NUCLEUS RESEARCH

February 2011 Document L8

ROI CASE STUDY
IBM BUSINESS ANALYTICS
XO COMMUNICATIONS

THE BOTTOM LINE

Nucleus Research examined XO Communications's deployment of IBM Business Analytics and found it enabled XO to identify customers with a high likelihood to churn. XO client service managers used this predictive analysis to proactively contact those customers, improving customer retention and measurably increasing profits.

ROI: 376%

Payback: 5 months

Average annual benefit: $3,819,200

THE COMPANY

XO Communications is a US-based national communications service provider of VoIP, voice, network, carrier, wholesale, and hosted services. XO serves businesses, government, domestic and international telecommunications carriers, cable companies, content providers, and mobile wireless companies. XO Communications has more than 4,000 employees and is headquartered in Herndon, VA.

THE CHALLENGE

One of the biggest business challenges for telecommunications companies is managing customer churn. Although XO client services managers were conducting regular outreach to large customers they deemed at risk, customers in the midsized business group were too numerous to cost-effectively manage and, as a result, were more likely to churn. The company felt it needed a better way to understand and retain those customers and decided to explore predictive analytics as a means to proactively identify at-risk midsized customers.

THE STRATEGY

In late 2008 XO's customer intelligence team evaluated analytics solutions from SAS and IBM and ultimately chose IBM Business Analytics (specifically, SPSS predictive analytics software) for the following reasons:

- The IBM application had an intuitive user interface and XO thought it would be easy for business users to learn and adopt it.
- After evaluating both applications, XO determined that IBM had all the functionality it needed and that the application would be faster and less costly to deploy than SAS.

Corporate Headquarters
Nucleus Research Inc.
100 State Street
Boston, MA 02109
Phone: +1 617.720.2000

Nucleus Research Inc.
NucleusResearch.com

TOPICS

Business Intelligence & Analytics

In 2009, XO's senior manager of customer intelligence spent four months learning the application, preparing the customer data, and building the predictive model using the CRISP-DM process methodology (an industry-standard model for data mining process planning, data collection and preparation, modeling, evaluation, and deployment). After validating and certifying the model, XO applied it to its customer data to define the factors that identified customers with a high propensity to churn. The company retained a control group of customers that it didn't analyze so it could compare results with and without predictive analytics.

In the meantime, the customer intelligence team developed new programs to support use of the predictive data they were generating. To act on the churn predictions, XO hired 25 new client service managers to contact those customers and resolve any issues that might lead to churn.

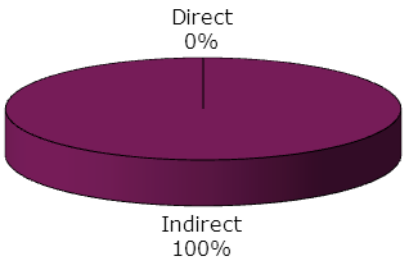
Using the predictive model, customers are scored on their propensity to churn on a monthly basis. Client service managers access that data and related customer profile information from XO's predictive analytics Web site, segment it by territory, and use it to prioritize customer outreach.

By mid-2009, XO had a scalable, repeatable process for addressing churn in its midsized customer base.

KEY BENEFIT AREAS

By using IBM Business Analytics to predict customer behavior and proactively reach out to customers with a high potential to churn, XO has been able to increase customer retention and retain subscription revenues. Because it is less expensive to retain a customer than to acquire a new one, the project has increased the profitability of XO's midsized customer business as well. In the first year of deployment, churn impacted by the project was reduced by 8 percent; by the second year XO reduced churn by an additional 18 percent.

