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Using Exogenous Data to Increase Return on Equity and Assets

5 reasons why external business drivers are vital to your company's performance

INTRODUCTION

Insight is everything to winning in today's fast-paced and volatile global economy. The company that has access to leading business drivers and risks ahead of the competition can act more quickly and effectively on this information. Decisions to seize market opportunities or change course are more informed and hence assured, and the outcomes are much more likely to be successful.

If only this were the case at most companies. Many organizations are floundering in an ocean of data—their own fast-changing repositories of internal facts and figures and the constant streams of external data coming from sources like the Internet. Navigating through all these complex signals is hindered by not knowing which information is of most import to the company's strategic plan. No wonder so many forecasts rarely match up with actual performance—somehow, somewhere, a leading business driver was overlooked, casting the company adrift.

This situation is far worse for global enterprises, businesses that compete, operate, and source supplies and materials in numerous countries, many of them emerging economies. A macroeconomic or geopolitical event can instantly disrupt strategic plans. These run the gamut from insurrections to changing consumer spending behaviors, rising or falling manufacturing activity, natural hazard activity and dozens of other incidents that inform leading business indicators. If these telltale signs are not identified and assessed, they are sure to fall through the cracks.

There is no excuse for failing to arm a modern enterprise with real-time information to drive fact-based decision-making. Without such knowledge, the CFO—as the steward

of business intelligence—cannot determine if the business is outpacing its competitors or is actually underperforming them. The CFO has had little in the way of evidence to evaluate if a market is in "trouble" in order to make a decision whether to exit it, much less discern the prospects of another market to enter. When the board of directors asks why the company has again missed its forecast and why its aptitude to accurately predict business outcomes is less than the ability of peer organizations, the answers are hedged.

This is no way to run a modern enterprise. Yet, too many companies are perilously steering their corporate ships with hindsight as the guide—last year's internal business data. The time has come for businesses to look at the world through the lens of today—to keenly peruse internal and especially external business—indicators to guide where they are going tomorrow.

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To do this, a company obviously needs a way to sift through millions of exogenous macroeconomic and microeconomic data sets to identify those of urgent relevance to the organization's strategy. This is not an easy task, but it is crucial. As Gartner research vice president Doug Laney explains, **"The biggest pain point in developing accurate forecasts is leveraging exogenous data better than the next guy, then integrating it with your own internal performance data."**

A truly robust forecasting tool, one that combines internal and external data into an accurate set of leading business drivers, is needed to do the sifting. Unfortunately, most companies' financial and reporting solutions produce a forecast that is derived from their internal historical financial data and the unbridled optimism of their sales teams.

Not the best idea, says Laney, who leads Gartner's business analytics solutions practice. **"To better understand the marketplace, it is incumbent for organizations to look beyond their own four walls for data sources,"** he explains.

When external data is distilled and analyzed in tandem with internal data, great things can happen for a company, forecast-wise. A case in point is Zillow. Since 2006, the online real estate firm has published estimates (called Zestimates) of the market value of a home. Six years later, its ability to make such estimates changed dramatically, following the issuance of an executive order by President Obama to open up more U.S. government data sets such as census and permit data, to private companies. The President also required that this information be presented in real time and in an easily accessible and understandable format. Previously, this data was unformatted and unstructured, not to mention out of date.

Accessing this trove of new external information, Zillow applied 1.25 million statistical analyses to the data using algorithms to model projected market values. The result is truly impressive—the company nearly halved its median error rate of a home's final sale price from 13.6 percent to 6.9 percent.† **That's the power of exogenous data**.

Here are five compelling reasons why your organization should capture and distill external macroeconomic and microeconomic data to improve the accuracy of the forecast.

† http://data-informed.com/zillow-estimates-improve-new-algorithms-better-data/

1 Because You Can Better Predict Customer Demand and Sales

There are few elements of business more important than accurately gauging customer demand, given the powerful impact this has on sales revenue. Many risks affect demand, including a competitor's new product, a disruptive technology, a leadership change at the buying organization, and a customer's financial strength and stability.

Just as important to this assessment of demand are events of a geopolitical, macroeconomic, and microeconomic nature. National economies are fragile, interconnected entities exposed to extraordinary volatility, as the financial crisis demonstrated. Any incident that results in a decline in overall consumer disposable income, for example, is sure to reverberate at the cash register.

