams to focus on collaborating with their business partners.** This allows finance teams to leverage new insights to find new ways to ask why and extend their dialogue to make better decisions.

Bringing It All Together

Will advanced analytics eliminate all the uncertainty in the world today? Absolutely not. Nor will these technologies change the Office of Finance forever. Does it mean that all of today's decisions will be automated away? No. Should Finance teams expect 100% forecast accuracy all of the time. No. Does it mean that all legacy planning processes should stop? Absolutely not.

Advanced analytics offer Finance teams a new way to ask "why" and drive performance. But like with any other new technique or technology, it's critical to sift through the hype and try to understand "what this means for me." No solution will offer the perfect forecast or answer every question that CFOs or CEOs ask. However, if finance leaders can take one small step forward to evaluate advanced analytics through the lens of being an enabler for Finance, like we've done for hundreds of organizations around the globe, OneStream can help your Finance team take giant leap forward.

About OneStream Software

OneStream Software provides a market-leading intelligent finance platform that reduces the complexity of financial operations. OneStream unleashes the power of finance by unifying corporate performance management (CPM) processes such as planning, financial close & consolidation, reporting and analytics through a single, extensible solution. We empower the enterprise with financial and operational insights to support faster and more informed decision-making. All in a cloud platform designed to continually evolve and scale with your organization.

OneStream's Intelligent Finance platform can easily be extended with over 50 solutions from the OneStream MarketPlace. These downloadable solutions are fully battle-tested and optimized for the OneStream platform. They allow customers to easily extend the value of their investment to meet the changing needs of finance and operations.

For more information, visit our website at **OneStreamSoftware.com**.

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