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The Total Economic Impact Of Microsoft Dynamics CRM 2011



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A Forrester Total Economic Impact™ Study Prepared For Microsoft

The Total Economic Impact Of Microsoft Dynamics CRM 2011

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FORRESTER

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Executive Summary

The fundamental business needs that drive the requirement for effective and efficient customer management practices remain unchanged: acquiring new customers, building tighter bonds of loyalty, and reducing the costs of marketing, selling, and servicing. As a consequence, interest in investing in and deploying solutions to improve customer-facing business processes remains strong. Indeed, 55 percent of the 455 large organizations that Forrester surveyed in late 2010 in North America and Europe have already implemented a customer relationship management (CRM) solution—and many of these are investing more to upgrade their tool set. An additional 19 percent have plans to buy a CRM solution for the first time within the next 12 to 24 months.¹ The pattern for midsize organizations is similar. CRM solutions are widely deployed, and interest in expanding their use is high. However, given the continuing uncertainty in the current economic climate, organizations are looking for flexible and extensible solutions that provide the functionality required at the best value.

Microsoft Dynamics® CRM 2011 business software is a solution designed to boost the personal and team productivity of customer-facing workers by offering a full set of functionality with a familiar desktop user interface (UI) through integration with the Microsoft® Outlook® messaging and collaboration client. The product offers deployment flexibility through being available in two versions: a traditional perpetual license, on-premises solution; and a software-as-a-service (SaaS) subscription service version. The solution enables more efficient business processes and improves team and personal productivity.

In January 2011, Microsoft commissioned Forrester Consulting to examine the total economic impact and potential return on investment (ROI) enterprises may realize by deploying Microsoft Dynamics CRM 2011. Forrester conducted in-depth interviews with executives from nine Microsoft Dynamics CRM 2011 customers who are now in the early phases of implementing the solution. Forrester then compiled the interview results, including forward-looking expectations, into a composite case study of a 2,000-employee organization with an initial deployment of 50 users. The purpose of this study is to provide readers with a framework to evaluate the potential financial impact of deploying Microsoft Dynamics CRM 2011 within their organizations.

Microsoft Dynamics CRM 2011 Optimizes Business Productivity

Total Economic Impact™ (TEI) is a standard methodology developed by Forrester Research that captures and quantifies the voice of the customer relative to technology investments. In this study, we interviewed nine Microsoft customers in one-on-one discussions about each organization's experience in implementing Microsoft Dynamics CRM 2011. Forrester's interviews and subsequent financial analysis determined that a composite organization, based on the organizations we interviewed, would expect to experience the risk-adjusted ROI, costs, and benefits summarized in Table 1.

Table 1

Composite Organization Three-Year Risk-Adjusted ROI

ROI	Payback period	Total benefits (PV)	Total costs (PV)	Net present value (NPV)
243%	4.1 months	U.S. \$665,086	U.S. \$193,868	U.S. \$471,218

Source: Forrester Research, Inc.

- **Summary.** Overall this study concludes that the composite organization achieved a three-year NPV of U.S. **\$471,218** (risk-adjusted net benefits) as a result of deploying Microsoft Dynamics CRM 2011 for an initial team of 50 users. The payback period was over four months with an average NPV per user of **\$9,424** over three years.
- **Benefits.** The composite organization achieved the following benefits that represent those experienced by the interviewed companies:
 - Increased sales productivity of 5 percent with the ease of use of Microsoft Dynamics CRM software and integration with Outlook leading to higher adoption, improved opportunity and lead tracking and routing, and a more accurate picture of its sales pipeline. The interviewed companies improved their sales reporting and better managed their customer database and achieved faster and more efficient processes for sales forecasting.
 - Customer service productivity savings from a better UI and documented processes. The composite organization avoided hiring 1.5 full time equivalents (FTE) for its 10-person customer service team even as its division grew. Customer service agents improved issue resolution as new processes were implemented, and agents had access to all the customer information they needed to resolve cases quickly and with precision.
 - Streamlined processes and operations leading to lower cost of sales as Microsoft Dynamics CRM enabled the composite organization's technical consultants to shorten time spent on the proposal process by 10 percent. The interviewed organizations saw process improvements for their account management, engineering, order taking, and project delivery teams, which led to lower operational costs and improved customer responsiveness.
 - Acceleration of sales conversion cycle by 50 percent and corresponding revenue gain as teams worked better together across different business systems, processes, and geographies.
 - Marketing cost savings of more than \$200,000 (risk-adjusted over three years) due to more real-time insights and improved campaign management from better analytics.
 - Productivity savings of 16 man-hours per month due to the better reporting tools in Microsoft Dynamics CRM with data consolidation, reporting automation, and richer dashboard capabilities.
 - Improved customer service delivery with quicker response times, dialog boxes, and segmented levels of customer service through insights from Microsoft Dynamics CRM.
 - Improved cross-sell collaboration within sales and customer service teams by providing access to reporting tools and other collaboration software such as Microsoft SharePoint® Server 2010.
 - Lower costs and effort to customize the solution to unique requirements, including extended CRM scenarios.
 - Ease of integration with other business technology systems, improving process efficiencies.
- **Costs.** The organizations we interviewed incurred the following costs:

- Vendor software license fees or subscription fees.
- Professional fees paid to a Microsoft partner for implementation.
- Internal labor costs for planning, design, and implementation.
- User training costs.
- Ongoing administrative support costs.

Factors Affecting Benefits And Costs

Table 1 illustrates the risk-adjusted financial results that would be expected by the composite organization described in Appendix A. The risk-adjusted values take into account potential uncertainty or variance that exists in estimating the costs and benefits, which produces more conservative estimates. The following factors may affect the financial results that an organization may experience:

- The pre-Microsoft Dynamics CRM 2011 environment (whether there was no preexisting CRM application or whether another CRM tool was being used).
- Level of deployment of CRM tools within the organization and integration with other business processes.
- Customization required for CRM deployment and other implementation risks.