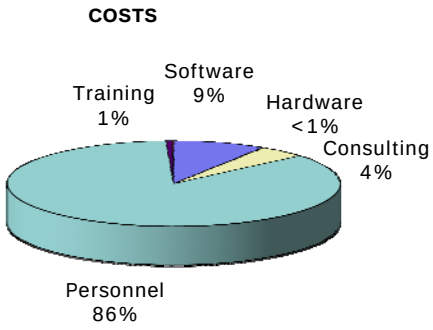
BENEFITS



TOTAL: $11,457,600

KEY COST AREAS

Key cost areas for the deployment include personnel, consulting, software, training, and other training-related travel costs. Personnel time consisted of both initial and ongoing analyst and IT staff time to support the solution and the cost of additional client service managers hired to act on the churn data.



Some of the initial consulting fees that were paid for the development of custom software models were treated as capitalized software costs. Other costs calculated were training-related travel costs. XO also made a small investment in server hardware to support the project.

BEST PRACTICES

Although XO could have simply hired more client service managers to proactively address the churn of midsized customers, it needed a more cost-effective strategy given the size of the customer base. XO selected an application that was intuitive enough to be learned and used by business users and also capable of supporting complex statistical models. This enabled XO to deliver the knowledge of its analysts to a broader user base and prioritize the efforts of client service managers on the most at-risk customers.

Given its success with using analytics to identify the propensity of customers to churn, XO is now working to apply analytics to identify the factors that would indicate customers might be at risk of nonpayment. XO plans to have its bad debt write-off predictions model ready for testing and use by the second quarter of 2011.

CALCULATING THE ROI

Nucleus calculated the costs of software, hardware, consulting, personnel, training, and travel over a 3-year period to quantify XO Communication's investment in IBM Business Analytics.

The benefit, reduction in churn, was calculated based on the number of high risk customers in XO's midsized business group, the average cost of customer acquisition, the measured progressive reduction in churn since the deployment, and the percentage of savings attributed to predictive analytics (as opposed to the simple effect of hiring more client service managers). Nucleus did not calculate the increase in revenues from reduced customer churn but rather the avoided customer acquisition costs. Not quantified were the benefits expected as XO applies predictive analytics to risk management.

DETAILED FINANCIAL ANALYSIS
XO COMMUNICATIONS

SUMMARY

Project:	**IBM Business Analytics**
Annual return on investment (ROI)	**376%**
Payback period (years)	**0.39**
Average annual benefit	**3,819,200**
Average annual total cost of ownership	**1,319,304**

ANNUAL BENEFITS	Pre-start	Year 1	Year 2	Year 3
Direct	0	0	0	0
Indirect	0	3,124,800	6,249,600	2,083,200
Total Benefits Per Period	0	3,124,800	6,249,600	2,083,200

DEPRECIATED ASSETS	Pre-start	Year 1	Year 2	Year 3
Software	306,600	28,000	0	0
Hardware	0	0	0	0
Total Per Period	306,600	28,000	0	0

DEPRECIATION SCHEDULE	Pre-start	Year 1	Year 2	Year 3
Software	0	61,320	66,920	66,920
Hardware	0	0	0	0
Total Per Period	0	61,320	66,920	66,920

EXPENSED COSTS	Pre-start	Year 1	Year 2	Year 3
Software	0	7,958	7,958	7,958
Hardware	4,400	0	0	0
Consulting	0	180,000	0	0
Personnel	70,000	1,093,500	1,111,500	1,111,500
Training	22,539	0	0	0
Other	6,000	0	0	0
Total Per Period	102,939	1,281,458	1,119,458	1,119,458

FINANCIAL ANALYSIS	Pre-start	Year 1	Year 2	Year 3
Net cash flow before taxes	(409,539)	1,815,342	5,130,142	963,742
Net cash flow after taxes	(358,070)	924,331	2,598,531	515,331
Annual ROI - direct and indirect benefits				**376%**
Annual ROI - direct benefits only				-157%
Net present value (NPV)				3,134,700
Payback (years)				**0.39**
Average annual cost of ownership				1,319,304
3-year IRR				333%

FINANCIAL ASSUMPTIONS

All government taxes	50%
Discount rate	8%