



Cross-SellWare

A new era for Cross-sell in financial services

Case Study

A leading financial institution needed to expand its business revenue and profitability by increasing sales to its existing client base. At the end of the first quarter of 2008, the firm had over 10 million customers, 10 thousand sales advisors and 55 products within 14 business lines.

The firm researched what each individual business line contributed to the firm's bottom line profit, as compared to the firm's overall earnings.

Each product line acted independently. Some had no targeting models, some had external analytic models, and some did their own targeted marketing. Customer selection was based on credit attributes, demographics, bureau statistics, and transactional data. This segmentation resulted in high cost, duplicate offers, and low response rates. For example, the firm had DDA, credit card, and insurance product lines. A customer with DDA and credit card services received insurance offers from the DDA, credit card, and insurance departments.

The ultimate business goal was to accurately create targeted marketing models, improve existing intelligence, and optimize the Cross-sell marketing at the enterprise level. The Chief Marketing Officer (CMO) was looking for ways to compare each independently built model's performance to decide which business line should have the priority to communicate with the customer.

In addition, the CMO wanted the ability to conduct "what-if" analyses to understand the potential implications of business and operational changes and be able to review and adjust predicted response rates and lifts without the need for statistical expertise in order to create more campaigns with the same budget.

At the delivery time, the firm wanted to have a clear process to be able to run the solution at a desired frequency.

Requirements

Due to a recent acquisition and the current economic climate, the project had a very aggressive (less than six months) delivery time. The firm was already heavily investing in analytical tools but wanted to improve its return on investment and intelligence power.

1. Infrastructure set up
 - SAS was already being widely used - [*Prepare Cross-SellWare implementation environment*]
 - SQL Server, Oracle, Teradata, Cognos and Business Objects were being used to host existing customer data attributes, product and revenue information - [*Integrate all sources in a centralized location*]
 - E-mail was being used to deliver customer lists to sales advisors - [*Create a secure tool to visualize and, if possible, integrate it to the current CRM*]
 - No efficient analytical environment was set up - [*Implement High Availability Environment to be able to provide fail over by utilizing the firm's resources*]
2. Data analysis, compilation, and extractions
3. Implement hosted Cross-SellWare solution
4. Rollout the solution in phases
 - True profit contribution to the bottom line by business line
 - Business line to business line profitability matrix
 - “What if” response predictions by product
 - Customer scoring for openness to offerings

Resources

Economist - Cross-SellWare Expert

Database Developer - Data Extraction

Solution Architect - Web Interface

Business Analyst - Business Requirements Analysis

Project Manager - Project Communication Tasks

Challenges

One of the main challenges was the difficulty of obtaining sufficient historical data; a few segments had only 4-5 months of data.

Not all the data sources were available as of project start.

Numerous data anomalies were observed due to business conversions and new product rollouts.

Subject Matter Experts [SME] from the financial department of the organization had very limited availability.

Limited metadata was due to the company's recent acquisition of more than four major firms.

Challenges arose due to customers assigned to departed sales advisors.

Financial reporting did not have an online business profit contribution in the Profit and Loss (P&L) statement.

Ergonomics solved each of the above challenges. Phase 1 successfully launched in four weeks, Phase 2 in five weeks, and Phase 3 in three weeks. All phases of the project were completed in less than three and half months.

