The Enterprise Analytics Case Study Look Book

The stories and statistics behind some of
Dun & Bradstreet's most successful analytics projects

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FOREWORD

Analytics begin and end with asking the right questions – and having the right data. If the data is wrong, the model won't perform. At Dun & Bradstreet, we're fortunate to have access to the largest global commercial database on the planet. But just having rich proprietary data assets isn't valuable if you don't use it to uncover opportunities for growth.

With a world-class team of data scientists, analysts and PhDs, we illuminate the path to growth through unique, global analytics capabilities. We help companies enhance and scale their use of fact-based strategies to connect with the prospects, customers and suppliers that matter the most to them. It's no wonder 90% of the Fortune 500™ and companies of all sizes worldwide rely on us for the data, analytics and advanced expertise to create competitive, winning business strategies.

But don't take my word for it…

In the pages of our "Customer Story Look Book" are diverse examples of how Dun & Bradstreet applied the latest statistical methodologies, such as: scorecard build, regression, decision trees, machine learning and material change to uncover meaning in data. The examples represent global brands across critical industries – Financial Services, Insurance, High-Tech, Aerospace, Manufacturing and others – where we used analytics to help answer their most challenging business questions.

How can Dun & Bradstreet help you?

Nipa Basu
Chief Analytics Officer

Analytics Goal: Assess Total Risk & Opportunity

International Hotel and Resort Brand Uses Analytics to Ensure It Has No Reservations About Where to Build its Next Property

OBJECTIVE

One of the world's largest hospitality brands wanted to identify the most promising locations for constructing new properties. Instead of being reactive and evaluating potential new sites submitted by its hotel franchise owners, the organization wanted to be proactive and recommend sites that were poised for success. With over 100 applications for new hotels a month, it was imperative to take the guess work out of the equation when deciding the location of its next property.

SOLUTION

The company tasked Dun & Bradstreet's advanced analytics team with building custom site selection models to evaluate new location opportunities. The models leveraged a mixture of Dun & Bradstreet's own firmographic data, the company's first-party data, as well as third-party travel-related information.

Dun & Bradstreet's analytics team created models that featured 170 different metrics to characterize specific zip codes being evaluated from the client's list of 1,000 hotels in 1,000 different zip codes with 'high performer' and 'low performer' indicators. Zip codes were profiled by SIC, size, sales, employees, inquires, risk, etc. It also included Dun & Bradstreet's proprietary small business health index. A logistic model was built to differentiate between the high-performing/profitable sites and the low-performing/unprofitable sites and will be re-validated every five years to strengthen the accuracy of future location opportunities.

RESULTS

- The models accurately classified **79%** of high-performers and **78%** of low-performers.
- **50%-75%** lift over random in the top four deciles (best scoring **40%**).
- Performance was also strong on validation sample.
- The analytic model helps not only determine ideal location, it helps decide which type of property best fits specific locales.

Analytics Goal: Identify Global Business Prospects

Global Bank Capitalizes on Custom Analytics to Identify Worldwide Prospects

OBJECTIVE

As the international flow of goods and services continues to expand, the opportunity for growth has never looked brighter. For one of the world's largest banks, the need to expand its trade finance business had become critical and the company was tasked with identifying and engaging new prospects who did business across the globe.

Before working with Dun & Bradstreet, the banking giant was relying on basic segmentation like market insight, import/export indictors, linkage and annual sales volume to identify their target audience. The company sought a more efficient and effective way to identify U.S. businesses that were doing business globally.

SOLUTION

Dun & Bradstreet's advanced analytics team built a custom model to help identify globally active companies that fit the criteria of the bank. Utilizing our depth and breadth of real-time, global data, the analytic model leveraged multiple data assets to identify and rank global business entities including:

- Custom-developed annual sales estimation model
- Global trade repository
- U.S. Customs import data
- Firmographic data with international job titles
- Proprietary Dun & Bradstreet customer behavior (i.e. cross-border inquiries, contracts, country risk report purchases, etc.)

RESULTS

- Identified **195K** net new prospects for bank.
- Provided valuable knowledge on the type and extent of global activities for each entity.
- Dun & Bradstreet insight contributed to the bank's very own study assessing the link between global expansion and profitability.

Analytics Goal: Discover High-Value Lookalike Prospects Across the Globe

Global Business Services Company Leverages Advanced Analytics to Replicate High-Value Customers Overseas

OBJECTIVE

One of the world's leading manufacturers of hi-tech business products and services wanted to grow its European hardware business. Unfortunately, the company was challenged to find and prioritize its best prospects overseas. In an effort to produce a comprehensive, global marketing solution and increase sales, the business manufacturer needed to identify potential new customers that were similar to those known for having purchased bulk quantities of its products.

