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The Total Economic Impact™ Of The ClearCycle Universal Claims Disbursement System

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Executive Summary

ClearCycle Corporation specializes in tailored financial claims, compliance, and information management solutions provided as software, consulting, analytics, and decision support services. In May 2008, ClearCycle commissioned Forrester Consulting to examine the total economic impact and potential return on investment (ROI) that enterprises may realize by deploying the Universal Claims Disbursement System (UCDS). The Universal Claims Disbursement System is a comprehensive claims payment and transaction management system that consolidates claim and payment information, provides tools for cash management, tracking, and management of receivables, overpayment recovery, electronic and paper payment creation, and a range of supporting information including remittance advice(s) and EOBs.

This study illustrates the financial impact of UCDS within a private billion-dollar US insurer (one of the “Blues”) that provides health insurance and related services to more than three and a half million members.

In conducting in-depth interviews with the customer, Forrester found that this organization achieved significant financial benefits as a result of their investment in UCDS. Forrester quantifies the benefits of the customer’s ClearCycle implementation principally in terms of: a) the customer’s increased investment income resulting from more advantageous management of cash flow, b) cost savings from mailing and postage resulting from aggregating claims payments to each provider, c) cost savings from bank account consolidation, d) labor cost savings in three areas (prompt pay interest, automated account reconciliation, and IT support for multiple check writers).

Purpose

The purpose of this study is to provide readers with a framework to evaluate the potential financial impact of the Universal Claims Disbursement System 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 ClearCycle’s Universal Claims Disbursement System.

Methodology

ClearCycle selected Forrester for this project because of its industry expertise in healthcare and 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 overall business processes.

For this study, Forrester employed four fundamental elements of TEI in modeling the Universal Claims Disbursement System:

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

Beyond the increasing sophistication that enterprises have developed around cost analyses related to IT investments, 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 five-step approach for this study:

1. Forrester gathered data from existing Forrester research relative to the Universal Claims Disbursement System and the claims payment systems market in general.
2. Forrester interviewed ClearCycle product development, operations, marketing, and sales personnel to fully understand the potential (or intended) value proposition of UCDS solutions.
3. Forrester conducted a series of in-depth interviews with a single organization currently using UCDS.
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 associated with the financial result of the investment:

- **ROI.** Based on the interviews with an existing UCDS customer, Forrester constructed a TEI and the associated ROI analysis illustrating the financial impact areas. As seen in Table 1, the risk-adjusted ROI for the customer organization is 521% with a breakeven point (payback period) of less than four months after deployment.
- **Benefits.** The primary benefits of this customer's ClearCycle implementation are the additional investment income (from better management of the timing of claims payments) and cost reductions for mailing materials and postage (from consolidating payments and more efficient mailing), which together amount to \$5.5 million annually. Additional benefits in labor savings, described below, were achieved from the efficiencies produced when the UCDS system replaced two separate claims payment systems. Forrester believes that many organizations will also accrue benefits from areas of post-payment processing (please see Benefits section below).
- **Costs.** The costs of implementing the ClearCycle UCDS system summed to just over \$1.5 million for the software, internal labor, and professional services for installation and testing. Ongoing labor for system maintenance and an annual software maintenance fee totaled approximately \$280,000 per year.

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 impact 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, Risk-Adjusted

Summary financial results	Original estimate	Risk-adjusted
ROI	592%	521%
Payback period (months)	3.1	3.5
Total costs (PV)	(\$2,223,722)	(\$2,357,717)
Total benefits (PV)	\$15,377,947	\$14,644,077
Total (NPV)	\$13,154,224	\$12,286,359

Source: Forrester Research, Inc.

Disclosures

The reader should be aware of the following:

- The study is commissioned by ClearCycle and delivered by the Forrester Consulting group.
- ClearCycle reviewed and provided feedback to Forrester, but Forrester maintained editorial control over the study and its findings.
- The customer names for the interviews were provided by ClearCycle.
- 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 the ClearCycle Universal Claims Disbursement System.
- This study is not meant to be used as a competitive product analysis.

