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The Total Economic Impact Of SAS Marketing Optimization

At Commerzbank

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Executive Summary

In December 2009, SAS Institute (SAS) commissioned Forrester Consulting to examine the total economic impact and potential return on investment (ROI) enterprises may realize by deploying SAS Marketing Optimization. SAS Marketing Optimization provides advanced analytics to enable marketers to match customers and prospects with the right campaign and the right offer while avoiding competing messages. Marketing Optimization “solves for” specific objectives, multiple constraints and contact policies in ways that are mathematically superior to traditional prioritization or rule-based systems.

This study illustrates the financial impact of implementing SAS Marketing Optimization in the direct marketing business at Commerzbank, Germany’s second largest credit institution, and one of Europe’s major banks.

Purpose

The purpose of this study is to provide readers with a framework to evaluate the potential financial impact of SAS Marketing Optimization on their organizations. Forrester’s aim is to clearly show all calculations and assumptions used in the analysis. Readers should use this study to better understand and communicate a business case for investing in SAS Marketing Optimization.

Methodology

SAS selected Forrester for this project because of Forrester’s industry expertise in enterprise marketing software, as well as Forrester’s understanding of enterprise marketing technologies, database marketing strategies, customer analytics, and technologies that make customer insight operational,, and for Forrester’s Total Economic Impact™ (TEI) methodology. TEI not only measures costs and cost reduction (areas that are typically accounted for within IT) but also weighs the enabling value of a technology in increasing the effectiveness of line-of-business activities.

For this study, Forrester employed four fundamental elements of TEI in modeling a financial framework around SAS Marketing Optimization:

1. Costs
2. Benefits to the entire organization
3. Risk
4. Flexibility

Forrester’s TEI methodology provides a complete picture of the total economic impact of purchase decisions. Please see Appendix A for additional information on the TEI methodology.

Approach

Forrester used a four-step approach for this study:

1. Forrester gathered data from existing Forrester research relative to SAS Marketing Optimization and the data-driven marketing technologies market in general.

2. Forrester interviewed personnel from SAS' Customer Intelligence Global Practice as well as the consulting group involved in the sales cycle and implementation from SAS Germany to fully understand the value proposition of SAS Marketing Optimization.
3. Forrester conducted a series of in-depth interviews with an organization currently using SAS Marketing Optimization products.
4. Forrester constructed a financial model representative of the interviews. This model can be found in the TEI Framework section below.

Key Findings

Forrester's study yielded several key findings:

- **ROI.** Based on the interviews with a Marketing Optimization customer, the marketing analytics department within Commerzbank. Forrester constructed a TEI framework with the associated ROI analysis illustrating the financial impact areas. As seen in Table 1, the ROI produced by the framework, using conservative financial assumptions for the bank's direct marketing business, produced an ROI of 484%, with a breakeven point (payback period) of less than 4 months after deployment. **NOTE: the ROI calculation is based on a proof of value test using actual results from historical data projected onto future business and not on actual Commerzbank results, which are deemed confidential.**
- **Benefits.** The bank has achieved higher levels of profitability by optimizing its marketing campaigns for a range of financial products. The optimization process ensures that the best customers are targeted for each individual product, improving conversion rates and underlying campaign profitability.
- **Costs.** Total costs for the implementation of Marketing Optimization sum to nearly **€778,000** (risk-adjusted, present value) over the first three years. Cost categories include bank staff resources dedicated to a proof-of-value pilot evaluation and system implementation, Marketing Optimization software license and maintenance fees, and additional hardware acquired to run the platform.

Table 1 illustrates the risk-adjusted cash flow for the customer organization based on data and characteristics obtained during the interview process. Forrester risk-adjusts these values to take into account the potential uncertainty that exists in estimating the costs and benefits of a technology investment. The risk-adjusted value is meant to provide a conservative estimation, incorporating any potential risk factors that may later affect the original cost and benefit estimates. For a more in-depth explanation of risk and risk adjustments used in this study, please see the Risk section.

Table 1: ROI, Original And Risk-Adjusted

Summary Financial Results	Original Estimate	Risk-Adjusted
ROI	613%	484%
Payback period (months)	3.0	3.7

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Summary Financial Results	Original Estimate	Risk-Adjusted
Total costs (PV)	(€ 766,988)	(€ 777,784)
Total benefits (PV)	€ 5,471,074	€ 4,540,992
Total (NPV)	€ 4,704,087	€ 3,763,208

Source: Forrester Research, Inc.