Disclosures

The reader should be aware of the following:

- The study was commissioned by Microsoft and delivered by the Forrester Consulting group.
- Forrester makes no assumptions as to the potential ROI 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 Microsoft Dynamics CRM 2011.
- Microsoft 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 customers for the interviews were provided by Microsoft.

TEI Framework And Methodology

Introduction

From the information provided in the interviews, Forrester has constructed a TEI framework for those organizations considering implementing Microsoft Dynamics CRM 2011. The objective of the framework is to identify the cost, benefit, flexibility, and risk factors that affect the investment decision. TEI is a standard methodology developed by Forrester Research that enhances an organization's technology decision-making processes.

Approach And Methodology

Forrester took a multistep approach to evaluate the economic impact that Microsoft Dynamics CRM 2011 can have on an organization (see Figure 1). Specifically, we:

- Interviewed Microsoft Product Management Group employees and Forrester Research analysts to gather data relative to Microsoft Dynamics CRM 2011 and the CRM market in general.
- Interviewed nine organizations currently using Microsoft Dynamics CRM 2011 to obtain data with respect to costs, benefits, risk, and flexibility.
- Designed a composite organization based on characteristics of the interviewed organizations (see Appendix A).
- Constructed a financial model representative of the interviews using the TEI methodology. The financial model is populated with the cost and benefit data obtained from the interviews as applied to the composite organization.

Figure 1

TEI Approach



Source: Forrester Research, Inc.

Forrester employed four fundamental elements of TEI in modeling the financial implications of deploying Microsoft Dynamics CRM 2011:

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

Forrester's TEI methodology provides a complete picture of the total economic impact of technology investment decisions. Please see Appendix B for additional information on the TEI methodology.

Analysis

Interview Highlights

A total of nine interviews were conducted for this study, involving representatives from the following companies:

1. Leading Australian university with more than 40,000 students in campuses in Sydney and Perth and satellite campuses in Asia Pacific.
2. Hong Kong-based IT infrastructure solutions provider and systems integrator.
3. North American firm that provides outsourced accounting and financial solutions to midmarket CFOs.
4. Management consulting company based in Europe focused on banking and insurance with offices in four countries.
5. IT solutions provider to public libraries and arts organizations in Europe with more than \$45 million in revenue.
6. A diverse municipal government entity that provides local government and police services for a leading financial and commercial city center.
7. Healthcare information technology services company in the US that provides integrated medical devices, software, and online services solutions with more than \$15 million in revenue.
8. Diversified engineering company based in India with 1,400 employees and revenues of more than \$190 million.
9. Largest buyer and seller of cars in the United Kingdom, with more than 350 employees in 200 locations.

These interviews uncovered a number of important insights about customer organizations' experience with Microsoft Dynamics CRM 2011:

- The majority of the organizations interviewed either did not have a CRM system in place or were using “homegrown” legacy software before turning to Microsoft. A number of the organizations had been using other packaged software CRM solutions in a limited capacity and decided to consolidate around Microsoft Dynamics CRM 2011.
- All the organizations were experiencing rapid growth and had departmental collaboration barriers that were hampering their sales processes. They needed more collaboration among sales, marketing, customer service, and delivery to get to the next level of customer engagement.
- For most of the companies interviewed, familiarity and integration with Microsoft Outlook were fundamental to their choice of a CRM solution. One organization even had representatives from its sales team going into the evaluation process preferring different CRM software, but after the evaluation, the team was unanimous in choosing Microsoft Dynamics CRM 2011.

- These organizations' deployment choices ranged across all options, including: on-premises, online, and partner-hosted. Organizations with 10 to 100 initial users typically had an online implementation while those with 200 users or more implemented an on-premises CRM solution.
- Interviewees also highlighted the cost effectiveness of the Microsoft Dynamics CRM 2011 and the ease of implementation. Rollout to users was also characterized as "smooth" and "seamless," because users were already familiar with the UI and the CRM solution was integrated with Outlook. Users on average had five hours of training although one organization recommended at least a full day of user training.
- All the companies interviewed worked extensively with Microsoft partners to configure processes and roll out the project. As one customer stated, "A partner's value shouldn't be underestimated. They gave us a reality check on what was needed. With our experience, you should trust them [Microsoft certified partners], and you should set up your goals together."
- The organizations interviewed also noted the cost savings they would experience during each extension or customization. For instance, one organization liked that it could easily change the CRM screens using internal IT resources, avoiding the cost of outside consulting fees. Another company that had integrated Microsoft Dynamics CRM 2011 with its front-end website noted that with its initial investment, it could now scale its business internationally without a commensurate scale in its costs.
- While the integration with Outlook enabled faster user adoption, these organizations also set up policies and other incentives to reinforce use of the solution for customer management with their account teams.

Composite Organization

Forrester constructed a TEI framework, a composite organization, and an associated ROI analysis that illustrates the areas financially affected based on interviews with nine Microsoft Dynamics CRM 2011 user organizations provided by Microsoft. The composite organization that Forrester synthesized from these results is a 2,000-employee diversified professional services organization with more than \$400 million in annual sales. Microsoft Dynamics CRM 2011 was initially implemented for 50 users in its 200-person financial systems division. These users had roles in sales, customer service, and marketing. The organization has a distributed workforce and was experiencing rapid growth. The organization was also using different systems to support sales, marketing, and customer service processes, and these systems had no consistency of use among its employees. Please see Appendix A for a more detailed description of the composite organization.

Framework Assumptions

The discount rate used in the PV and NPV calculations is 10 percent, and the time horizon used for the financial modeling is three years. Organizations typically use discount rates between 8 percent and 16 percent based on their current environment. Readers are urged to consult with their respective company's finance department to determine the most appropriate discount rate to use within their own organizations. Other assumptions are shown in later tables.