SOLUTION

The company tasked Dun & Bradstreet to help identify high-value prospects. To achieve this goal, Dun & Bradstreet's analytics team developed two custom analytic models to uncover an audience that met the company's prerequisite attributes. This included lookalike models – finding audiences with similar attributes of previous customers, as well as applying purchase propensity scores for prospects. Each model leveraged both the client's existing data and Dun & Bradstreet's own data including:

- Total Employees
- Industry
- Age
- Annual Sales
- Family Tree Size
- Location Status
- Legal Type
- Customer Purchase Data

RESULTS

- The company considered results a "home run."
- The model isolated **80%** of customers within the top **30%** of the development data.
- The company's direct sales teams were able to prioritize the prospects with best propensity score.

pitney bowes ™

COMPANY SPOTLIGHT: PITNEY BOWES

Data Modeling and Scored Prospect Records Helps Drive ROI for Client Acquisition

At Pitney Bowes innovation and growth go hand-in-hand with long-held ideals on collaboration, integrity and accountability to deliver value for its customers. Everything they do has one goal—to help customers achieve their goals. The global brand powers billions of physical and digital transactions in the connected and borderless world of commerce.

GOAL

Today, acquiring new business is dependent on connecting with prospects at the right time. Data-inspired Pitney Bowes engaged Dun & Bradstreet to ensure their new client acquisition strategies were tapping into the latest data insight and modeling techniques to score the prospect records used to drive leads into their call centers for small business solutions. With Pitney Bowes' own customer data combined with Dun & Bradstreet data, the goal was to identify prime targets to build and maintain specific data variables to help drive data modeling.

The main objective was to improve the call-to-order appointment ratio and ultimately the campaign return on investment (ROI). The combined data was modeled using a patented Predictive Weight of Evidence (PWE) method that combines widely recognized Information Theory and Bayesian Probability (a way of quantifying uncertainty), scoring all non-Pitney Bowes company records by the propensity to become a customer. The resulting contacts identified were then called by the Pitney Bowes outbound call center.

"This activity exceeded our campaign average when viewed against past campaigns. The quality, depth and detail of the data from Dun & Bradstreet combined with a team to build out the modeled universe meant we could be more targeted, precise and accurate in our marketing program, resulting in a more successful outcome."

Andrew Ford VP for Marketing and Communications, Europe, Pitney Bowes

SOLUTION

Dun & Bradstreet's Market Insight is a powerful data visualization and modeling tool that effectively leverages access to the full Dun & Bradstreet data universe at both global and local market levels. The tool allows for basic list building, selections, through to complex segmentation and drill down for full-market analysis.

The data in Dun & Bradstreet's global business database is virtually always used in a custom way. However in this situation, it was essential to combine and model the data in an accessible environment where it could be easily used as needed in the call center. Here's how they used the data:

- A custom prospect pool was built and pre-loaded into the Dun & Bradstreet Market Insight tool for ongoing use in the call center.
- Next, the highest ranked prospects are pulled first for outbound calling.
- Finally, the file is quickly re-scored and updated to ensure the lead funnel is consistently full so new call plans can be set.

RESULTS

Results for Pitney Bowes were based on Dun & Bradstreet calculations of "won" orders vs. their data pool. These results delivered an initial ROI of 138.6% with an eventual lifetime value of 415.9% when viewed over a contract period of three years. For Pitney Bowes, these results significantly outperformed their previous acquisition activity.

In the last year, 78% of the orders secured have come from prospects that scored positively using the patented Predictive Weight of Evidence (PWE) method that scored all non-Pitney Bowes company records to assess the propensity to become a customer. Use of PWE has enabled Pitney Bowes to:

- Target 47,500 prospects that would otherwise have been missed.
- Increase orders by 21% as total orders in the last six months have come from this 47,500.

Analytics Goal: Identify Supply Chain Risk

Major Aerospace & Defense Contractor Goes On the Offense to Prevent Defects in its Supply Chain Before It Occurs

OBJECTIVE

In the aerospace industry, the margin of error is tiny one defective part per million is a problem. With little to no visibility into its sub-tier suppliers, a major aerospace company was experiencing persistent quality problems with 360 critical Tier 1 suppliers and wanted to prevent them. Ultimately, the company needed to understand how they could predict and prevent supply disruption.