Disclosures

The reader should be aware of the following:

- The study is commissioned by SAS and delivered by the Forrester Consulting group.
- SAS reviewed and provided feedback to Forrester, but Forrester maintains editorial control over the study and its findings and does not accept changes to the study that contradict Forrester's findings or obscure the meaning of the study.
- The customer for the interviews was provided by SAS.
- Forrester makes no assumptions as to the potential return on investment that other organizations will receive. Forrester strongly advises that readers should use their own estimates within the framework provided in the report to determine the appropriateness of an investment in SAS Marketing Optimization.
- This study is not intended to be used as a competitive product analysis

SAS Marketing Optimization: Overview

The practice of marketing optimization is the endeavor to contact the right customers with the right offers at the right time, while staying within budget and channel capacities, all without cannibalizing future sales or burdening customers with too many messages.

According to SAS, the company's Marketing Optimization software helps to maximize economic outcomes by making the most of each individual customer communication. The product can increase marketing ROI by determining the best offers for individual customers and by providing analysis of the most effective way to spend the marketing budget while considering business constraints, such as channel selection and capacity, product promotion strategies, and contact policies.

Marketing ROI. Increasing targeting effectiveness results in higher response rates, improved channel effectiveness, reduced spending, fewer deleted e-mails and fewer unwanted direct mail solicitations. The math-based approach offered by SAS Marketing Optimization produces results that are superior to segmentation and rules-based approaches to prioritizing marketing offers.

Contact strategy. Complex contact policies are required to avoid over-saturating customers and violating corporate governance requirements. Marketing Optimization can eliminate uncoordinated and conflicting communications while incorporating relevant relationship factors such as customer risk, advertising exposure and householding into the optimization to ensure that valuable customers are receiving the best possible set of communications across every channel.

Organizational efficiency. What-if analysis in Marketing Optimization can show where and how changes in channel usage, target customer segments, campaign budget, and other constraints will affect the business, and highlight financial opportunities and unused capacity.

SAS Marketing Optimization combines the technology, methodology and industry expertise needed to optimize customer communications., and it combines:

- True mathematical optimization versus simple rules-based analysis.
- User-defined constraint modeling
- Scenario, sensitivity and feasibility analyses
- Integration with a marketing automation platform

SAS Marketing Optimization, part of the SAS Customer Intelligence solutions family, can be extended through integration with other SAS products, providing additional benefit for marketing and other functions within the organization.

Analysis

Developing a TEI model is a multistep process. After reviewing all of Forrester's own relevant syndicated research related to data-driven marketing technologies, Forrester interviewed personnel within SAS' Customer Intelligence Global Practice as well as the consulting group involved in the sales cycle and the implementation from SAS Germany to learn about the Marketing Optimization value proposition. Next, Forrester interviewed the Head of Marketing / CRM (Abteilungsleiter, Marketing / CRM) at Commerzbank's direct marketing unit that recently implemented SAS Marketing Optimization in Germany. Forrester used the interview process to understand the distinct costs incurred and benefits gained at Commerzbank as a result of its implementation of Marketing Optimization. Forrester then constructed a model based on those individual cost and value statements. An annual 10% discount rate was applied to all cash flows to calculate their present values and produce a net present value for the investment. The results from a proof of value test using actual results from historical data projected onto future business allowed Forrester to create a set of assumptions (not using the bank's actual financial data) to project a three-year risk-adjusted ROI model. The model makes up the main body of this study and should be used by readers as a guide for determining the ROI for their own organizations.

Interview Highlights

The SAS Marketing Optimization customer profiled in this case study, Commerzbank, is the second largest credit institution in Germany, and one of Europe's major banks. Commerzbank provides financial services to five million private and business customers and to small- and medium sized enterprises (SMEs) via 800 branches throughout Germany and direct channels.