Costs

The main costs associated with the composite organization's deployment of Microsoft Dynamics CRM 2011 are: 1) monthly software license fees; 2) professional fees to a Microsoft partner for implementation; 3) internal labor costs for planning and design; 4) internal labor costs for implementation; 5) training costs; and 6) annual administrative support costs for the CRM solution. The following are the cost inputs to the financial analysis:

Software License Fees

Microsoft has a flexible deployment model, and the deployment of companies interviewed for this study ranged from online to on-premises and partner-hosted deployments. The composite organization initially implemented Microsoft Dynamics CRM 2011 online with 50 users. It also considered that this would give it the option to shift to an on-premises solution should it decide to expand its implementation of Microsoft Dynamics CRM 2011 to other divisions within the company.

The cost to the composite organization for 50 users is U.S. \$44 per user per month. Applicable taxes, levies, and duties of 12 percent are applied to this cost, resulting in annual user fees of \$29,568 per year for 50 users. Over three years, the composite organization will pay \$88,704 for its Microsoft Dynamics CRM 2011 subscription for 50 users.

Professional Fees—Partner Implementation

Organizations can choose to implement Microsoft Dynamics CRM using internal resources or through employing a Microsoft partner. The interviewed companies worked with a Microsoft partner to implement Microsoft Dynamics CRM 2011. This allowed the organizations to evaluate and find a partner whose experience matched the needs of their particular industry/vertical and the CRM use cases that they wanted to deploy. The composite organization used a Microsoft partner for three months. This work included business process analysis, project management, application customization, and implementation. Professional fees for this engagement were an initial \$28,250 and an additional \$4,800 annually in support charges. Total professional fees over a three-year period were \$42,650.

Planning And Design Costs—Internal Labor Costs

The companies in this study described the effort required by their sales, customer service, marketing, and IT staff to evaluate, test, and pilot Microsoft Dynamics CRM 2011. This also includes the effort the organizations spent in establishing business processes and working with their implementation partners on customization.

With this reported customer experience as a basis, Forrester assumes that the composite organization had four people consisting of representatives from the senior sales, marketing, and customer service teams spend 20 percent of their time over a period of three months in planning and design. The model assumes that a year consists of 52 weeks with 40 working hours per week or 2,080 hours per year. The fully loaded annual cost per FTE for this blended team is \$100,000 per year. Total internal labor costs for planning and design was \$20,000.

Table 2
Planning And Design — Internal Labor Costs

Ref.	Metric	Calculation	Per period
A1	Number of people		4
A2	Length of planning and design of customization (months)		3
A3	Percentage of time spent		20%
A4	Hourly rate per person (fully loaded)		\$48.08
At	Planning and design costs—internal labor	$A1*(A2/12)*2080 *A3*A4$	\$20,000

Source: Forrester Research, Inc.

Implementation Costs—Internal Labor Costs

The composite organization's project team of four people also spent an additional week, or 40 working hours each, in deploying Microsoft Dynamics CRM 2011 to its 50 users. An IT resource at a fully loaded annual compensation of \$85,000 also worked 30 hours over the course of a month on the implementation. Total internal labor cost of the deployment for the composite organization is \$8,918.

Table 3
Implementation Costs—Internal Labor

Ref.	Metric	Calculation	Per period
B1	Number of people (sales/customer service)		4
B2	Hourly rate per person (fully loaded)	$\$100,000/2,080 \text{ hrs}$	\$48.08
B3	Hours		40
B4	Number of people (IT)		1
B5	Hourly rate per person (fully loaded)	$\$85,000/2,080 \text{ hours}$	\$40.87
B6	Hours		30
Bt	Implementation costs—internal labor	$(B1*B2*B3)+(B4*B5*B6)$	\$8,918

Source: Forrester Research, Inc.

Training Costs

Training costs for the customers interviewed varied depending on the level of customization and the business process change that accompanied the Microsoft Dynamics CRM 2011 deployment. For the composite organization, one person spent 40 hours developing a training module. This resource is compensated at \$65,000 annually or \$31.25 per hour, fully loaded. The 50 users in the composite organization each underwent five hours of training. At an average fully loaded compensation per FTE of \$100,000 per year or \$48.08 per hour, the total training cost to the organization is \$13,269.

Table 4
Training Costs

Ref.	Metric	Calculation	Per period
C1	Number of people (training development)		1
C2	Hourly rate per person (fully loaded)		\$31.25
C3	Hours		40
C4	Number of people trained		50
C5	Hourly rate per person (fully loaded)		\$48.08
C6	Hours		5
Ct	Training costs—internal	$(C1 * C2 * C3) + (C4 * C5 * C6)$	\$13,269

Source: Forrester Research, Inc.

Administrative Costs

The organizations interviewed estimated minimal administrative costs for day-to-day support of Microsoft Dynamics CRM 2011. As one customer noted, “It’s not hard to run, maintain, or tweak it at all.” As the composite organization is also working with a partner for annual support, Forrester estimates the annual internal administrative costs for the organization to be 20 percent of one person’s time, at an annual fully loaded compensation of \$65,000 per FTE. This translates to \$13,000 per year or \$39,000 over a three-year period.

Total Costs

Total costs for the composite organization’s deployment of Microsoft Dynamics CRM 2011 are shown in the following table.

Table 5

Total Costs (Non-Risk Adjusted)*

Costs	Initial	Year 1	Year 2	Year 3	Total
Software license fees		\$29,568	\$29,568	\$29,568	\$88,704
Professional fees—partner implementation	28,250	4,800	4,800	4,800	42,650
Planning and design costs—internal labor	20,000				20,000
Implementation costs—internal labor	8,918				8,918
Training costs—internal	13,269				13,269
Administrative costs	0	13,000	13,000	13,000	39,000
Total	\$70,438	\$47,368	\$47,368	\$47,368	\$212,542

Source: Forrester Research, Inc.

*Note that numbers may not align due to rounding.