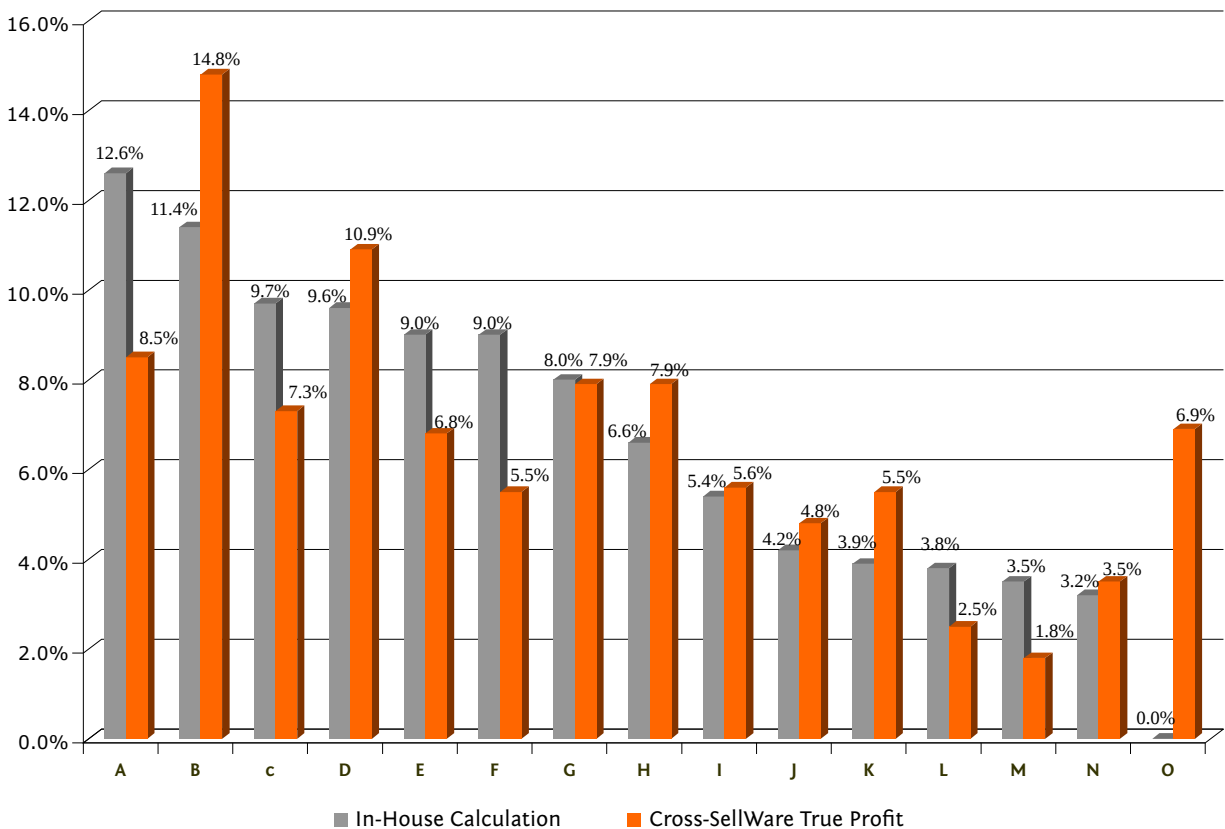
Phase 1

Once the data extraction was completed and business approval obtained, the next steps were to:

- Convert any confidential data into ambiguous numeric data fields
- Set up reference tables to identify customers and attributes
- Apply predetermined segmentation rules
- Investigate all customer attributes
- Identify each business line's true profit calculation
- Compare each business line contribution to existing P&L
- The online business line had no calculation in the current reporting, so it was added to the mix

Developing the tool required in-depth business and data analysis of the data being extracted for the solution. In addition, a re-tooling of the current hierarchy, sources, and centralized repository was required. Multiple extraction trials were conducted in order to determine which models provided the best accuracy. A transformation of business lines' t-values was needed in order to get the data into an appropriate dataset for implementation into the Cross-SellWare hosted site.

At the end of Phase 1, each business line’s influences were calculated. The result was the following chart that represents the difference between the Cross-SellWare true profit calculation and the in-house calculation which did not integrate the online business contribution. For illustration purposes and confidentiality, these business lines are referred as letter “A” through “K”. Online business is represented as the letter “O”.



Our analysis helped the firm demonstrate cross-influence among business lines, determine a product’s true strategic alignment, and detect pricing disparities. As a result the company changed the products they promoted. Also, several bundle options went to the product development team to adjust pricing in order to eliminate disparities. This saved the firm at least \$40 million dollar per year.

Phase 2

In Phase 1 of the project, we calculated the value of each business line compared to the overall profit by using customer level profit. This result became the driving force behind our solution to deliver a business line to business line Cross-sell opportunity ranking matrix by implementing Game Theory. The initial calculations created a solution that was proven, scalable, and repeatable.

In Phase 2 there were additional challenges we had to overcome:

- Product stand-alone profit did not take into account full fixed costs
- Profit formulas were averaged rather than based on margins
- Some products existed only in conjunction with others
- Core products delivered demand over time for additional products

We eliminated these constraints and delivered a matrix that showed exactly how business lines interacted and influenced each other by creating the profitability table. In contrast to in-house and/or external models which focused on just one business line and one product model, we delivered all business lines with all possible combinations by implementing our proven Cross-SellWare solution.