In May 2009, Commerzbank merged with Dresdner Bank to form what is now one of the leading banks for private and corporate customers in Germany and beyond, with around 14,5 million private and corporate customers worldwide. **This case study is focused only on the pre-merger Commerzbank entity.**

The following points illustrate the customer's experience with SAS Marketing Optimization, drawn from the customer interviews:

- The customer- and business analysis group develops and operates the marketing databases and analytics for the retail banking business. This group, numbering nine staff at the time of the implementation, selects whom to contact for each product campaign. The team employs techniques for selection, mining, measuring and monitoring the performance of all campaigns.
- Commerzbank has a long and strong history of using analytical CRM. "We were using scoring for identifying customers for high affinity for product a long time ago," explained Mr. Heiko G thenke, the head of the department, "Yet we needed to get to the next step of improvement in our direct marketing processes (and the business overall)."
- The next step in an evolution toward optimized marketing campaigns required the ability to choose which of several products to offer the customer at any one time. "If we have several products to offer the customer at the same time, which one do we mail?", asked Mr. G thenke. "We did not want to be in the situation where we were trying to sell multiple products at the same time; they would compete with each other," he explained. We wanted to be sure we only send one message to the right customer at one point in time, and do this in an analytical, optimized way. That is how we came across Marketing Optimization in 2008."

- This retail group at Commerzbank produces hundreds of campaigns per year. Yet Marketing Optimization has not required any significant organization or process changes. “Marketing Optimization has not changed “how” we operate, but rather “to whom.” There have been no big organizational changes [required] in what we do, explained the head of Marketing / CRM. “We have adjusted timelines a bit, the “when” part of our business. The “what” can remain exactly the same if we you choose. We run roughly the same campaigns. Only the customers are slightly different as Marketing Optimization has slightly re-arranged our target groups and this affected overall affinity, and overall ROI.”
- The financial justification process for the bank’s investment in SAS Marketing Optimization was a proof-of-value pilot project in which the group used real, albeit historical, customer data from prior marketing campaigns to run simulated campaigns ex post facto. For the pilot, the full Marketing Optimization solution was built on the bank’s premises. “What if” scenarios could be run against the actual campaign results to demonstrate the ROI that would have been achieved using Marketing Optimization.

TEI Framework

Introduction

From the information provided in the interviews with Commerzbank, Forrester has constructed a TEI framework for those organizations considering an implementation of Marketing Optimization. The objective of the framework is to identify the cost, benefit, flexibility, and risk factors that affect the investment decision.

The financial model presented in this study considers a three-year investment by the customer in SAS Marketing Optimization software and associated hardware and labor costs, and the resulting gross profit from the overall increase in direct marketing profitability over a three-year period.

Framework Assumptions

Table 2 lists the discount rate used in the PV and NPV calculations and the time horizon used for the financial modeling.

Table 2: General Assumptions

Ref.	General assumptions	Value
	Discount rate	10%
	Length of analysis	Three years

Source: Forrester Research, Inc.

Organizations typically use discount rates between 8% and 16% based on their current environment. Readers are urged to consult with finance to determine the most appropriate discount rate to use within their own organizations.

Costs

The main cost categories associated with this Marketing Optimization implementation are: 1) Marketing Optimization software and maintenance fee; 2) hardware and 3) internal labor. The following sections describe the cost inputs to the financial analysis.

Software

The cost of Marketing Optimization software amounted to €383,000, based on a volume up to 5 million customer records. The maintenance fee of €99,800 is charged annually, commencing the second year of use.

Hardware

Two Windows / Intel quad core servers to run Marketing Optimization and associated data stores were purchased for €50,000.

Internal Labor for Pilot and Implementation

During a three-month proof-of-value pilot test of the SAS product, a team of customer- and business analysis group staff were assigned to assess the capabilities of Marketing Optimization and to measure its value to the bank. After installing the software and carrying out basic testing, the team used the bank's own data and looked backward. Using the data and results from actual past campaigns, the team used Marketing Optimization to run "what if" scenarios, optimize the campaigns, and compare the results projected by Marketing Optimization with the actual results of each campaign. The team consisted of three full-time equivalent (FTE) staff working who were dedicated nearly 100 percent for a period of three months. The total cost of this effort was approximately €72,000 based on an average *fully loaded* (including benefits) compensation rate of €50.00 per hour per FTE or 3 FTEs x €50.00 x 40 hours x 12 weeks, as shown in the table below.

Implementation assistance for the Pilot was given from SAS Presales Consultants for an amount of €15,000. This amount is deducted from the invoiced amount if the customer purchases the software, which was the case for Commerzbank, and therefore no cost amount is presented for this category.