Benefits

In interviews with Microsoft customers, Forrester identified several benefits of implementing Microsoft Dynamics CRM 2011 in the areas of personal and process productivity. These quantified benefits include: 1) improved sales productivity because of the ease of use of the CRM software and improved opportunity/deal tracking and routing through integration with Outlook; 2) customer service productivity savings from a better UI, documented processes, a holistic view of the customer, and faster case resolution; 3) streamlined processes and operations leading to lower cost of sales; 4) shortened sales and conversion cycle and corresponding revenue gain as teams improved their collaboration and were better connected across systems; 5) marketing cost savings due to more real-time insights from better analytics; and 6) productivity savings due to better reporting tools.

“If you can scale a company up to 35% year over year and utilize Microsoft Dynamics CRM 2011 to provide a common thread between your company and your customer, it truly is priceless.” (VP of marketing, healthcare IT company)

Other benefits noted by the customers but not quantified in the study include: 1) improved collaboration; 2) lower cost and effort to customize the solution for unique requirements, including extended CRM scenarios; and 3) compatibility and ease of integrations with other systems improving process efficiencies.

Improved Sales Productivity

The customers interviewed talked about the challenges of implementing any new technology with sales teams who usually do not have a technical background, have multiple demands on their time, and have extensive mobility

requirements. They noted that these concerns were less of an issue with Microsoft Dynamics CRM 2011 due to their sales teams' familiarity with the software, the software's integration with Outlook, and easy navigation. Users did not have to extensively change their processes as CRM workflows were integrated into the business productivity software (such as Microsoft Outlook and SharePoint) that they were already using. Customers who had implemented other CRM tools before shifting to Microsoft Dynamics CRM 2011 reported higher adoption rates. One customer's contacts database grew by 733 percent in its first year of adoption of Microsoft Dynamics CRM. Another characterized its user adoption as "phenomenal." At the same time, these organizations also set up communication and policies with the deployment to incentivize their employees to use the CRM software.

"Salespeople and account managers want to do things as rapidly and as flexibly as they can. Adopting [Microsoft Dynamics CRM 2011] was easy from their perspective — they embraced it because of their familiarity with Outlook." (Operations director, IT solutions service provider)

"The key on the sales team side was integration with Outlook. It was why we got such high user adoption. It's easy. There's integration and there's integration, and this is really integrated." (CEO, financial and accounting solutions firm)

Customers also noted that the benefit of the "true integration" of Microsoft Dynamics CRM functionality with their Outlook and Microsoft Office software on the desktop and on mobile devices enabled their sales teams to be more productive. Data entered in Outlook and Office was automatically captured in the CRM system, making it very easy to use. "Even if they didn't try to use it, it would still go," one customer observed. "The single most important feature for us was integration with Outlook," another confirmed. One customer with a mobile workforce based on customer sites outside the company's firewall said the ability to update data directly into Outlook improved their organization's sales efficiency. The interviewed companies estimated sales productivity improvements from 5 percent to 20 percent.

This productivity improvement was experienced by the sales teams of the interviewed companies through improved sales reporting and better management of their customer database leading to faster and more efficient processes for sales forecasting. These companies now had a more accurate picture of their sales pipeline. With all the data in Microsoft Dynamics CRM, their sales teams could now, as one customer said, "walk in the door with real-time information on clients and better manage the relationship." Customers also noted that their sales teams were spending less time in internal meetings and more time with their customers in the field.

For the composite organization, the ease of use leading to higher adoption of the CRM software and the improved work efficiency through full integration with Office and Outlook increased sales productivity by an estimated 5 percent. To conservatively value this benefit, Forrester calculates productivity savings as a function of an employee's compensation. At a fully loaded annual cost of \$100,000 per sales FTE for 30 salespersons, this translates to \$150,000 in annual savings. However, Forrester further assumes that with user productivity savings, only 50 percent of that time is captured for productive work. This risk adjustment is applied as Forrester takes into consideration that the customers interviewed are in the early stages of their implementation. Total savings for the composite organization is \$225,000 over a period of three years.

Table 6
Sales Productivity Benefit

Ref.	Metric	Calculation	Year 1	Year 2	Year 3	Total
D1	Number of FTEs		30			
D2	Average annual compensation (fully loaded) per FTE		\$100,000			
D3	Productivity improvement		5%			
D4	Deployment percentage		50%			
Dt	Sales productivity benefit	$D1 \times D2 \times D3 \times D4$	\$75,000	\$75,000	\$75,000	\$225,000

Source: Forrester Research, Inc.

Customer Service Productivity Savings

Companies that had deployed Microsoft Dynamics CRM 2011 to their customer service teams reported that their personnel observed that it was fast and intuitive to use. As one organization noted, “Our agents liked [Microsoft Dynamics CRM] 2011 for the look, the interface, and fewer clicks.” This more streamlined user interface, which included the ribbon interface that changes contextually and improves navigation with fewer clicks for the user, received favorable reviews. One organization noted that its customer care agents could now view their customers “from a global perspective, with everyone on the same page.” The agents could see all of a customer’s interactions with the company from marketing campaigns to website leads, sales, and project delivery. The improved customer service efficiency from these changes resulted, in turn, in a better customer experience.

Several of the organizations interviewed also restructured their customer service processes and reorganized their customer service teams with their deployment of Microsoft Dynamics CRM 2011. These organizations had experienced rapid growth and had ill-defined or inconsistent customer service processes overlapping across functions. “Our people were more responsive since we could quickly manage and communicate a new business process,” one IT head noted. One company we interviewed now filtered customer service inquiries from its consulting workflow, resulting in faster responsiveness to its customers. Another organization that was undertaking a massive overseas expansion integrated Microsoft Dynamics CRM 2011 to its front-end applications and rolled out standardized workflows to the field. With the capabilities provided by Microsoft Dynamics CRM 2011, the organization could now hire field representatives at the branch level that were 40 percent cheaper than its current technical customer-facing workforce. These companies saw, on average, labor cost avoidance savings in customer service even as their organizations’ requirements grew.