ClearCycle Universal Claims Disbursement System: Overview

Universal Claims Disbursement System (UCDS) is a comprehensive claims payment and transaction management system. UCDS accepts payment data and medical event records from all lines of service, across all platforms, business entities, and computing environments, aggregates that information, and maintains it in a normalized data format to support a variety of business operations. UCDS provides tools for cash management and consolidates payments, remittance advices, and EOBs according to business rules associated with the data source. All current print languages and EDI gateways including ACH/direct deposit, report distribution, imaging systems, and mail list systems are supported by UCDS.

UCDS's post-payment capabilities provide users with the ability to manage reversals and suspensions of payments, query any payment made in the system, and automate the task of overpayment recovery. Returned checks resulting from items such as incorrect addresses or incorrect payments can be accurately corrected and reprocessed in a timely manner. Financial systems (general ledger, 1099, etc.) are automatically updated. Savings result from reduced operating costs and fewer incoming support calls. Highlights of the capabilities provided by UCDS include:

- Full connectivity to existing adjudication systems.
- Universal (multi-system) claims payment processing.
- Combining of claims remittance detail (EOBs, EOPs) for a common recipient or set of recipients.
- Cost/benefit optimization of cash flow vs. cost and service objectives.
- Increased pool of investment funds.
- Comprehensive financial management, which provides automated tools to track and manage receivables and overpayment recovery, regardless of complexity or source of adjustment.
- Flexible and cost effective support for regulatory compliance requirements.
- Reduced operational costs of managing and paying claims.
- On-line inquiry of claims status (service, receipt, adjudication, and scheduled payments).
- Consistent claims payment according to business rules and management objectives.
- Extensive reporting facility including exception and balancing.
- Support for audit functions, both prospective and retrospective.
- Extensive information to enhance patient and provider relationships.

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- Claims timing reports (by line of business or unit detail).
- Reduction of fulfillment costs, such as postage, supplies, and operations costs.
- Maximum postage discounts and improved finishing equipment productivity.
- Extensive system controls, features, and operational flexibility.
- Elimination of inadvertent duplicate check runs.
- Print calendar controls integrated to claim payment timing.
- Ability to handle ASO and other cost plus billing and support self-funded plans with a stop loss and consumer-driven products' (HRA, FSA & HSA) claims payments — universally supporting administrators and banking partners.
- Management of all claims and overpayment recoveries, including 50 state reporting and notification requirements.
- Improved customer service with better on-line or Web inquiry of claims pending or paid and comprehensive capability to customer/provider support functions.

Analysis

Forrester took a multistep approach to evaluate the impact that implementing the Universal Claims Disbursement System can have on an organization:

- Interviews with ClearCycle operations, marketing, and sales personnel.
- In-depth interviews within a ClearCycle customer currently using the Universal Claims Disbursement System.
- Construction of a financial framework for the implementation of the Universal Claims Disbursement System.

Interview Highlights

The customer profiled in this study is a \$10 billion health care insurer, one of the “Blues”, with over 3.5 million members. The company has multiple subsidiaries that market health insurance and administrative services in different parts of the United States.

The customer interviews uncovered a number of insights, including:

- Prior to implementing UCDS, the customer had two separate claims adjudication systems, one for HMO claims and another for PPO claims payments. Each system had its own dedicated check writers. Health care providers served by this insurer would receive multiple checks from these separate claim systems with the attendant administrative inefficiency.
- A primary driver for implementing the ClearCycle UCDS system was related to the customer’s lack of a claims data warehouse and its inability to time cash flows associated with claim disbursements. According to a study that ClearCycle conducted, this customer was paying 73% of its claims within four days of receipt.
- The ClearCycle analysis, which the company conducts for all of its customers, uses simulation modeling to calculate the cash flow improvements that would be expected to be achieved by moving payments back by a specified number of days, and the resulting increase in investment income on those larger cash balances.
- Another factor behind the UCDS investment was a desire to increase efficiency as a result of combining output from the two different claim systems into one stream of payments. This would allow the insurer to pay providers with one check or electronic funds transfer (EFT) where previously they were receiving multiple checks from multiple claims systems.
 - A separate simulation conducted by ClearCycle examined how many payments were being sent to each provider and the estimated savings that would result from combined payments — such as the cost of postage for one check instead of multiple checks, the cost of bank EFTs, and the costs for printing separate transaction documents.
- A third driver was the savings that were expected to be created by UCDS on bank fees.
- The UCDS investment brought a benefit in the form of greater efficiency in customer service. Prior to deploying UCDS, the insurer had to query two different systems to answer

provider and member inquiries about claims payments. Now all of those questions can be answered from a single UCDS interface.