SOLUTION

Dun & Bradstreet mapped the customer's global supply chain through Tier N in three weeks by applying its patent pending "supplier network discovery" process. Next, it quantified the nature and level of risk of each supplier in the chain using a highly scalable, proprietary scoring methodology. Finally, our analytics team was able to identify a distinct correlation between the historical poor performance of Tier 1 suppliers and specific patterns of risk levels over time with Tier 2 suppliers. By analyzing the Tier 2 suppliers that were the riskiest over time, Dun & Bradstreet correlated those with the list of the 360 suppliers and correctly identified each of the top 120 worst performing Tier 1 suppliers from the list.

RESULTS

- The customer was able to predict quality defects **six months** ahead of time.
- It prevented **65%** of all quality problems with Tier 1 supplier by focusing preemptive action on just **1%** of their Tier 2 suppliers.
- The customer was able to avoid future quality and delivery issues.

*You can read more about this specific customer story on www.DNB.com.

Analytics Goal: Expand into New Markets

Century-old Food Service Company Uses Advanced Analytics to Serve Up Qualified Sales Leads

OBJECTIVE

The largest food distributor in North America had plans to expand into new markets and was in need of qualified leads for its expanding sales force. Unfortunately, previous methods of uncovering qualified leads through surveys and other rudimentary criteria proved to be inadequate. The company turned to Dun & Bradstreet for a data-driven, statistically-based solution that was easy to use and would be embraced by its sales team.

SOLUTION

Dun & Bradstreet's analytics team leveraged over 16,000 company records with known spend on food products and services to develop a logistic regression propensity model. This enabled the team to score the prospect universe across entire geographical territories and rank the orders based on propensity to spend in the top 25%. Furthermore, the model refined priorities based on level of company growth and overall financial health.

RESULTS

- **70%** lift across top five deciles when evaluating the models ability to identify the top spends versus using a random/ judgmental approach.
- Model correctly classified **66%** of the top spenders and **69%** of the bottom spenders.
- Initial in-market test of qualified leads produced good results on close rates and new revenue.

Adam Denno
JBKnowledge

"What I've done recently is really take a step back and look at the accuracy of the foundation of those models, which is pure data. I've learned that Dun & Bradstreet is a significantly strong component of that model."

JBKnowledge Constructs a Strategy for Effectively Using Data and Analytics

A Q&A with JBKnowledge's Director of Product & Partnerships

The construction industry isn't usually the first one you would think of for innovative adoption of technology. As director of product and partnerships at JBKnowledge, a leading provider of IT solutions for the industry, Adam Denno is doing his part to change that. And he knows how necessary it is given how global construction has become. "There used to be a saying – Faster, Better, Cheaper – in the construction industry," he says. "You have to have the ability to move with market demand, and we are seeing increased stress starting to come from outside of the domestic markets."

More than ever, Denno relies on Dun & Bradstreet's predictive analytics to make critical connections on customers – completing a picture on who these companies are and how they operate. He knows it has become imperative that JBKnowledge have a clear understanding of its customer data, and Denno endeavors to create that customer clarity.

In this edition of Data Dialogue, he describes industry pressures and how data and analytics continue to play an increasing role in corporate success.

In a time of growth, how do you keep up? How do you stay ahead of where things are going?

That's a million-dollar question, and you have to continue to evolve your delivery methods. Our partners are continually stressed with finding the right opportunity to pursue construction. A typical margin is two to three percent. During the downturn there was a hypercompetitive nature in going after work, reducing margins, reducing fees to secure work, and staying afloat.

As the U.S. construction market continues to grow, a lot of other economies globally are seeing stagnation or even a decline in what their construction markets are experiencing. So we are starting to see outside contractors come in to our markets. Case in point: Here in New York if you look down the way there is a large development project headed by a recognized Chinese outfit. That's something that we hadn't seen during the downturn.

So we have clients ask us when the impact of foreign competition will start to come into play. I can take a walk down the street right now and say, 'It's not coming. It's here. And it's going to continue to grow.' That's going to increase the stresses on the ability to find capable contractors, laborers and owners for these projects that are growing.

You spend a lot of time understanding the dynamics that your customers face. How are you using data, technology and analytics to truly understand your market?

In construction, we're historically very slow to adopt technology and the consumption of data. Recent market reports find construction investment to be right around one percent of technology revenue. If you look at complimentary markets like insurance or banking, that's upwards of seven to eight percent.

So construction is slow to adopt technology, but that's changing because it has to. With the help of Dun & Bradstreet, we want to give the end user information in a much quicker, better and more consistent fashion.

Due diligence is an important part of working with your customers and making investment decisions. Why is Dun & Bradstreet part of your portfolio?