The composite organization reorganized its customer service processes and deployed Microsoft Dynamics CRM 2011 to 10 customer service agents. By pushing standardized workflows to its agents through the software’s easy-to-use UI, the composite organization increased the efficiency of its customer service team. With this improved productivity, the organization saved hiring an additional 1.2 FTEs even as the division grew 20 percent each year. At a fully loaded cost of \$60,000 per FTE, these customer service labor cost avoidance savings are valued at \$216,000 over a three-year period.

Table 7

Customer Service Productivity Benefit

Ref.	Metric	Calculation	Year 1	Year 2	Year 3	Total
E1	Number of customer service workers		10			
E2	Number of customer service FTE saved		1.2			
E3	Average annual compensation (fully loaded)		\$60,000			
Et	Labor savings due to improved customer service productivity	E2*E3	\$72,000	\$72,000	\$72,000	\$216,000

Source: Forrester Research, Inc

Reduced Cost Of Sales

Organizations also found the planning and design phase of the Microsoft Dynamics CRM 2011 implementation valuable, as they were able to examine and modify their internal processes and communicate these widely. These organizations effectively streamlined their operations and shortened processing time with their deployment of Microsoft Dynamics CRM 2011.

One interviewed company with a lot of bespoke products used the software to embed workflows at critical points in its quotation process to standardize products and pricing and to “maximize control” of this process. This organization also used the CRM software to link its account management, order taking, and project delivery teams in order to evaluate effort quoted versus effort delivered and analyze discrepancies. One engineering organization interviewed found that Microsoft Dynamics CRM 2011 enabled it to keep better track of where its customers were in the sales process. The process of identification to quotation was clearer, and its engineers were able to spend less time and respond faster to multiple revisions to quotations required by the construction market. The engineering organization reported saving five engineering man-hours per metric ton at 2,000 metric tons per month and growing.

The composite organization benefited from standardization of its request for quotation (RFQ) process and improved solutions management through its CRM implementation. Its technical consultants spent on average 20 man-hours per proposal in the RFQ process, and this time was reduced by 10 percent. At an estimated 600 proposals per year and a fully loaded cost per technical consultant FTE of \$40.87 per hour (or \$85,000 per year), this has reduced the cost of sales to the organization by \$147,115 over three years.

Table 8
Reduced Cost Of Sales Benefit

Ref.	Metric	Calculation	Year 1	Year 2	Year 3	Total
F1	Number of proposals per year		600			
F2	Number of consultant hours spent per proposal		20			
F3	Hourly rate per worker		\$40.87			
F4	Percentage reduction in consultant time spent in proposal preparation		10%			
Ft	Reduced cost of sales due to consultant hours saved	$F1 * F2 * F3 * F4$	\$49,038	\$49,038	\$49,038	\$147,115

Source: Forrester Research, Inc.

Revenue Gain From Improved Deal Conversion

Implementing Microsoft Dynamics CRM 2011 also contributed to revenue gains to several of the organizations interviewed as a result of improving the number of proposals converted to deals. One organization reduced its sales cycle by 50 percent, from six months to three months, because of improved information sharing among its marketing and account teams and fine-tuning its sales cycle. As its CEO noted, “We can go in and get the lead from a website or marketing campaign. I might know that person and can quickly update the system. We now have the ability to tap into our people’s networks. Without it, a lot of those opportunities would be lost. With our product, we need that trusted referral and validation to get someone to sign on, and we saw such a sharp decrease in the sales cycle as a result.”

For another organization we interviewed, this improved ability to keep track of customers resulted in a faster proposal process with a 35 percent increase in quotations made in its first month of implementation. As deal conversion in its industry was a function of pricing proposal speed, the head of corporate planning and projects expected their organization’s hit rate to increase from 10 percent to 15 percent. Improving the hit rate or deal conversion translates to additional revenue for these companies.

The value of additional revenue is unique to each organization and may vary from company to company. For the summary ROI calculations presented in this study, Forrester has concentrated on personal and process productivity benefits and has not included any values for revenue gain. Nevertheless, given customer validation of this benefit, a sample calculation is shown as follows. Table 9 summarizes the additional revenue that Forrester believes the composite company can gain as a result of the move to Microsoft Dynamics CRM 2011. In this example, the composite organization has improved its deal conversion by 50 percent, which results in an additional revenue increase of 2 percent. At annual revenue of \$60 million for the medical devices IT division and a 20 percent gross margin on revenue, this benefit of improved deal conversion is valued at \$720,000 over a three-year period.

Table 9

Revenue Gain Benefit

Ref.	Metric	Calculation	Year 1	Year 2	Year 3	Total
G1	Annual revenue		60,000,000			
G2	Percentage revenue increase due to improved deal conversion		2%			
G3	Gross margin		20%			
Gt	Revenue gain from improved deal conversion	$G1 \times G2 \times G3$	\$240,000	\$240,000	\$240,000	\$720,000

Source: Forrester Research, Inc.

Note that if the benefit described earlier is included in the financial framework, the risk-adjusted ROI for this analysis would be 551 percent, a compelling indicator for the success of a Microsoft Dynamics CRM 2011 implementation. However, with a conservative evaluation approach, Forrester does not include this benefit category in its summary ROI calculations.

Marketing Cost Avoidance

Achieving relevant, real-time insights through improved reporting and analytics was consistently cited by the organizations interviewed as one of the benefits of Microsoft Dynamics CRM 2011. Customers reported improved fact-based insights from better sales pipeline reporting, time savings in report consolidation across different systems, improved lead qualification, and improved ROI analysis of marketing campaigns and trade shows, among other use cases.