TEI Framework

Introduction

From the information provided in the in-depth interviews, Forrester has constructed a TEI framework for those organizations considering implementation of Universal Claims Disbursement System. The objective of the framework is to identify the cost, benefit, flexibility, and risk factors that impact the investment decision.

Framework Assumptions

Table 2 lists the discount rate used in the present value (PV) and net present value (NPV) calculations and time horizon used for the financial modeling.

Table 2: General Assumptions

Ref.	General assumptions	Value
A1	Discount rate	10%
A2	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 their finance department to determine the most appropriate discount rate to use within their own organizations.

Costs

ClearCycle’s solution is offered on several computing platforms, including a client/server system. ClearCycle uses a perpetual license model, plus annual maintenance and professional services fees for implementation. The solution is also offered as a ClearCycle-hosted, software as a service (SaaS) model.

Software License And Maintenance

The customer purchased a perpetual license for the use of UCDS at a cost of \$900,000. The customer also initially purchased a five-year maintenance agreement at an average annual cost of \$150,000

Professional Services

At the start of the project, the customer engaged professional services from ClearCycle for system design, software installation, project management, and operational consulting services, as well as ClearCycle’s expertise in banking vis-à-vis the health care industry. Work progressed over the course of seven months for a total cost for these professional services of \$300,000.

Internal Labor For Implementation

Implementation of UCDS for this customer required dedicating 2.5 FTEs from the company’s development staff and 3 FTEs from among its business analysts and business staff for seven months. The average hourly compensation rates were \$60.10 (or \$125,000 fully loaded annual compensation) for developers and \$40.87 per hour (or \$85,000 fully loaded annual compensation) for business analysts. For 1,200 hours (7 months x 4.3 weeks per month x 40 hours per week), the cost of internal labor summed to just over \$327,404 as shown in Table 3.

Table 3: Internal Labor — Implementation

Ref.	Metric	Calculation	Year 0
A1	Number of FTE developers		2.5
A2	Hourly rate per developer		\$60.10
A3	Number of FTE analysts		3.0
A4	Hourly rate per analyst		\$40.87
A5	Hours		1,200
At	Internal labor — implementation	$((A1*A2)+(A3*A4))*A5$	\$327,404

Source: Forrester Research, Inc.

Internal Labor For Ongoing Maintenance

Maintenance of the UCDS system for this customer requires one FTE from the IT group. This role is assigned to ensure that the UCDS system is receiving accurate input from the claims systems and that outputs are received correctly by check issue and clearance routines and banking systems, as well as security protocols. This role is also the IT liaison with the accounting and customer service

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departments and performs occasional modification requests and periodic upgrades. Fully loaded compensation for this role amounts to \$130,000 annually.

Total Costs

Total costs for the customer's UCDS implementation and maintenance are shown in Table 4 below.

Table 4: Total Costs

Costs	Initial	Year 1	Year 2	Year 3	Total
Software license	900,000				900,000
Software maintenance fee		150,000	150,000	150,000	450,000
Professional services for implementation	300,000				300,000
Internal labor — implementation	327,404				327,404
Internal labor — system administration		130,000	130,000	130,000	390,000
Total	\$1,527,404	\$280,000	\$280,000	\$280,000	\$2,367,404

Source: Forrester Research, Inc.

Benefits

We are a \$10 billion corporation, so there are substantial cash flow implications for having a reasonable policy for managing the timing of claim payments. Just by increasing the average time period from receipt to payment of a submitted claim, we were able to have a significant improvement in corporate cash flow. So our primary motivation was cash management and cash flow.