Recognizing the potential for an event to occur and its possible severity prepares an organization to take actionable steps limiting the damage. In some cases, it may even illuminate an opportunity that competitors fail to see. To achieve such outcomes requires access to real-time external information.

"Today, there are millions of data sets that are published by governments, industry organizations, and even companies that want to share their data for different reasons."

—Gartner Research vice president Doug Laney

In the past, these information sources were restricted. "A decade ago, it was tough to get one's hands on exogenous data," says Laney. "Today, there are millions of data sets that are published by governments, industry organizations, and even companies that want to share their data for different reasons."

This valuable information is wide-ranging, including **economic data, weather patterns, customer demographics, competitor moves, and even social and cultural trends**. To inform the development of an accurate forecast of customer demand, businesses need to capture and distill exogenous data, make sense of its import, and then correlate it with internal business data into a set of leading business indicators.

This exercise would normally require teams of analysts to capture disparate sources of external data, clean and consolidate this bounty, and then store it in a huge, monolithic data warehouse. Using antiquated software, high-priced statisticians or economists would then try to make sense of this jumble. These processes exhaust capital and especially time, slowing down the ability to make informed decisions.

The alternative is to **invest in a forecasting tool that uses advanced analytics to predictively model the interplay of exogenous and internal business data**. This is what RaceTrac Petroleum, Inc., did in 2012. The 80-year-old, Atlanta-based owner and operator of convenience stores and gasoline stations in more than a dozen U.S. states wanted to narrow its projections of customer demand and sales, thereby improving the accuracy of its forecast. Since RaceTrac's profits come largely from its retail stores and not the pump, the focus was on the former. "Gas is but icing on the cake," says Brad Galland, RaceTrac director of financial planning and analysis.

Because the shelves in its convenience stores have a finite amount of space, the company sought a more accurate way to improve its category (product) demand forecasting: having the optimum products on its shelves at the right time for the right buyers. Previously, RaceTrac gauged customer demand largely on vendor data and subjective industry information "not always tied to factual data," Galland said. **"We felt we were at the mercy of the market, and specifically looked for a way to get our hands on external data—the right external data, though."**

The challenge was the millions of data sets involving the retail business that jammed the Internet. "We needed a way to determine which indices were true leading indicators for our store sales," Galland says. "We had internal sales data from the vendors, but this did not help us accurately project sales going forward. As a result, we were operating the business with hindsight

as the guide. Ultimately, we wanted a simple model so we could know which product categories in different regions would be affected by different economic and other factors."

Today, the company's forecasting solution supports these needs, by marrying its internal sales information with exogenous data to produce high-level economic indicators. "We've got some pretty solid models," says Galland.

"Now that we have a clearer sense of what is likely or not likely to sell in a particular region at a certain time of the year," he adds, "we're able to make better product choices and can adjust our pricing to generate more volume."

RaceTrac's sales team recently dubbed the tool "demographics meets geographic."

Because You Need Better Data to Know When to Enter a Market or Leave It

More than a century ago, companies were primarily local entities engaged in little if any competition. Visionary founders inspired employees on a journey of mutual purpose and value. Business prospects occasionally rose or fell, but the organization stayed relatively static—in the game for the long run. A forecast back then was not a truly useful tool.

Today, many enterprises are global, the world their playground. They engage in multiple markets, and in some cases provide both products and services. Sticking it out in all these markets can be dangerous, consuming capital that may better be directed to a new market opportunity. Indeed, knowing when to enter or exit a market is one of the hallmarks of business success. And it requires access to accurate business intelligence on external market factors to make such complex decisions.