Table 3: Proof of Value and Implementation Costs

Ref.	Metric	Calculation	Initial / Year 0
A1	Number of People		3
A2	Hourly Rate Per Person		€ 50.00
A3	Hours	12 wks * 40 hrs	480
At	Proof of concept and implementation costs	A1*A2*A3	€ 72,000

Source: Forrester Research

Professional Services

Implementation assistance for the production environment from SAS Institute professional services was available on a support-on-demand basis for an amount of €13,800 or 11.5 days of consulting, if requested or required. Commerzbank reportedly used five to ten days of professional services, including software installation. The internal team performed most of the work of setup and analysis.

Ongoing Management Of Marketing Optimization

Ongoing management, maintenance, and execution of the bank’s Marketing Optimization platform require no additional staff or demands on existing staff time.

Total Costs

Table 3 summarizes the total three-year costs of this Marketing Optimization implementation and related expenses described above.

Table 3: Total Costs

Costs	Initial	Year 1	Year 2	Year 3	Total
Software license	383,000	99,800	99,800	99,800	€ 682,400
Hardware Costs	50,000				€50,000.00
Professional services - production	13,800				€13,800
Proof of concept and implementation costs	72,000				€ 72,000
Total	€518,800	€99,800	€99,800	€ 99,800	€ 818,200

Source: Forrester Consulting

Benefits

Marketing Optimization enables us to choose from a broader range of possibilities – financial or strategic. It enables us to have a clear picture of what we can achieve and we can see the consequences of educated choices based on an up-front analysis of what is going to happen.

Head of Marketing / CRM

Increase in Marketing ROI

The bank executes hundreds of campaigns per year, touching several million customers. During the proof-of-value pilot test of Marketing Optimization, the bank’s marketing analytics team spent the better part of three months running simulations of campaigns as they would be constructed, launched and measured using optimization. These simulations gave the team a large amount of data to compare to the actual results of prior campaigns. Their results demonstrated an average increase in campaign ROI of 55% or a factor of 1.55. Forrester used this factor to create a financial framework with a set of conservative assumptions, not the bank’s actual financial figures, which are deemed confidential.

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Further, the interviews with Commerzbank indicated several additional albeit un-quantified benefit areas:

- Marketing Optimization enables an organization to choose from a broader range of actions because of the insights that optimization provides. “It enables you to choose to optimize your business further than before,” explained Heiko Güthenke, the head of marketing and CRM. . “We needn’t choose these possibilities but we see how Marketing Optimization can help us to drive profit or ROI further, but for organizational or strategic reasons, we might choose to run campaign which has a lower ROI. For strategic reasons we will accept this in order to move a product into the market or some other objective. We have a wider range of possibilities.”
- Additionally, an analytics team can “see” the consequences of actions before they are deployed. According to Mr, Güthenke, “Marketing Optimization enables you in the true sense to see your business and make educated choices because you can do an up-front analysis of what is going to happen.”
- Finally, Marketing Optimization does not require or compel large changes in business processes or organization. “Organization-wise, we are actually happy there is not so much change just because we implemented a new tool,” explained Mr. Güthenke.

One of the suggested uses of this case study is for prospective Marketing Optimization customers and other uses of this study to create calculations to answer the question, “What is the minimum level of incremental gross profit that would be required to justify an investment in Marketing Optimization?” Forrester believes that many organizations, using models based on the financial framework presented in this study, will determine that the minimum required lift in their business is achievable in a short period, and thus a compelling business case exists for investing in Marketing Optimization.

Total Benefits

Table 4 summarizes the total three-year gross margin benefits of this Marketing Optimization implementation, given an assumed level of business activity and a 1.55-fold increase in direct marketing profits due to optimizing campaigns around various constraints.

Table 4: Increase in Direct Marketing Profit

Ref.	Metric	Calculation	Year 1	Year 2	Year 3	Total
B1	Net profit from direct marketing		€ 4,000,000			
B2	Increase in ROI		1.55			
Bt	Incremental gross profit	B1 *B2	€ 2,200,000			
Bto	Total (Original)		€ 2,200,000	€2,200,000	€2,200,000	€ 6,600,000

Source: Forrester Consulting

Risk

The proof-of-value pilot removed [much of] the risk. We were able to see that the software delivered value as advertised. After that there was no risk of software failure, no risk that the tool would prompt us to contact the wrong persons. And now we know whom we don't want to mail. We have quality checks that nothing goes wrong. There could have been a risk that the analytics would not work. But we were able to double check in the pilot. All of that risk was addressed.