Vice President, Treasury

The main financial benefit in implementing UCDS for this Blue insurer has been the increase in investment income resulting from better management of the timing for claims payable — more effective cash flow management. Another major financial benefit is the cost avoidance of mailing and postage fees as a result of account consolidation and having to mail fewer statements of remittance and explanations of benefits. Quantifiable benefits have also accrued from labor cost savings in several categories described below.

Annual Increase In Investment Income

Forrester's interviews with this ClearCycle customer revealed that the organization's average daily cash balance increased by approximately 150% when the time to pay individual claims was extended. Assuming this change increased the average cash balances from \$60 million to \$150 million, an increase of \$90 million or 150%, a simple calculation is made by multiplying by the expected interest rate to be earned on the increase in the balance. Using a 5% rate of interest produces a benefit amount of \$4,500,000, as shown in Table 5.

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In an effort to: a) simplify calculations, and b) present a conservative set of financial assumptions, Forrester assumes no inflation or business growth in this three-year financial framework. Benefit amounts will be greater if such assumptions are included.

Table 5: Annual Increase In Investment Income

Ref.	Metric	Calculation	Per period	Year 2	Year 3	Total
A1	Days that claim amount accrued interest prior to UCDS		4			
A2	Days that claim amount accrued interest after UCDS		10			
A3	Difference		6			
A4	Average daily claims paid		10,000			
A5	Average amount per claim		\$1,500			
A6	Interest rate		5.0%			
At	Annual increase in investment income	$A3 \times A4 \times A5 \times A6$	\$4,500,000			
Ato	Total (original)		\$4,500,000	\$4,500,000	\$4,500,000	\$13,500,000

Source: Forrester Research, Inc.

Cost Savings From Mailing And Postage

The second most significant financial benefit was in the form of cost savings for postage and mailing supplies. When this insurer was able to consolidate claims payments from the HMO and PPO lines of business into single payments to individual providers, the number of envelopes mailed dropped by 50%. Assuming \$.25 per mailing saved on five million mailed pieces that were eliminated due to the consolidation, the benefit amount in this area is \$1,250,000.

Table 6: Cost Savings From Mailing And Postage

Ref.	Metric	Calculation	Per period	Year 2	Year 3	Total
A1	Number of transactions per year		5,000,000			
A2	Percent of transactions paid from multiple systems to single provider		100%			

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A3	Number of claims disbursement systems		2			
A4	Postage per mailed claim		\$0.25			
At	Cost savings from mailing and postage	$(A1*A2)*$ $(A3-1)*A4$	\$1,250,000			
Ato	Total (original)		\$1,250,000	\$1,250,000	\$1,250,000	\$3,750,000

Source: Forrester Research, Inc.

Although postage rates have increased faster than the rate of general inflation, Forrester includes no assumption for growth in this benefit category in favor of simplicity and conservatism.

Cost Savings From Account Consolidation

“We got rid of about ten checking accounts because we combined all these payments into two main checking accounts depending on whether it was a Blue Cross/Blue Shield brand or an unbranded line of business,” explained the head of the treasury department. The customer was able to consolidate 12 regional bank accounts into two as the result of UCDS. The customer estimated the savings on bank fees associated with these ten accounts to be approximately \$150,000 per year.

Table 7: Cost Savings From Account Consolidation

Ref.	Metric	Calculation	Per period	Year 2	Year 3	Total
A1	Number of claims disbursement accounts		2			
A2	Number of regional bank accounts per system		7			
A3	Average balance per account		\$250,000			
A4	Annual bank account fees		5%			
A5	Number of accounts closed	$(A1*A2)-2$	12			
At	Cost savings from account consolidation	$A5*A3*A4$	\$150,000			
Ato	Total (original)		\$150,000	\$150,000	\$150,000	\$450,000

Source: Forrester Research, Inc.

