

Why simulation-based financial forecasting is the prescription for what's next

A big pharma company is turning outlook into outcome and escalating its ROI with a next-gen forecasting platform.

■ The better the question

How can advanced algorithms lead to wiser financial planning?

A unified source of truth drives resources in more profitable directions.

1

Large pharmaceutical companies devote an enormous number of resources to the development of revolutionary medications and therapies – from lab research to clinical trials, formal approval and finally, marketing and sales. Recent studies have estimated the cost of bringing a promising new drug to market to be more than \$2 billion¹.

The payoff on that investment depends on the company's ability to allot financial resources across the entire product life cycle using the most accurate data and astute judgment. The complexities of shifting public health needs, combined with research and development (R&D) timelines and cost, changing regulations, and market competition are constantly challenging business planners to make the most effective and profitable decisions for their organizations. When equipped with the right forecasting data, these companies can be strongly positioned to maximize their investment.

In 2023, a major drug manufacturer saw an opportunity to sharpen the business forecasting capabilities that were guiding its production and promotion of promising treatments. The pharmaceutical developer needed a more centralized, automated and unified forecasting capability that could analyze internal financial data, in combination with external factors, to fine-tune its long-range financial planning.

The journey would carry the pharma company's forecasting model from legacy systems to a flexible digital platform, letting planners across the organization use centralized data to generate their own models. Using the most

forward-looking management technologies - including cloud-based data collection and simulation models - this organization was ready to fully modernize its research, manufacturing and marketing forecasting functions.

Leaning into its established trust in Ernst & Young LLP (EY) practitioners, executive leaders across several business units selected an experienced EY team who brought a combination of extensive technology acumen and understanding of the pharmaceutical business. A multidisciplinary approach was needed to align the company's core business functions so that its scientific innovation, manufacturing and marketing teams could have a foundational platform to meet emerging public health needs.

The result is an integrated transformation across the forecasting process, including the technology foundation, operating structure, and forecasting model development capabilities.

"Companies like this spend billions on the scientific research that yield lifesaving medical discoveries," says Raj Sharma, EY Americas Consulting Vice Chair. "But those resources are diminished in value when new developments don't match up with public health needs, manufacturing capacity and marketing campaigns across the product life cycle. This forecasting solution brought together EY teams' functional and technical experience with the client's in-house digital and data team to co-create a solution with the most current and emerging data technologies."

¹ *Estimated Research and Development Investment Needed to Bring a New Medicine to Market, 2009-2018 - PMC (nih.gov)*



Digital forecasting capabilities for self-service modeling

The scalable platform factors internal data, external health trends and market competition.

Like many large organizations in the commercial life sciences industry, the pharma company relies on its financial forecasting processes to anticipate trends and deliver a strategic advantage.

Previously, though, forecasting data was heavily dependent on a combination of internal IT provisioning and varied external sources that weren't keeping pace with shifts in the pharmaceutical market. Inconsistencies in data sourcing and organization, timing and execution of data pulls, and analysis methodologies created a perfect storm that continually blurred the horizon for executives making high-stakes budget and spending decisions.

EY teams leveraged internal knowledge resources across the health sciences sector, data science and market research to develop a customized solution that helped executives to make better informed decisions.

Sourcing top IT talent from EY Global Delivery Capabilities, the team developed an open-source financial forecasting platform to help create a solution that offers 1,000-plus forecasting models across more than 70 countries. The simulation-based forecasting tool unites the organization's proprietary data with external statistics to provide the shared, detailed visibility stakeholders needed for accurate financial planning and revenue forecasting.

The new, cloud-based platform consolidates the company's forecasting assumptions and variables from multiple global markets, giving internal users the ability to look at the same unified source of information. The system also pulls in external statistics around health trends, such as what types of illnesses are predicted to increase in the next one to five years and which clinical trials might show the greatest potential.

"The enhanced visibility allows executive leaders to interpret forecasting outcomes effectively so they can anticipate and authorize the right volume of manufacturing, boost marketing efforts and deliver products to the market in response to both real-time consumer health needs and profitability goals," says Melody Blanchford, EY Americas Life Sciences Consulting Leader. "It's not just data and graphs, but better, more rapid decision-making."

The new cloud-based platform centralizes 1,000-plus global forecasting models.



Improved forecasting accuracy means better capital planning

A unified financial forecasting platform offers an unclouded view forward.

For this big pharma company, the forecasting platform is not just a new database; it's a smart, shared source of real-time industry insight that is able to perform forecasting simulations for the company's broad portfolio of pharmaceutical products. To date, the platform has played a crucial role in the forecasting of 50% of the products across the organization's current portfolio. And there are plans to extend its use to an additional 30% of the portfolio within the year.

Pharma product portfolio

50%

Now being forecasted with the new digital tool

The digital forecasting platform eliminates biases inherent in manual forecasts and generates data-driven forecasts with a fraction of previously required resources. The tool applies customized algorithms on the platform to build a library of forecasting models to generate on-demand simulations around spend improvement, business development screening and inputs for financial and supply chain forecasts. These scenarios equip the organization's finance, manufacturing and marketing business leaders with the predictive information needed to make critical decisions around resource allocation - from production priorities to sales and marketing.

EY People Consulting teams were also brought in to introduce some 1,000 users around the world to the new system, conducting multiple learning sessions to onboard the

existing talent. Key activities included upskilling resources to use open-source language and the semi-automated processes available in the new platform.

"One of the most inspiring aspects of our work is the opportunity to see our solutions brought to fruition," says Kim Turner, EY People Consulting Principal. "We can transform their operations, but the end users need the right guidance and coaching to make that investment work for their organization."

The journey of adopting simulation-based financial forecasting has been a transformative leap for the leading pharmaceutical company. By embracing an advanced digital platform, the organization has established a unified, powerful, data-driven approach to financial planning. With the ability to analyze internal resources and external market forces, the company can now make strategic decisions, yielding both commercial successes and invaluable contributions to public health. This progress is not just a testament to the pharmaceutical industry's drive for innovation, but also a demonstration of how collaborative development and relationships can lead to strategies that foster agility, efficiency, and purposeful growth.

“

It's not just data and graphs, but better, more rapid decision-making.

Melody Blanchford

EY Americas Life Sciences Consulting Leader

[View more EY case studies](#)

EY | Building a better working world

EY exists to build a better working world, helping create long-term value for clients, people and society and build trust in the capital markets.

Enabled by data and technology, diverse EY teams in over 150 countries provide trust through assurance and help clients grow, transform and operate.

Working across assurance, consulting, law, strategy, tax and transactions, EY teams ask better questions to find new answers for the complex issues facing our world today.

EY refers to the global organization, and may refer to one or more, of the member firms of Ernst & Young Global Limited, each of which is a separate legal entity. Ernst & Young Global Limited, a UK company limited by guarantee, does not provide services to clients. Information about how EY collects and uses personal data and a description of the rights individuals have under data protection legislation are available via ey.com/privacy. EY member firms do not practice law where prohibited by local laws. For more information about our organization, please visit ey.com.

Ernst & Young LLP is a client-serving member firm of Ernst & Young Global Limited operating in the US.

© 2024 Ernst & Young LLP.
All Rights Reserved.

EYG no. 003901-24Gbl

2303-4204113

ED None

This material has been prepared for general informational purposes only and is not intended to be relied upon as accounting, tax, legal or other professional advice. Please refer to your advisors for specific advice.