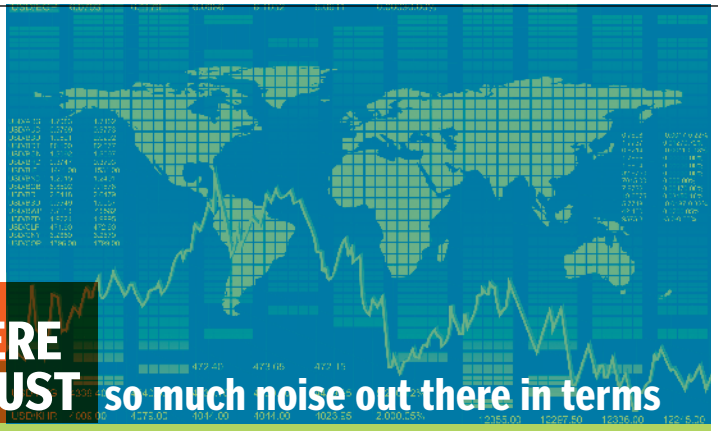
"**Companies need to understand the macroeconomic forces that shape the size and direction of markets**," says Steve Player, executive director of the Beyond Budgeting Round Table. "This requires information on whether the customer population is growing or shrinking, as well as how individual segments within these populations are changing. Companies also need to know what is happening with supply and demand for various commodities to discern whether or not to stick with a product or in a market."

These various forces, Player asserts, "shape the strategic landscape that individual company strategies must be executed on."

To make the right decision, businesses must apprehend and comprehend an extensive range of complex exogenous data. For example, are there geopolitical risks that may eventually affect your sales in a particular region of the world? Are there natural hazards or weather-related troubles brewing that may have an impact on the resilience of your supply chain? Will a competitor's novel product or a disruptive technology possibly carve inroads into your future market share? What are the risks of a new societal trend rearing and affecting our customers' buying behavior? Do you have the right skill sets in a particular region to serve a new market entry?

A forecasting tool that pours millions of exogenous data sets into a funnel to produce leading business indicators can help answer these questions. Just an analysis of consumer spending can shed light on market plays—for example, nearly 70 percent of the GDP in the United States is composed of what consumers spend.

The challenge is securing and analyzing data that is congruent to a company's business prospects. "There is just so much noise out there in terms of data," says Gartner's Laney. "Enterprises need to get their hands on the right exogenous data, but they need a way to filter out the noise. Algorithms are the answer and they're getting better all the time. But you need the right algorithms in the right forecasting tool to know when to stick with a particular product, improve



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upon it, or move on to another market category."

He provided the example of a restaurant chain that accessed data on the millions of food items presented in menus nationwide, giving it rare knowledge of different food pairings. This data was analyzed to predict the types of dishes patrons would likely want to order, not to mention the food categories they would likely pass on.

This external data served a vital purpose for the company—improving working-capital decisions by having the right foods in the pipeline, enhancing resource allocation decisions by narrowing expenses to higher-sales products, and increasing customer satisfaction and loyalty by serving up the trendy fare its patrons want to eat.

Certainly, there is tremendous enterprise value in knowing what your customers want and how much of it they are likely to buy. **"Companies using forecasting tools that make use of exogenous data outperform those that don't,"** Laney says. "By providing improved forecast accuracy to finance, purchasing, and sales departments, the right tools can enable a business to survive, if not thrive."

He makes an excellent point. By analyzing external data in combination with internal data, organizations gain deeper insight into their leading business indicators. This forward-looking view helps them avoid entering an emerging market too late, or staying in a declining market too long.

Without such insight, companies are flying blind, unprepared to seize market opportunities or evade market risks.

3 Because You Need to Know How Your Company Is Really Performing

It's one of the most common questions in business—whether or not a company is actually outperforming its competitors or the market in general. Historically, every organization relied on an alphabet soup of acronyms to determine its performance against strategy, including EPS (earnings per share), ROE, (return on equity), ROI (return on investment), EVA (economic value added) and EBITDA (earnings before interest, taxes, depreciation, and amortization). Decisions like resource allocation, expense management, and incentive compensation then follow.

While such internally focused metrics are important, they fail to take into account the exogenous factors that have just as much impact on a company's projected forecast, particularly when both sets of data are assessed and distilled into leading business indicators. A study by Gartner and the Wharton School at the University of Pennsylvania, backs up this attestation, noting that leading indicators tend to extend the value of lagging indicators, thus providing a competitive advantage. For example, the study stated that organizations with a set of leading indicators earn an almost 3 percent (2.95%) higher return on assets and a more than 5 percent (5.14%) return on equity. [††]

[††] http://data-informed.com/zillow-estimates-improve-new-algorithms-better-data/

RaceTrac wanted a way to sharpen its view of performance. The company invested in a forecasting tool that combined and distilled its internal and external performance data to produce a set of leading business indicators. "The forecasting software provides a baseline for expected performance, in conjunction with other syndicated data tools aligned with our market performance," Galland says. "By accessing both internal and external data, we have a comprehensive view of our piece of the market."