Labor Cost Savings From Automation Of Manual Prompt Payment Processes

UCDS resulted in substantial labor cost savings as a result of automating the prompt pay interest calculation and payment processes. Governed by state regulations, rules specify that interest is due to the provider if an insurer does not pay claims within the 30-day period after a provider submits the claim. ClearCycle’s UCDS software automatically calculates if interest is due and it puts that payment on the same remittance as the claim payment, adding the amount onto the payment record. The efficiency in terms of the labor cost no longer required amounts to two clerical FTEs earning a fully loaded compensation of \$39,000 per year, or a total of \$78,000 per year.

Further, users of this study are advised to evaluate potential benefits (which were not quantified by the customer profiled in this study) that can accrue with the avoidance of prompt payment violations regulatory actions, such as fines and other settlement costs, and benefits associated with improved provider-payer relations.

Incremental Output Per Worker In Automated Accounting Reconciliation

The ClearCycle UCDS system also automated much of the manual reconciliation process of comparing departmental account records to the reports generated from financial records systems to verify the accuracy of each. Five FTEs earning \$36 per hour saved approximately 240 hours (20 hours per month x 12 months) each on manual account reconciliation tasks. The total benefit for this category of labor cost savings is \$43,200 per year.

Reallocation Of IT Support Staff

Prior to the UCDS implementation, individual and dedicated check-writing applications were in use for each of the two claims adjudication systems. With the implementation of UCDS, these check writers were made obsolete, and 2.5 full-time equivalent staff members charged in the regular technical support and maintenance of these applications were re-allocated to other more important activities within the organization. Assuming a fully loaded annual salary of \$65,000, the cost savings associated with this benefit equals \$162,500.

Total Benefits

The financial benefits described in this section are summarized in Table 8 below.

Table 8: Total Benefits

Benefits	Year 1	Year 2	Year 3	Total
Annual increase in investment income	4,500,000	4,500,000	4,500,000	13,500,000
Cost savings from mailing and postage	1,250,000	1,250,000	1,250,000	3,750,000
Cost savings from account consolidation	150,000	150,000	150,000	450,000
Labor cost savings — prompt pay interest	78,000	78,000	78,000	234,000
Incremental productivity per worker in automated accounting reconciliation	43,200	43,200	43,200	129,600
Labor cost savings for IT support of multiple check writers	162,500	162,500	162,500	487,500
Total	\$6,183,700	\$6,183,700	\$6,183,700	\$18,551,100

Additional Benefits

Forrester recommends that users of this study attempt to identify and assess several other categories of benefit that were not articulated or quantified by the customer profiled in this case study. As with non-quantified potential benefits from improved prompt payment processes described above, Forrester believes that many organizations implementing UCDS will see benefits in the form of savings associated with post-payment processing. Customer service costs can be reduced via the ability to manage reversals and suspensions of payments, query any payment made in the system, and automate the task of overpayment recovery. Returned checks due to incorrect addresses or incorrect payments can be accurately corrected and reprocessed quickly. Savings also result from other reduced operating costs and fewer incoming calls. Finally, users of this study should evaluate the savings from not needing to add staff even as their business grows.

Risk

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 threaten 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.

Forrester risk-adjusts cost and benefit estimates to better reflect the level of uncertainty that exists for IT projects in general and accounting implementations in particular. 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 for each cost and benefit. *The risk-adjusted value is the mean of the distribution of those points.*

For example, in the case of the benefit calculation for the cost savings from account consolidation (see Table 7 above), the \$150,000 annual benefit value used in this analysis can be considered the “most likely” value prior to risk adjustment. This benefit is based on the 5% annual bank account fees associated with each regional bank account. The actual cost savings will be based on several factors, however, including interest rate fluctuations and any bank fees charged for closing the account. Based on these factors, Forrester estimated that the actual annual bank account fees can range from 3% to 5%. Applying a triangular distribution to this range, Forrester estimates that this benefit amounts to \$130,000 when risk-adjusted.