“Microsoft Dynamics CRM 2011 provided us with much greater ability to see our business, market trends, and make strategic decisions. I don’t need to wait a week. I can see at any point in time how we’re doing.” (General manager, IT infrastructure solutions provider)

“Agility is a key thing for us. Microsoft Dynamics CRM 2011 gives us the ability to react on an hourly, instead of weekly, basis.” (IT group head, automotive consumer firm)

“We did not have the information to make the decisions we are making now,” one customer reported. “Before [Microsoft Dynamics] CRM 2011, there were breaks in communication with all departments. Now our sales teams have real-time information on clients and can better manage them.” Another organization that was heavily reliant on workflows and processes for its outsourced operations noted that Microsoft has a “more significantly robust marketing offering in terms of campaigns and ROI analysis.” This organization was able to track multiple marketing campaigns, evaluate them more thoroughly, and redirect limited marketing dollars to those campaigns that had better ratios.

The composite organization ran all its marketing campaigns using Microsoft Dynamics CRM 2011. It was able to get immediate, real-time insight into the ROI of these campaigns and adjust its marketing operations on a continuous improvement cycle to be more efficient with its marketing spend. With this reporting, the composite organization acted

quickly and cancelled three underperforming marketing campaigns at a cost of \$25,000 each. This faster decision-making through improved reporting has saved the organization \$75,000 per year or \$225,000 over a three-year period.

Table 10

Marketing Cost Avoidance Benefit

Ref.	Metric	Calculation	Year 1	Year 2	Year 3	Total
H1	Number of marketing campaigns (saved)		3			
H2	Cost per marketing campaign		\$25,000			
Ht	Marketing cost avoidance from improved analytics	H1*H2	\$75,000	\$75,000	\$75,000	\$225,000

Source: Forrester Research, Inc.

Increased Productivity

Some organizations interviewed had moved to Microsoft Dynamics CRM 2011 from scenarios in which most of their customer information was contained in spreadsheets spread over different departments, or in which they had varying CRM systems deployed throughout their organizations with no consistency of use. These organizations reported labor savings due to consolidation of their data, reporting automation, and richer dashboard capabilities through Microsoft Dynamics CRM 2011.

One organization with legacy software for its front-end transaction application had a dedicated team of 15 people to analyze data and prepare reports. With its rollout of Microsoft Dynamics CRM 2011, it was planning to use the software's real-time dashboards to push this data in a more structured way out to the business. This meant the company would be able to redistribute the 15-person data team to other areas of the business, and it would also not have to grow its infrastructure and development teams that were currently supporting this legacy reporting process.

With the deployment, the composite organization has saved two days or 16 man-hours per month for report preparation. At a fully loaded cost of \$75,000 per year or \$36.06 per FTE reporting resource, this has saved the composite organization \$20,769 over three years.

Table 11

Increased Productivity Due To Improved Reporting

Ref.	Metric	Calculation	Year 1	Year 2	Year 3	Total
I1	Number of workers		1			
I2	Hourly rate per worker		\$36.06			
I3	Number of hours saved (per year)	16 hrs*12 months	192			
It	Increased productivity due to improved reporting	I1*I2*I3	\$6,923	\$6,923	\$6,923	\$20,769

Source: Forrester Research, Inc.

Total Benefits

Table 12 summarizes the quantified benefits from an investment in Microsoft Dynamics CRM 2011 for the composite company.

Table 12

Total Benefits (Non-Risk Adjusted)

Benefits	Initial	Year 1	Year 2	Year 3	Total
Increased sales productivity		75,000	75,000	75,000	225,000
Customer service productivity savings		72,000	72,000	72,000	216,000
Reduced cost of sales		49,038	49,038	49,038	147,115
Revenue gain(not included in ROI)		240,000	240,000	240,000	720,000
Marketing cost avoidance		75,000	75,000	75,000	225,000
Increased productivity		6,923	6,923	6,923	20,769
Total		\$277,962	\$277,962	\$277,962	\$833,885

Source: Forrester Research, Inc.

Other Benefits Not Quantified

Other qualitative benefits cited by the customers interviewed but not quantified in this study, include the following:

Improved Collaboration

One of the main themes that echoed through the interviews was the improved collaboration that was enabled by Microsoft Dynamics CRM 2011. One customer characterized it as, “Everyone is looking at the customer from the same page. Account team, customer service rep — they all know what’s going on. Everyone’s got a 360-degree view of the prospect.” For some companies, internal processes requiring long, manual work to share information served as a barrier to collaboration. Now, organizations gained customer insight across all functions by linking those with roles in sales, marketing, customer service, project delivery, and even finance. Collaboration was further enhanced for those companies that integrated their CRM system with SharePoint. “Connecting everyone up makes a lot of business sense,” commented one CEO who used Microsoft Dynamic CRM 2011 and SharePoint to manage his sales and project delivery teams in different countries. One organization used Microsoft Dynamic CRM 2011 and its “easy-to-use” workflows to build a process into the system that provided contract dates from finance to its account teams. It reported an increase in its renewal business by 56 percent.

Flexibility—Ease Of Customization And Development

The ability to customize the CRM solution to their requirements in a cost-effective way was another one of the benefits cited by the customers interviewed. One consulting company that was switching CRM solutions noted that, “The customization tools in [Microsoft Dynamics] CRM 2011 are really good.” Its migration was simple to implement, and it required less effort, with an estimate of 130 days saved, to produce the screens it needed.

“(One of the benefits was) just the flexibility that [Microsoft] Dynamics [CRM] offered us in terms of our own labeling — we weren’t driven by the product. We could make our own decisions.” (Operations director, IT solutions provider)

One government entity noted that with Microsoft Dynamics CRM, it could create customized event management software where an individual could have five formal roles, something that other CRM solutions could not work with. A university interviewed, which was planning to build a member management system and deploy it to other campuses, noted that, “The product is flexible enough to build basic applications on top of it.” One 90-person company said the flexibility of Microsoft Dynamics CRM 2011 to match the customization needs of its small organization without burdening it with excessive configurations and requirements enabled it to have a much faster deployment and in turn, faster realization of value. The customers interviewed also cited various extended CRM scenarios that they planned to implement, which would bring more benefit along the value chain, from the transaction and purchasing process to data asset management to project management to strategic planning.