So does Advanced Drainage Systems. The Columbus, Ohio-based manufacturer of commercial and residential storm sewers felt it had a clear sense of its business performance—that is, until it examined the impact of external factors on its prospects. "In building our forecasts previously, we had only two legs to the stool—what our field management felt we would sell based on local market knowledge, and our internal sales data historically," says Michael Higgins, the company's director of business strategy and analysis. "We were lacking the third leg, however. We had little sense of customer demand or sales as related to our industry and business. Now we do."

The accuracy of the forecasting software is what pleases Higgins most, in addition to the fact-based decisions inspired by the leading business indicators. "It's a much tighter statistical fit and does all the heavy lifting," he explains. "We're getting insight into leading indicators that escaped us before, stuff that our sales reps and supply chain specialists can leverage to their advantage."

He adds, "We've learned to trust what it tells us," he added. As a result, our decisions are more confident."

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4 Because You Can't Widen Margins Without Identifying Cost Drivers

Accessing and analyzing exogenous data does more than just inform product sales pos-

sibilities. Companies also are apprised of potential cost increases, based on such factors as inflation, interest rates, credit constraints, or other economic issues just emerging in a particular region.

Knowing these financial challenges in advance assists quicker decisions to remedy the situation—relocating operations to a different country, for instance, or turning to a more cost-effective supplier. **By having a forecasting tool that compares the impact of potential expense increase with more accurate sales expectations, companies are in a prime position to maximize profits.** No more garbage in, garbage out.

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Again, the key is not merely accessing external macroeconomic data, but having the ability to distill the right data sets and compare them with internal data. The analysis is not for the fainthearted. "The volume, velocity, and variety of big data requires advanced analytics in the form of sophisticated multivariate analyses, pat-

tern matching, semantic and sentiment analysis, the discovery of leading and not trailing indicators, predictive modeling, machine learning, and prescriptive analyses," Laney says.

Such techniques, he adds, can form "the basis of new products and services, new business models, and new markets."

Fortunately there are commercial forecasting tools that do the hard work for companies.

5 Because Risk Mitigation Requires Knowledge of Risks

"With careful study, planning teams can begin to understand how external data can help them plan more effectively."

—Steve Player, executive director of the Beyond Budgeting Round Table

In the same way that exogenous data guides better projects of sales and expenses, it also sheds light on potential risks, forewarning companies to mitigate the fallout. As Peter Drucker said, **"Identify the future that has already happened."**

Player from the Beyond Budgeting Round Table agrees that access to relevant external macroeconomic and microeconomic data can help organizations identify and mitigate risk. "With careful study, planning teams can begin to understand how external data can help them plan more effectively," Player explains. "On a macro level, planning teams often track the overall general indicators, such as changes in GDP, commodity outputs and prices, and general demographic changes. Understanding these changes and building scenario plans for possible upswings and downswings helps organizations respond more quickly, thereby mitigating risk."

This has been the experience at Advanced Drainage Systems. "By knowing where customer demand will be strongest or where it will be weakest, we are able to plan strategically to limit the riskier scenarios," Higgins says. "For example, if the external data in the forecasting tool indicates demand will be stronger in the next couple months in a specific region, and our sales team validates this information, then we can go to our operations people and confidently say we need more product. **The risk of having too much inventory or too much product in the pipeline is reduced, which has a positive impact on our use of working capital."**

CONCLUSION

As these five reasons demonstrate, building a forecast that is based purely on internal data is similar to building only half a house. **Exogenous data fused to internal data to produce the informative business indicators is the best way to drive accurate forecasts** and assured company decisions. Doing it on one's own—ferreting out the useful tidbits of data from the vast data storehouse that is the Internet—is not advisable. Having a great forecasting tool instead is a no-brainer. "Ultimately," says Laney, "the ability to curate the Internet's storehouse of information and intersect it in unique ways with a company's own proprietary information will separate the winners from the losers." said Laney.

Best to be a winner.