This method typically has the effect of increasing the cost estimates to take into account the fact that original cost estimates are more likely to be revised upward than downward, while it has the opposite effect on benefits — risk adjustments for benefits reduce the original benefit estimates — resulting in a conservative filter for financial assumptions. The end result is that ***the risk-adjusted ROI is lower than the original ROI estimate.***

The following tables show the values used to adjust for uncertainty in cost and benefit estimates. Different cost and benefit estimates have different levels of risk adjustments. Readers are urged to apply their own risk ranges based upon their own degrees of confidence in the cost and benefit estimates.

Costs

Software License And Maintenance Fees

Forrester assumes annual software license fees have been determined by contract, so no risk adjustment is applied.

Professional Services For Implementation

All implementation projects run the risk that a proposed technology investment may deviate from original scope specifications and cost estimates. The actual cost of professional services needed to implement the UCDS system can vary depending on the complexity of the needs of the customer, maturity of the underlying technical architecture, and quality and quantity of data being fed into the system.

Internal Labor For Implementation

Internal labor implementation costs can range from a low of \$255,288 to a maximum of \$384,289, with a most likely value of \$298,262. This variability is driven by the uncertainty in the number of hours that each member of the implementation team would need to allocate weekly to activities necessary for implementing UCDS. Although Forrester assumes each member of the customer organization’s internal implementation team allocated 40 hours for every week of the implementation, organizations with a highly complex data architecture and infrastructure should expect their internal labor hours to be higher and their resulting total costs to be closer to the high estimate.

Internal Labor For Ongoing Maintenance

The customer allocated a single FTE for ongoing maintenance and technical support. However, given the number of change requests and ongoing development post implementation, 1.5 FTEs could be allocated for this activity.

Cost Risk Adjustment Factors

Taking into account the risk associated with each cost category, Forrester has assigned the following risk adjustments to the original cost estimates.

Table 9: Cost Risk Adjustments

Costs	Risk adjustment
Software license	100%
Software maintenance fee (yearly)	100%
Professional services for implementation	108%
Internal labor — implementation	117%
Internal labor — system administration	117%

Source: Forrester Research, Inc.

Benefits

Annual Increase In Investment Income

The annual increase in investment income is heavily dependent on the expected interest rate to be earned on the increase in the balance carried over a longer period of time. Forrester conservatively used an interest rate of 5.0% to estimate the benefit delivered from this benefit. However, since the real rate of return is highly sensitive to market rate fluctuations and inflationary effects in general, a lower interest rate of 4.0% is applied for the Low estimate and 5.5% is applied for the High estimate.

Cost Savings From Mailing And Postage

The cost avoidance of mailing and postage assumes that all five million transactions per year are paid from multiple systems to a single provider. In reality, Forrester believes up to 25% of the transactions to be single payer transactions, which would not be affected by the cost savings associated with account consolidation. Furthermore, Forrester predicts some billing communication to occur through alternative means such as Web, email, fax, and phone. To account for this, Forrester risk-adjusts this category of benefit by decreasing the percent of transactions paid from 100% to 75%.

Cost Savings From Account Consolidation

As explained above, the cost savings associated with account consolidation are mainly driven by not having to pay bank fees associated with each of the regional accounts. The customer organization stated their bank fees to be 5% per annum. However, this does not include any financial penalties associated with account closures or fluctuations in market interest rates. Based on these factors, Forrester estimated that the actual annual bank account fees can range from 3% to 5%.

Labor Cost Savings From Automation of Manual Prompt Payment Processes

The risk adjustment of this benefit area assumes that the customer was not able to completely dismantle its manual processes and may have assigned a staff member on a part-time basis to oversee the automation delivered by UCDS and check for accuracy of results.

Incremental Output Per Worker In Automated Accounting Reconciliation

The benefit value associated with increased productivity assumes that 100% of the time saved will be converted into productive and higher-value time. In reality, Forrester believes 25% of this time will actually be spent by employees on personal non-valuable activities. Therefore, the customer should only expect 75% of this time to deliver value.

Reallocation Of IT Support Staff

The risk adjustment of this benefit area assumes that the customer was not able to reallocate all 2.5 FTE IT support staff internally and that one staff member may remain allocated on a part-time basis to IT support activities associated with legacy check writers or reporting systems associated with these applications.

