

Life Sciences companies have data—lots of it. And all that data contains hidden secrets. Data science (DS) applies scientific methods to help you decode your data to reveal knowledge gaps and gain actionable insights. If you don't put the power of DS to work, you're almost certainly missing out on more sales, sacrificing pricing opportunities, and negatively impacting your bottom line…but you don't have to.



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Information anarchy

You've got more data than ever. Structured data, big data, qualitative data. That means more opportunity than ever—if you can harness all that horsepower. According to networking giant Cisco, the average organization expects its data volume to grow by nearly 52% over the next 12 to 18 months. Once your data drizzle becomes a data deluge, you need a new approach to reveal the secret language your data is speaking.

Never enough data

Data science (DS) helps you wrangle all your data by applying scientific methods to both structured *and* unstructured data. Structured data is highly organized and easily searchable in relational databases. Unstructured data is the thorniest information to work with. It has no pre-defined format and is much less searchable with conventional tools. Examples of unstructured data include video, audio, images, social media posts, and email text. (You know...the kind of data you're swimming in!)

Your company possesses between

1&12 MILLION

gigabytes of information.

Estimates show that companies have

9x MORE

unstructured data than structured data.

Source: Kodak Alaris

Data scientists apply advanced algorithms and rules to comb through your morass of data and find the pearls in the bed of oysters. The algorithms create order out of chaos, enabling you to extract hidden knowledge and insights that enable you to drive improvements in your business.

Where to start? Obviously, you need data—the more the better. For many companies, this requires a significant mindset shift. Can you make the change? Your approach toward data should transform from harried to hungry. The old thinking "We have too much data!" becomes a voracious "Bring it on!"

According to Forbes,

ONLY

0.5%

of business data is ever analyzed and used.



GAIN INSIGHT: Deep learning and understanding of your marketplace



MODEL: Define algorithms to use and run multiple tests to determine validity of models.



The Data Science

Hierarchy of Needs

EXPLORE: Extract value from the data.



CLEANSE & PREPARE: Analyze and cleanse the data, searching for anomalies to flag. Prepare data for utilization within the calculations.











Packing a punch

Once you've got a significant trove of data, you can use data science effectively. This creates multiple opportunities to drive your business forward in ways that are otherwise impossible.

Consulting company, McKinsey, estimates that effective big data strategies can generate up to

> \$100 BILLION

in value annually in the U.S. healthcare system.

- Capture more sales by having the right pricing structure to drive your top line.
 Charging the right price creates more sales opportunities.
- **Prevent erosion of these sales** by understanding and utilizing the right incentives so you're not just giving away money.
- Defend and grow your market by creating the right mix of price and incentives.
 With that in place, you have the potential to penetrate more of the marketplace to grow sales.
- **Grow the bottom line** by using appropriate incentives that drive both sales and desired customer behaviors and compliance. This will help protect your margins.
- Optimize your prices and incentives in all phases of the product life cycle; understand how to capture and maintain market share and profitability over the product life cycle.
- Gain insights into why there are differences in buying patterns that encompass
 quantity and penetration into the entire product portfolio based on customer
 market segmentation.
- **Understand the impact** of rebates, sales incentives (direct and indirect), fees to GPOs, etc. on the bottom line.



Set yourself apart—bids that win

Data science is a powerful tool in many aspects of the revenue cycle, such as providing the right price at the time of bid and contract development. Do you have the winning bid? DS can help you understand the win probability before submitting a bid, so you can adjust as necessary to meet your strategic goals. For tiered contracts, DS helps ensure you have the right number and structure of tiers and the right price for each of those tiers. Don't just give away margin!

DS helps you optimize your bid prices based on historical market and strategic data and rules. You can utilize empirical data plus your own view of the marketplace (such as power in the marketplace and customer relationships) to establish probabilities of winning bids. Also bring into play your strategy for that particular marketplace, such as initial market penetration, market protection, and extending end-of-life.

This is where the algorithms set you apart, utilizing all the data, marketplace, and strategic information to develop a bid win probability. Your power in the marketplace, competition and relationship with customers all feed into the algorithms. There is much nuance depending on your strategy. Do you want to grow your market? If so, the price will be different than if you're strong in that market. As mentioned, you must be able to also capture non-numerical (unstructured) data in order to utilize data science most effectively.

More money in your pocket

When it comes to incentives, you always want to determine which types are most effective for driving top- and bottom-line sales in each market. For example, you need to understand which incentive is most effective to sell a specific drug in a given marketplace. You just can't do that without data science capabilities, which means your incentive programs are likely just costing you money.

Growth incentives (to get customers to increase purchases year-over-year) can be very effective if your product is in demand and you are new in the marketplace. For mature products, you may want to maintain target levels, so you apply incentives that help maintain your market share. Utilizing DS can help you understand what incentive programs are more effective for various products in various markets. The incentives you give are coming right off your margin, so if you don't optimize them, that's money out of your pocket.



Decoding the secrets

Tools for data analytics are constantly evolving. With the latest advancements in data science, you can use scientific methods against your data to optimize the pricing and profitability of your deals. Now you can have confidence that you've got the right price without sacrificing the sales you need to achieve your goals. DS also helps you ensure that the right incentive plans are in place to drive the sales outcomes you expect without sacrificing margin.

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Analytics is really great at finding these linkages or hidden patterns we may not easily observe by mining through a ton of data.

 Lynn Wu, professor of operations, information and decisions, Wharton

Your data tells a story—written in a secret language. If you know how to translate that language, you develop insights that help you capture more of the right sales, offer more competitive prices, and grow your bottom line.



How technology can make a difference

Data without insight is of limited value. Data science technology and tools empower Life Sciences companies with the ability to effectively transform mountains of information into actionable insights. Business decisions backed by solid data science will lead to a competitive advantage in the marketplace.

How Vistex adds value to Life Sciences

Today's Life Sciences market is impacted by scrutiny over rising costs, tighter innovation funding, proving therapy and product value, and complying with shifting regulatory mandates. Vistex helps Life Sciences companies manage the complexities of pricing, commissions, chargebacks, rebates, royalties, contract authoring, loyalty programs, and regulatory compliance. Vistex provides value to Life Sciences through revenue management, utilizing real-world evidence and outcomes by dismantling silos, validating and exploiting data, and identifying the most profitable plans for satisfying stakeholders.

About the author | Bob Steller, Industry Principal, Life Sciences

Bob Steller is an expert in Life Sciences revenue management, operational improvement, and information systems. With 28 years of experience, including 21 years with pharmaceutical companies, Bob leverages his deep knowledge of the industry's unique requirements to help clients streamline financial processes and boost overall performance.

About Vistex®

Vistex solutions help businesses take control of their mission-critical processes. With a multitude of programs covering pricing, trade, royalties and incentives, it can be complicated to see where all the money is flowing, let alone how much difference it makes to the topline and the bottomline. With Vistex, business stakeholders can see the numbers, see what really works, and see what to do next – so they can make sure every dollar spent or earned is really driving growth, and not just additional costs. The world's leading enterprises across a spectrum of industries rely on Vistex every day to propel their businesses.

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