We recommended that a successful Cross-sell combines both the customer's perspective and the company's overall resource alignment. In other words, a customer's rational product choices are poised against the firm's efforts to promote products to increase profit. These opposing forces create an equilibrium of supply and demand that internalize customer characteristics with the organizational structure and constraints of the firm.

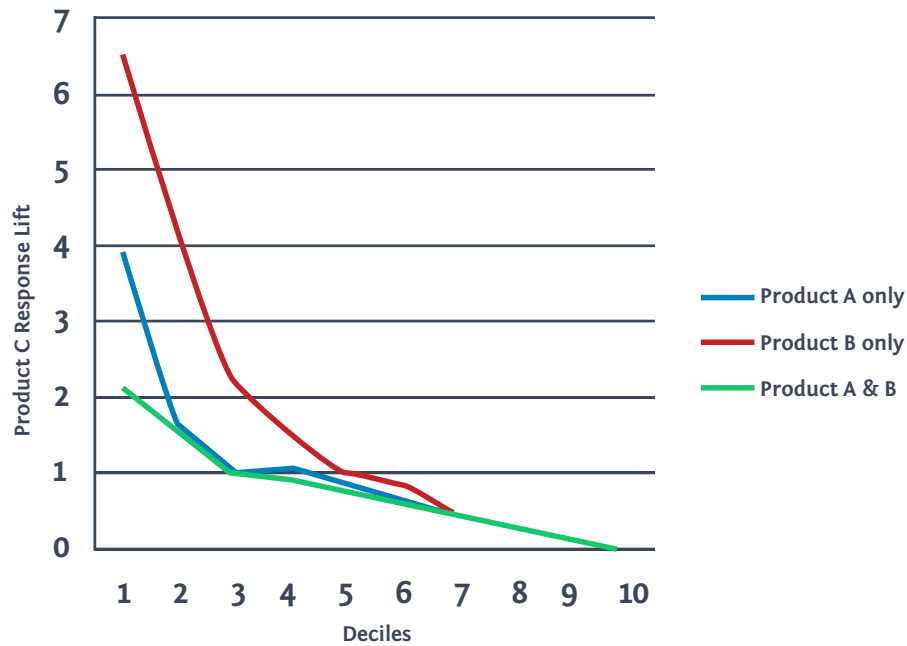
In Phase 2, we decreased the firm’s development costs by 83%. Our delivery time was at least one year faster than our competitors’. This translated to savings of \$2.5M. The CMO was now able to compare which business line would have the priority to market to a specific customer. We also delivered the table below that helped the CMO to create “what if” scenarios to strategize marketing campaigns and implement more campaigns using the existing budget, resulting in a maximum response rate.

	B	C	D	E	F	G	H	I	J	K	L	M	N
A	0.37	0.30	0.96	0.59	0.9	0.32	0.39	0.62	0.19	0.71	0.96	0.09	0.15
B		0.99	0.16	0.94	0.03	0.36	0.48	0.79	0.81	0.80	0.28	0.95	0.31
C			0.35	0.53	0.08	0.57	0.72	0.98	0.62	0.17	0.63	0.51	0.14
D				0.80	0.31	0.46	0.06	0.71	0.22	0.43	0.47	0.45	0.85
E					0.41	0.24	0.74	0.07	0.94	0.25	0.72	0.20	0.87
F						0.26	0.38	0.96	0.87	0.74	0.00	0.93	0.86
G							0.27	0.56	0.28	0.11	0.48	0.15	0.89
H								0.76	0.30	0.96	0.75	0.79	0.39
I									0.41	0.53	0.57	0.07	0.24
J										0.79	0.65	0.64	0.90
K											0.59	0.95	0.94
L												0.72	0.78
M													0.59

We also went the extra mile by creating a table that compared deciles analysis to show extra profit gain and increased response rate for a desired product, and recommended the targeted focus group. In the example table below, the predictive selling helped the firm generate extra profit between \$700K and \$3.5M for each product. The overall contribution was over \$85M.