Head of Marketing / CRM

Risk is the third component within the TEI model; it is used as a filter to capture the uncertainty surrounding different cost and benefit estimates. If a risk-adjusted ROI still demonstrates a compelling business case, it raises confidence that the investment is likely to succeed because the risks that affect the project have been taken into consideration and quantified. The risk-adjusted numbers should be taken as “realistic” expectations, since they represent the expected values considering risk. In general, risks affect costs by raising the original estimates and they affect benefits by reducing the original estimates.

The TEI model uses a triangular distribution method to calculate risk-adjusted values. To construct the distribution, it is necessary to first estimate the low, most likely, and high values that could occur within the current environment. The risk-adjusted value is the mean of the distribution of those points.

For example, in the case of the internal staff labor required to setup and test Marketing Optimization, the original assumption of €72,000 used in this analysis can be considered the “most likely” or expected value. Yet this amount will vary based on a number of anticipated factors as well as unforeseen events and discoveries. The variability represents a risk that is captured as part of this study. Forrester assumes that the amount of such labor required could be as much as 35% higher than the original estimate, so €97,200 is the “high” estimate. The low estimate is conservatively kept at 100% of the original estimate (indicating that the cost is unlikely to be less than the original estimate). Forrester then creates a triangular distribution to reflect the range of expected benefits, with €80,640 as the mean of €97,200, €720,000, and €720,000 — the high, expected, and low values, respectively. The risk-adjusted amount is of €80,640 is 12% higher than the original estimate.

Forrester assumes that cost amounts for hardware and software will have been determined prior to commencing the project by contract, so no risk adjustment is applied to software and only a modest adjustment for hardware.

The following tables show the values used to adjust for uncertainty in cost and benefit estimates. Readers are urged to apply their own risk ranges based on their own degree of confidence in the cost and benefit estimates.

Table 5: Risk Adjustment Factors — Costs

Risk Adjustment: Cost Category	Low	Most likely	High	Mean / risk-adjusted %
Software license	100%	100%	100%	100%
Hardware costs	98%	100%	105%	101%
Professional services	100%	100%	135%	112%
Proof of concept and implementation costs	100%	100%	135%	112%

Source: Forrester Consulting

The actual value in these cost areas could be lower than the most likely, expected values. Yet Forrester has made the ROI calculations very conservative, insofar as the low values are typically set equal to the most likely amounts, thus capping “low side bias.”

Risk adjustments for benefits reduce the original benefits estimates. Forrester applies a risk range of 50% on the low end of the estimate and 100% on the most likely and 100% again on the high end. This has the effect of reducing the benefit estimate by 17%, equal to 83% of the original value. Thus the most likely (expected) and the high values are €2,200,000, while the low value is €1,100,000 in Year 1 (Years 2 and 3 assume no annual growth rate).

Table 6: Risk Adjustment — Benefit

Metric	Calculation	Year 1	Year 2	Year 3	Total
Total (Expected)		€ 2,200,000	€ 2,200,000	€ 2,200,000	€ 6,600,000
Total (Low)		€ 1,100,000	€ 1,100,000	€ 1,100,000	€ 3,300,000
Total (High)		€ 2,200,000	€ 2,200,000	€ 2,200,000	€ 6,600,000
Total (Risk-adjusted)	Average (Exp, Low, High)	€ 1,826,000	€ 1,826,000	€ 1,826,000	€ 5,478,000

Source: Forrester Consulting

Flexibility

Flexibility, as defined in Forrester’s TEI methodology, is an investment in additional capacity or capability today that can be turned into business benefits for some future additional investment. This provides an organization with the “right” or the ability to engage in future initiatives but not the obligation to do so. There are multiple scenarios in which a customer might choose to implement Marketing Optimization and later realize additional uses and business opportunities. And by adding

other SAS tools, the customer can derive even greater value from the original investment, for other lines of business, perhaps with only modest additional cost.

Commerzbank identified a number of areas with potential for flexibility options. Beyond strategic decisions for the bank’s direct marketing activities, such as optimizing on acceptance rate instead of ROI, Marketing Optimization can be used to optimize in other areas beyond direct marketing. The Marketing Optimization product can be extended to optimize business operations in a host of areas of the retail bank environment. For example, assigning time to selected tasks, and building what-if scenarios, like shortening the time required to perform a task and examining how much time can be re-allocated to other tasks can aid operations management. Used as an “operations research engine,” managers can optimize on a limited *time budget* based on 39 hours per week per FTE. Questions like, “What would happen if booting up computers could be sped up from 10 min to 20 seconds? Where would the freed up resources be re- allocated? How does that value compare with the cost of letting PCs run through the night so that they are ready in the morning? Or, how will new regulatory requirements affect the time budget for hundreds of retail agents?