Historically I've been an analyst, and I love to look at numbers and make inferences. I love to connect the dots. I love to have the ability to make a more informed decision moving forward. What I've done recently is really take a step back and look at the accuracy of the foundation of those models, which is pure data. I've learned that Dun & Bradstreet is a significantly strong component of that model.

We need to have a foundation to begin with, so what we've done at JBKnowledge is work with Dun & Bradstreet at the front end of our data model to ensure that when we start to collect data from clients, businesses, owners, architects and engineers, we have them go through an initial Dun & Bradstreet cleanse through D&B Direct. That allows us to ensure that there's one accurate record that's current and actionable.

From there we are able to generate a profile on those companies and link them to our master database in master data format for our clients. Again, the D-U-N-S® Number is a significant component of that relationship. It's a unique number that, outside of social security numbers and federal identification numbers, you need to create a true family relationship, provide a holistic view of what your dollar spend is, and see what your relationship is with that company as a structure.

So working with Dun & Bradstreet as a global leader in company verification and credit is a huge component.

JBKNOWLEDGE™

PARTING WORDS

Quicker access to more consistent and reliable customer information is key to moving ahead in the construction industry, Denno concludes. "There is an evolution in the consumption of data," he says, "and we look to Dun & Bradstreet as a partner to make that happen."

Analytics Goal: Identify the Most Valuable Customers

Leading Financial Institution Credits Advanced Analytics for Identifying High-Value Customers

OBJECTIVE

High-growth companies typically make the strategic investment of capital a top priority. Understanding this, one of the world's leading financial institutions wanted to prioritize targeting these burgeoning companies with offers for loans or lines of credit before they sought financing from competitors. Therefore, the company needed a tool to identify existing customers that were poised for growth.

SOLUTION

To meet its objective, the worldwide financial company looked to Dun & Bradstreet for advanced analytics and professional services. Dun & Bradstreet employed Material Change, an analytic capability that builds on existing predictive modeling by adding anticipatory signals, such as a company's payment behavior and financial obligations, to provide a long-range view of the firm's risk profile.

Leveraging Material Change, we were able to append "growth" and "decay" segments to an audience test file to differentiate the trajectory that their small business customers were displaying. We measured the year-over-year increase in loans/lines of credit for each segment and measured the percent of dollar change in each. This helped understand future plans based on the predicted stability of those commercial entities and identify likely prospects.

RESULTS

- Material Change did an excellent job of identifying companies with increasing loan needs.
- The top growth segments had increases in both number of lines/loans and dollar amounts associated with borrowing, and represented the most attractive businesses.
- The bottom decile segments showed negative growth in either number of lines/loans or dollar amounts of lines/loans.

Analytics Goal: Assess Growth Potential

Global Health Insurance Company Leverages Analytics to Take the Pulse of Companies Poised for Growth

OBJECTIVE

As a leading provider of health insurance for companies worldwide, this organization was looking to streamline its sales and marketing efforts by being able to identify both current customers and prospects with the most potential for enrollment growth. This would enable them to appropriately align resources and budgets to craft personalized campaigns and communications to those segments.

SOLUTION

Dun & Bradstreet's analytics team looked at several different data elements and factored in external economic health indices to build custom models that would determine accurate enrollment growth for specific entities. The team also performed retroactive analysis on the client's customer file with enrollment growth data to determine growth segments.

RESULTS

- Four growth segments were created.
- The top segment grew at **16X** the rate of the lowest segment.
- Customer can now effectively assign best sales and marketing resources toward prospects with higher predicted growth.

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COMPANY SPOTLIGHT: Dun & Bradstreet

Practicing What We Preach

How We Used Our Own Data & Analytics to Significantly Improve Account & Prospect Segmentation

THE GOAL

Modernize and streamline our sales account and prospect segmentation through data and analytics – our very own data and analytics. We wanted to recommend relevant, high-value customers for sales to call on based on real-time insights and move away from categories like spend as the primary segmentation attribute.

Analysis indicated that Dun & Bradstreet had been overlooking valuable sales opportunities with high-value customers because its resources were not matched with customer complexity and needs. By consolidating resources, prioritizing customer needs over internal measures such as spend and shifting accounts to the appropriate sales model, the expectation was to foster an environment for sales to grow, nurture and retain customers.

CHALLENGES

Historically, Dun & Bradstreet's sales mindset was driven by an inside-out approach – allocating our resources to clients based on customer spend and broadly targeting what we determined to be the "best" prospects. In order to better serve customers and prospects, the team would need to modify its segmentation methodology and institute a more outside-in, data-inspired approach. The new account segmentation policy (ASP) would be built with more advanced insights such as opportunity, risk and complexity of need to help sales appropriately allocate resources to customer need.