First Decile	Overall	Product B Only	Product A Only	Product A & B
Marketing Piece	100,000	100,000	100,000	100,000
Response Rate	0.0041	0.0269	0.0162	0.0087
Profit Per Year	\$1,500	\$1,500	\$1,500	\$1,500
Cost Per Piece	\$0.50	\$0.50	\$0.50	\$0.50
Total Cost	\$50,000	\$50,000	\$50,000	\$50,000
Profit	\$615,000	\$4,028,250	\$2,429,250	\$1,309,950
Net Profit	\$565,000	\$3,978,250	\$2,379,250	\$1,259,950
ROI	11	80	48	25

In the “what if” scenarios, we first gave the CMO the option to pick a desired product to Cross-sell. We then created cumulative response lift charts to demonstrate the segments and their predicted responses. This enabled the CMO and the directors to allocate the marketing budget for multiple campaigns, and it increased the number of campaigns by at least four times without increasing the spending budget.



Phase 3

We scored the entire customer base to determine the top ten products to offer. The scoring was two dimensional. In other words, after the scoring was done, the firm was able to optimize the best way to Cross-sell by determining which customer should receive which product and from which business line. The scoring process was institutionalized so that it could be run at any frequency as requested by the sales and marketing teams. We also created a web based intranet tool that delivers the leads to the advisors in order to have more productive conversations with the customer.

Customer	Customer ID	Offer 01	Openness to Offerings 01 Score	Offer 02	Openness to Offerings 02 Score
John Otta	001	Cards	0.8643	Education Savings	0.8454
Mark Albe	002	Home Equity Lending	0.8453	Auto & Home Insurance	0.7231
Alex Ushi	003	Life Insurance	0.7155	Long Term Care	0.6196
Brian Robrit	004	Life Insurance	0.7059	Cash Management Account	0.3123
Charles Sate	005	Retirement Solutions	0.7475	Disability Income Insurance	0.4548
Brad Fried	006	Checking	0.9899	Life Insurance	0.9689
Nazimen Firavn	007	Stocks & Bonds	0.9483	Annuities	0.5061
Tom Snult	008	Managed Accounts	0.7560	Mutual Funds	0.7288
Bobbie Durak	009	Auto & Home Insurance	0.8778	Managed Accounts	0.7224
Liza Koc	010	Stocks & Bonds	0.7325	Life Insurance	0.7104

The openness to offering score was the main deliverable in Phase 3. We were also asked to create many customized reports. The report on the next page shows the increased response rate that Ergonomics achieved for the firm. In some cases, we have reached up to an 82% increase by identifying 91% of the respondents in the first half of the total marketing population. This essentially cuts the spending dollar in half by retaining most of the respondents and improves ROI by more than 80%.

We created numerous customized reports to demonstrate how the powerful two dimensional scoring helped the firm. One of the reports addressed optimizing the incentive plan for sales advisors. The firm leaders were now able to drive sales by creating specific benchmarks per advisor in order to monitor over and under achievers. Another report was a portfolio tool that helped the company gain market share by launching new products and targeting its existing clients effectively.

Business Lines	Overall Response Rate	Cross-SellWare® 5 Deciles Response Rate	Total Responders Captured in 5 Deciles	Increased Response Rate By (Lift)
A	0.38%	0.69%	91%	82%
B	2.41%	4.29%	89%	78%
C	1.76%	2.29%	65%	30%
D	0.87%	1.27%	73%	46%
E	1.25%	2.20%	88%	76%
F	2.30%	3.27%	71%	42%
G	0.07%	0.11%	82%	64%
H	1.20%	1.85%	77%	54%
I	1.02%	1.73%	85%	70%
J	0.56%	0.73%	65%	30%
K	0.23%	0.25%	54%	8%
L	1.81%	2.46%	68%	36%
M	1.07%	1.25%	58%	17%
N	0.03%	0.04%	58%	17%

Conclusion

- All phases and deliverable were completed within 90 days.
- Based on customer satisfaction surveys, customer loyalty increased.
- Overall development cost was reduced an average of 53%.
- ROI increased an average of 65%.
- Development time was reduced by at least one full year.
- Response lift increased an average of 51% and increased each campaign's profit by between \$700K and \$3.5M. This resulted in an overall profit increase of over \$85M.
- Pricing disparities were detected that saved over \$40M per year.
- Marketing spending was cut almost in half on a specific campaign.
- Incentive and sales goals were tailored by each sales advisor.
- The online business line profit contribution was calculated.
- The top ten products and their respective business lines were identified.
- Generated a predicted response rate which enabled "what if" scenario analysis.
- Generated dynamic customized reports.
- Created models that are ready to use at desired frequency