While Forrester believes organizations can take advantage of these flexibility options, sufficient data inputs were not available at the time of this study, so quantification of options is not included in the analysis.

TEI Framework: Summary

Considering the financial framework constructed above, the results of the Costs, Benefits, Risk, and Flexibility sections using the representative numbers can be used to determine a return on investment, net present value, and payback period.

Tables 7 and 8 show the risk-adjusted values after applying the risk-adjustment method indicated in the Risk section above.

Table 7: Risk-Adjusted Costs

Costs	Initial	Year 1	Year 2	Year 3	Total	Present Value
Software license	383,000	99,800	99,800	99,800	682,400	383,000
Hardware Costs	50,500				50,500	50,500
	15,456				15,456	15,456
Proof of concept and implementation costs	80,640				80,640	80,640
Total	€529,596	€99,800	€99,800	€99,800	€828,996	€ 529,596

Source: Forrester Consulting

Table 8: Risk-Adjusted Benefits

Benefits: Risk-adjusted	Year 1	Year 2	Year 3	Total	Present value
Incremental gross profit	1,826,000	1,826,000	1,826,000	5,478,000	4,540,992
Total	€ 1,826,000	€ 1,826,000	€ 1,826,000	€ 5,478,000	€ 4,540,992

Source: Forrester Consulting

Note that values used throughout the TEI Framework are based on interviews with one organization and the resulting financial framework built by Forrester. Forrester makes no assumptions as to the potential return that other organizations will receive within their own environments. Forrester strongly advises that readers use their own estimates within the framework provided in this study to determine the expected financial impact of implementing Marketing Optimization.

Study Conclusions

Forrester's in-depth interviews with Commerzbank, a SAS Marketing Optimization customer, yielded several important observations:

- The customer organization profile in this case study was able to increase the profitability of its direct marketing program by 55% or a factor of 1.55 compared to the financial yield prior to the use of Marketing Optimization, as measured by comparing the returns from actual campaigns and simulations of those same campaigns under optimized conditions.
- Marketing Optimization offers a data and analytics platform that can potentially provide value to other groups within the organization that are able to use the capabilities of this "operations research engine" that correspond to other business challenges to which powerful mathematical problem solving can be applied .

The financial analysis provided in this study illustrates how an organization can evaluate the value proposition of Marketing Optimization. Based on information collected during customer interviews, and setting a forth a set of conservative assumption, Forrester calculated a three-year risk-adjusted ROI of 484% with a payback period of less than four months. All final estimates are risk-adjusted to incorporate potential uncertainty in the calculation of costs and benefits. Using the TEI framework, many companies may find the potential for a compelling business case to make such an investment.

Table 1: ROI, Original And Risk-Adjusted

Summary Financial Results	Original Estimate	Risk-Adjusted
ROI	613%	484%
Payback period (months)	3.0	3.7
Total costs (PV)	(€ 766,988)	(€ 777,784)
Total benefits (PV)	€ 5,471,074	€ 4,540,992
Total (NPV)	€ 4,704,087	€ 3,763,208

Source: Forrester Consulting

Based on these findings, companies looking to implement Marketing Optimization can expect to see increases in the effectiveness of marketing campaigns and overall profit increases. Users of this study are encouraged to create calculations to answer the questions, "What is the minimum level of incremental gross profit that would be required to justify an investment in Marketing Optimization? What is the expected value and what is the highest gross profit increase that can be envisaged?" Forrester believes that many organizations, using a financial framework based on the model presented in this study, will determine that the minimum required lift in their business is achievable in a short period, and thus a compelling business case exists for investing in Marketing Optimization.

Appendix A: Total Economic Impact™ Overview

Total Economic Impact is a methodology developed by Forrester Research that enhances a company's technology decision-making processes and assists vendors in communicating the value proposition of their products and services to clients. The TEI methodology helps companies demonstrate, justify, and realize the tangible value of IT initiatives to both senior management and other key business stakeholders.

The TEI methodology consists of four components to evaluate investment value: benefits, costs, risks, and flexibility. For the purpose of this analysis, the impact of flexibility was not quantified.