Compatibility And Ease Of Integration With Other Systems

A number of the organizations we interviewed also noted that in evaluating CRM solutions, they chose Microsoft Dynamics CRM 2011 because it had better integration capability with their existing applications. For some, integration with SharePoint was one of the main drivers as they wanted to consolidate data across relevant departments. The director of business systems at one university noted that they were pursuing a technology strategy that required tight integration with their existing core systems. One general manager talked about the possibility of voice over IP (VoIP) integration with other Microsoft solutions. Another firm that was outgrowing its accounting system wanted a CRM solution and an accounting system that spoke to each other seamlessly. “If we looked at the other CRMs, they didn’t give us all the components we needed,” a company VP noted.

Flexibility

Flexibility, as defined by TEI, represents an investment in additional capacity or capability that could be turned into business benefit 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. From our interviews, we’ve found that with the flexibility of Microsoft Dynamics CRM 2011, there are multiple scenarios in which a customer deploys the CRM solution now and later realizes additional uses and business opportunities.

Our interviews identified several areas that could produce flexibility options based on next-stage real options that have been described by study participants as follows:

- Expanding use of the CRM solution to understand their customer profile and evaluate their online advertising to produce a more targeted approach to their online marketing spend.
- Using the social marketing component of Microsoft Dynamics CRM 2011 to gain labor cost avoidance savings in reporting and to reduce by half the hours of one FTE.
- Using Microsoft Dynamics CRM for their quality system to replace current manual procedures. (This would require integration with four different systems.)
- Exposing CRM functionality to customers. One company is planning to replace its online transaction system with Microsoft Dynamics CRM 2011. Another is evaluating presenting dashboards to its customers so it could track the progress of its implementation and integration projects.

The composite organization is planning to implement a program to identify and track high-growth customer contacts within its market. Extending the CRM solution for this purpose would require additional application development at a cost of \$8,070 in professional fees and an estimated \$4,842 in internal labor. In the flexibility analysis, the total benefit or asset value of this extended CRM project is estimated as the total cost avoidance of hiring a market research firm to conduct this work at a cost of \$32,280 per year.

The flexibility component of TEI captures that value using either the financial industry standard Black-Scholes or the binomial option pricing models. With a two-year time frame to use this option, as the composite organization will only start considering this opportunity after Year 1, Forrester values the above flexibility option at \$21,102. This value exists in addition to risk-adjusted benefits and ROI described in this analysis.

Table 13
Flexibility Analysis—Extended CRM

Ref.	Metric	Calculation	Per period
J1	Asset value (benefit)—cost avoidance of hiring a market research firm		32,280
J2	Cost to acquire—partner development fees and internal labor		12,912
J3	Expiration (time to expire, in years)		2
Jt	Flexibility—extended CRM for identification of high-growth contacts	Black-Scholes model	\$21,102

Source: Forrester Research, Inc.

The value of flexibility is unique to each organization, and the willingness to measure its value varies from company to company (see Appendix A for additional information regarding the flexibility calculation).

Risk

Forrester defines two types of risk associated with this analysis: implementation risk and impact risk. “Implementation risk” is the risk that a proposed investment in Microsoft Dynamics CRM 2011 may deviate from the original or expected requirements, resulting in higher costs than anticipated. “Impact risk” refers to the risk that the business or technology needs of the organization may not be met by the investment in Microsoft Dynamics CRM 2011, resulting in lower overall total benefits. The greater the uncertainty, the wider the potential range of outcomes for cost and benefit estimates.

Quantitatively capturing investment and impact risks by directly adjusting the financial estimates results in more meaningful and accurate estimates and a more accurate projection of the ROI. In general, risks affect costs by raising the original estimates, and they affect benefits by reducing the original estimates. The risk-adjusted numbers should be taken as realistic expectations, as they represent the expected values considering risk.

The following implementation risk that affects costs is identified as part of this analysis:

- Internal labor needed for planning and design, implementation, training, and support may exceed initial estimates.

The following impact risks that affect benefits are identified as part of this analysis:

- Variability in productivity and labor savings for different company deployments.
- Variability in the amount of cost savings from more streamlined operations.

Table 14 shows the values used to adjust for risk and uncertainty in the cost and benefit 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. Readers are urged to apply their own risk ranges based on their own degree of confidence in the cost and benefit estimates.

Table 14
Cost And Benefit Risk Adjustments

Costs	Low	Most likely	High	Mean
Software license fees	100%	100%	100%	100%
Professional fees—partner implementation	100%	100%	115%	105%
Planning and design costs—internal labor	100%	100%	125%	108%
Implementation costs—internal labor	100%	100%	125%	108%
Training costs—internal	100%	100%	115%	105%
Administrative costs	100%	100%	105%	102%
Benefits	Low	Most likely	High	Mean
Increased sales productivity	90%	100%	105%	98%
Customer service productivity savings	90%	100%	105%	98%
Reduced cost of sales	80%	100%	103%	94%
Marketing cost avoidance	80%	100%	103%	94%
Increased productivity	90%	100%	105%	98%

Financial Summary

The financial results calculated in the Costs and Benefits sections can be used to determine the ROI, NPV, and payback period for the organization's investment in Microsoft Dynamics CRM 2011. These are shown in Table 15.

Table 15

Cash Flow—Non-Risk-Adjusted

Cash flow—original estimates						
	Initial	Year 1	Year 2	Year 3	Total	PV
Costs	(\$70,438)	(\$47,368)	(\$47,368)	(\$47,368)	(\$212,542)	(\$188,235)
Benefits		\$277,962	\$277,962	\$277,962	\$833,885	\$691,249
Net benefits	(\$70,438)	\$230,594	\$230,594	\$230,594	\$621,343	\$503,015
ROI	267%					
Payback period	3.7 months					

Source: Forrester Research, Inc.

Table 16 shows the risk-adjusted ROI, NPV, and payback period. These values are determined by applying the risk-adjustment values from Table 14 in the Risk section to the cost and benefits numbers in Tables 5 and 12.