Finally, some customers were being served by multiple sales reps, with different points of their organization (family tree) assigned to various channels. This resulted in a sub-optimal customer experience and duplication of efforts. The new ASP would examine the entire relationship and consolidate ownership to optimize the customer experience.

***Analysis indicated** that Dun & Bradstreet had been overlooking valuable sales opportunities with **high-value customers** because its resources were not matched with customer complexity and needs.*

***Strong analytics** facilitate firms in grouping customers with similar needs into sales and service models that best serve their needs, leading to **increased opportunities** for cross-sell, upsell and superior retention and customer satisfaction.*

THE SOLUTION

Dun & Bradstreet's customer analytics team recognized the opportunity to enhance its account segmentation policy based on external best practices and emerging data & analytics capabilities. With a full understanding of the limitations inherent in the existing segmentation process and embracing the newly launched corporate value of an outside-in mindset, sales leaders sought a more data-driven, customer-centric approach to account allocation.

Dun & Bradstreet's customer analytics team led the charge, combining art and science to establish a data-driven, analytic approach that was optimized by leveraging sales intelligence and put into practice through a partnership with sales operations.

The new segmentation plan was developed using Dun & Bradstreet's proprietary data and firmographic information as well as applying advanced analytic techniques to identify the right set of criteria for each account, leveraging:

- Customer-centric data such as company size and industry metrics (e.g. growth/decline).
- Predictive models that measure proclivity to purchase Dun & Bradstreet solutions.
- Attrition risk models developed by Dun & Bradstreet for its customers and solutions.
- Historical factors such as renewals, payment history and complexity of purchase.

The new approach would re-segment accounts within the three existing sales channels (Strategic Vertical Accounts, National Accounts and Inside Sales) to map our "best" customers/prospects with our "best" sales executives and to take advantage of team-based selling. This meant rebalancing portfolios and reprioritizing accounts. In order to mitigate any potential customer or internal disruption caused by account reassignment, the sales, sales operations and service teams were involved in every step of the process. It was critical to integrate their feedback in order to address concerns and devise resolutions to conflicts before they became obstacles to smooth customer transition.

GAME CHANGER: ANALYTICS

In the segmentation game, the gold standard is to create segments of one – companies being flexible enough to meet each customer's needs in custom ways. Pandora is a great example of this. While segments of one are difficult to achieve in a direct sales model, analytics, including anticipatory analytics, is the lynchpin to creating successful outcomes. Strong analytics facilitate firms in grouping customers with similar needs into sales and service models that best serve their needs, leading to increased opportunities for cross-sell, upsell and superior retention and customer satisfaction.

Beyond purchase behavior and firmographic indicators, the predictive analytical ingredients used for Dun & Bradstreet's segmentation were:

- Propensity models, which predict the likelihood of a customer or prospect to purchase Dun & Bradstreet products and services. These use firmographics, purchasing behavior and other predictive variables and are tailored for Dun & Bradstreet's line of products.
- Attrition risk models predict the likelihood of a customer to attrite from a product and these use some of the same indicators as are used in propensity models.

RESULTS

Given the length of any enterprise sales cycle, it is still early to determine the long-term revenue impact of the segmentation. However, we have seen early signs of increased pipeline indicating a majority of the upward moves are having the desired impact in terms of either shifting or increasing the account trajectory.

Overall, accounts that moved up-channel, National Accounts to Strategic and Inside Sales to National Accounts, as well as those that moved from Verticals down to National Accounts (low sample) look relatively healthy. There is no indication that we should discontinue aligning accounts based on this segmentation.

The growth rate of the accounts moved from Inside Sales to Strategic slowed, but outpaced the negative growth of the non-transfers.

Thus far, the response has been very positive, with the sales team feeling more empowered to focus their time on addressing the highest opportunity customers. Customers themselves are getting the service and attention they deserve. The marketing and sales teams are more precisely enabled by an analytically-prioritized prospect target list, making them more efficient in allocating resources and launching programs with ranked targeting.

Moving forward, Dun & Bradstreet will continue to assess market conditions and evaluate new data and analytic capabilities in order to continually enhance the new account segmentation policy and drive our modern go-to-market sales and marketing strategy.

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ABOUT DUN & BRADSTREET

Dun & Bradstreet (NYSE: DNB) grows the most valuable relationships in business. By uncovering truth and meaning from data, we connect customers with the prospects, suppliers, clients and partners that matter most, and have since 1841. Nearly ninety percent of the Fortune 500, and companies of every size around the world, rely on our data, insights and analytics. For more about Dun & Bradstreet, visit DNB.com.

dnb.com