Benefits

Benefits represent the value delivered to the user organization — IT and/or business units — by the proposed product or project. Often product or project justification exercises focus just on IT cost and cost reduction, leaving little room to analyze the effect of the technology on the entire organization. The TEI methodology and the resulting financial model place equal weight on the measure of benefits and the measure of costs, allowing for a full examination of the effect of the technology on the entire organization. Calculation of benefit estimates involves a clear dialogue with the user organization to understand the specific value that is created. In addition, Forrester also requires that there be a clear line of accountability established between the measurement and justification of benefit estimates after the project has been completed. This ensures that benefit estimates tie back directly to the bottom line.

Costs

Costs represent the investment necessary to capture the value, or benefits, of the proposed project. IT or the business units may incur costs in the forms of fully burdened labor, subcontractors, or materials. Costs consider all the investments and expenses necessary to deliver the proposed value. In addition, the cost category within TEI captures any incremental costs over the existing environment for ongoing costs associated with the solution. All costs must be tied to the benefits that are created.

Risk

Risk measures the uncertainty of benefit and cost estimates contained within the investment. Uncertainty is measured in two ways: the likelihood that the cost and benefit estimates will meet the original projections and the likelihood that the estimates will be measured and tracked over time. TEI applies a probability density function known as "triangular distribution" to the values entered. At a minimum, three values are calculated to estimate the underlying range around each cost and benefit.

Flexibility

Within the TEI methodology, direct benefits represent one part of the investment value. While direct benefits can typically be the primary way to justify a project, Forrester believes that organizations should be able to measure the strategic value of an investment. Flexibility represents the value that can be obtained for some future additional investment building on top of the initial investment already made. For instance, an investment in an enterprisewide upgrade of an office productivity suite can potentially increase standardization (to increase efficiency) and reduce licensing costs. However, an embedded collaboration feature may translate to greater worker productivity if activated. The collaboration can only be used with additional investment in training at some future point in time. However, having the ability to capture that benefit has a present value that can be estimated. The flexibility component of TEI captures that value.

Appendix B: Glossary

Discount rate: The interest rate used in cash flow analysis to take into account the time value of money. Although the Federal Reserve Bank sets a discount rate, companies often set a discount rate based on their business and investment environment. Forrester assumes a yearly discount rate of 10% for this analysis. Organizations typically use discount rates between 8% and 16% based on their current environment. Readers are urged to consult their organization to determine the most appropriate discount rate to use in their own environment.

Net present value (NPV): The present or current value of (discounted) future net cash flows given an interest rate (the discount rate). A positive project NPV normally indicates that the investment should be made, unless other projects have higher NPVs.

Present value (PV): The present or current value of (discounted) cost and benefit estimates given an interest rate (the discount rate). The PV of costs and benefits feed into the total net present value of cash flows.

Payback period: The breakeven point for an investment. The point in time at which net benefits (benefits minus costs) equal initial investment or cost.

Return on investment (ROI): A measure of a project’s expected return in percentage terms. ROI is calculated by dividing net benefits (benefits minus costs) by costs.

A Note On Cash Flow Tables

The following is a note on the cash flow tables used in this study (see the Example Table below). The initial investment column contains costs incurred at “time 0” or at the beginning of Year 1. Those costs are not discounted. All other cash flows in Years 1 through 3 are discounted using the discount rate shown in Table 2 at the end of the year. Present value (PV) calculations are calculated for each total cost and benefit estimate. Net present value (NPV) calculations are not calculated until the summary tables and are the sum of the initial investment and the discounted cash flows in each year.

Example Table

Ref.	Category	Calculation	Initial cost	Year 1	Year 2	Year 3	Total

Source: Forrester Research, Inc.

Appendix C: About The Project Director

Jeffrey North, Principal Consultant



Jeffrey North is a principal consultant with Forrester's Total Economic Impact (TEI) consulting practice. The TEI methodology focuses on measuring and communicating the value of IT and business decisions and solutions as well as providing a business case based on the costs, benefits, flexibility, and risk of investments.

Jeff came to Forrester with consulting and operating experience, notably working with fast-growth companies. He was a founding member of the digital strategy practice at Cambridge Technology Partners, where he specialized in business value justification of technology investments and customer advocacy. As a director in the international and catalog business units at Staples, Jeff built and managed metrics and reporting programs in North America and Europe as the company experienced significant growth. He has also consulted in a business-IT capacity to retailers and life sciences companies.

Jeff holds a B.A. from St. Lawrence University and an M.B.A. with concentrations in international management and finance from the Thunderbird School of Global Management.