Table 16

Cash Flow — Risk-Adjusted

Cash flow—risk-adjusted estimates						
	Initial	Year 1	Year 2	Year 3	Total	PV
Costs	(\$74,827)	(\$47,868)	(\$47,868)	(\$47,868)	(\$218,431)	(\$193,868)
Benefits		\$267,441	\$267,441	\$267,441	\$802,322	\$665,086
Net benefits	(\$74,827)	\$219,573	\$219,573	\$219,573	\$583,891	\$471,218
ROI	243%					
Payback period	4.1 months					

Source: Forrester Research, Inc.

The data collected in this study indicates that deploying Microsoft Dynamics CRM 2011 has the potential to provide a solid ROI through quantifiable productivity benefits for people and processes. The risk-adjusted ROI of 243 percent, along with a rapid payback period (breakeven point), raises confidence that the investment is likely to produce a positive outcome, especially after the risks and uncertainty that may affect the project have been considered, quantified, and incorporated into the business case.

In interviews with Microsoft customers, Forrester found that organizations can realize benefits in the form of:

- Increased sales productivity with the ease of use of the CRM software and improved opportunity/deal tracking and routing through integration with Outlook.
- Customer service productivity savings from a better UI, documented processes, a holistic customer view, and faster case resolution.
- Streamlined processes and operations leading to lower cost of sales.
- Shortened sales and conversion cycle and corresponding revenue gain as teams are better connected across systems.
- Marketing cost savings due to more real-time insights from better analytics.
- Productivity savings due to better reporting tools.
- Improved collaboration within sales and customer service teams.
- Lower costs and effort to customize the solution for unique requirements, including extended CRM scenarios.
- Ease of integration with other systems improving to process efficiencies.

Based on these findings, companies looking to implement Microsoft Dynamics CRM 2011 can anticipate significant productivity gains and cost savings. Using the TEI framework, many companies may find a potentially compelling business case to make such an investment.

Microsoft Dynamics CRM 2011: Overview

According to Microsoft, Microsoft Dynamics CRM 2011 drives productivity and adoption with a native Microsoft Outlook experience and real-time dashboards.

Power Business Productivity

Combine familiar Microsoft Office applications with powerful CRM software to improve marketing effectiveness, boost sales, and enrich customer service interactions. Microsoft Dynamics CRM equips business professionals with access to customer information through a familiar Microsoft Outlook experience which helps to ensure rapid user adoption and fast results.

And with Microsoft Dynamics CRM Online, organizations get the same powerful CRM software delivered as a cloud service from Microsoft, enabling instant on-anywhere access, predictable pay-as-you go pricing, and a financially backed service-level agreement (SLA).

Deliver on the power of productivity with a CRM solution that is:

- **Familiar** — software that empowers people through natural, productive, and insightful experiences.
- **Intelligent** — real-time analytics and streamlined business processes that enable informed decisions and operational efficiencies.
- **Connected** — connections across people, processes, and ecosystems that allow businesses to maximize the value of relationships and systems.

Become A Dynamic Business

Marketing: Maximize Marketing Spend

Improve an organization's marketing effectiveness with Microsoft Dynamics CRM. Provide marketing professionals with flexible segmentation tools, simplified campaign management capabilities, intuitive response tracking, and insightful analytics to improve marketing effectiveness.

Sales: Win More Deals

Spend more time on selling and less time on administrative tasks with Microsoft Dynamics CRM. Take advantage of full lead to cash visibility, lead and opportunity tracking, streamlined approvals, and real-time sales forecasts to drive increased sales output and higher close rates.

Customer Service: Delight Customers

Provide compelling customer service experiences that build customer loyalty with Microsoft Dynamics CRM. Empower people with tools that simplify case management, streamline escalations, improve knowledge sharing, and enable more effective account management, all while helping to contain service costs.

Extended CRM: Optimize All Relationships

Use the inherent flexibility and extensibility of Microsoft Dynamics CRM to maximize the value of all relationships. Quickly create custom business applications and industry solutions without compromising on capabilities, budget, or delivery time right from within Microsoft Dynamics CRM.

Appendix A: Composite Organization Description

Composite Organization

Based on the interviews with existing Microsoft Dynamics CRM 2011 customers, Forrester constructed a TEI framework, a composite company, and an associated ROI analysis that illustrates the areas affected financially. The composite organization that Forrester synthesized from these results is described by the following characteristics.

Organization Size And Dimensions

- The composite organization was a diversified professional services organization with 2,000 employees and more than \$500 million in revenue.
- The organization had a distributed workforce, with offices in different countries.
- Microsoft Dynamics CRM 2011 was deployed to the financial systems division with 200 employees and \$60 million in annual revenue.
- Initial deployment was to 50 users. The breakdown of user roles was 30 in sales, 10 in customer service, and the rest in marketing and other functions.

Environment Prior To Microsoft Dynamics CRM 2011 Investment

- The division was using different systems for customer management. This included Microsoft Excel® spreadsheets, systems developed in-house, and another CRM tool.
- There was no consistency of use within the organization for these different tools.
- The division operated in silos, with a lot of duplication of effort. Contact and customer information were not consolidated in a meaningful way.
- The division was experiencing a period of rapid growth and was falling behind in customer satisfaction.

Reasons For Investment In Microsoft Dynamics CRM 2011

- To link customer activity information across the different groups in the division.
- To manage its high sales growth and gain better insight into its sales pipeline.
- To create a singular customer view that could impact operations, not just sales.

Appendix B: 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.

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: 1) the likelihood that the cost and benefit estimates will meet the original projections, and 2) 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 enterprise-wide 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 C: 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 percent for this analysis. Organizations typically use discount rates between 8 percent and 16 percent based on their current environment. Readers are urged to consult their respective 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

For 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 the Framework Assumptions section) 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.

Table [Example]

Example Table

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

Source: Forrester Research, Inc.

Appendix D: Endnotes

¹ Source: "Trends 2011: Customer Relationship Management," Forrester Research, Inc., January 26, 2011