Benefit Risk Adjustment Factors

Taking into account the risk associated with each benefit category, Forrester has assigned the following risk adjustments to the original benefit estimates.

Table 10: Benefit Risk Adjustments

Benefit	Risk adjustment
Annual increase in investment income	97%
Cost savings from mailing and postage	92%
Cost savings from account consolidation	87%
Labor cost savings — prompt pay interest	92%
Incremental productivity per worker in automated accounting reconciliation	92%
Labor cost savings for IT support of multiple check writers	93%

Source: Forrester Research, Inc.

Flexibility

Flexibility, as defined in Forrester’s TEI methodology, is an investment in additional capacity or agility today that can be turned into future business benefits at some additional cost in the future. 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 UCDS — for a specific set of users or a defined part of the overall organization — and later discover additional value that can be realized by further building upon the existing platform. Forrester believes that there are several such real options available to the “Blue” profiled here. The flexibility component of TEI can capture that value using the industry standard Black-Scholes option pricing model.

Data for calculating the value of the flexibility options was not provided by the customer.

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. Table 13 shows the consolidation of the numbers for the customer organization.

Tables 11 and 12 below show the risk-adjusted values, applying the risk adjustment method indicated in the Risks section above and the values from Tables 4 and 8.

It is important to note that values used throughout the TEI Framework are based on in-depth interviews with one ClearCycle customer. Forrester makes no assumptions as to the potential return that other organizations will receive within their own environment. Forrester strongly advises that readers use their own estimates within the framework provided in this study to determine the expected financial impact of implementing the Universal Claims Disbursement System.

The three-year risk-adjusted costs are summarized in the following table.

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Table 11: Total Risk-Adjusted Costs

Costs	Initial	Year 1	Year 2	Year 3	Total	Present value
Software license	900,000				900,000	900,000
Software maintenance fee		150,000	150,000	150,000	450,000	373,028
Professional services for implementation	325,000				325,000	325,000
Internal labor — implementation	382,517				382,517	382,517
Internal labor — system administration		151,667	151,667	151,667	455,000	377,173
Total	\$1,607,517	\$301,667	\$301,667	\$301,667	\$2,512,517	\$2,357,717

Source: Forrester Research, Inc.

The three-year risk-adjusted benefits are summarized in the following table.

Table 12: Total Risk-Adjusted Benefits

Benefits	Year 1	Year 2	Year 3	Total	Present value
Annual increase in investment income	4,350,000	4,350,000	4,350,000	13,050,000	10,817,806
Cost savings from mailing and postage	1,145,833	1,145,833	1,145,833	3,437,500	2,849,518
Cost savings from account consolidation	130,000	130,000	130,000	390,000	323,291
Labor cost savings — prompt pay interest	71,500	71,500	71,500	214,500	177,810
Incremental productivity per worker in automated accounting reconciliation	39,600	39,600	39,600	118,800	98,479
Labor cost savings for IT support of multiple check writers	151,667	151,667	151,667	455,000	377,173
Total	\$5,888,600	\$5,888,600	\$5,888,600	\$17,665,800	\$14,644,077

Source: Forrester Research, Inc.

Study Conclusions

Forrester's in-depth interviews with the ClearCycle Universal Claims Disbursement System's customers yielded several important observations:

- Based on information collected in interviews with current Universal Claims Disbursement System customers, Forrester found that organizations can realize benefits in the form of: a) the customer's increased investment income resulting from more advantageous management of cash flow, b) cost savings from mailing and postage resulting from aggregating claims payments to each provider, c) cost savings from bank account consolidation, and d) labor cost savings in three areas (prompt pay interest, automated account reconciliation, and IT support for multiple check writers).

The financial analysis provided in this study illustrates the potential way an organization can evaluate the value proposition of UCDS. Based on information collected during interviews with a single customer, Forrester calculated a three-year risk-adjusted ROI of 521% for the customer organization with a payback period of 3.5 months. All final estimates are risk-adjusted to incorporate potential uncertainty in the calculation of costs and benefits.

Based on these findings, companies looking to implement the Universal Claims Disbursement System can see cost savings and cash flow management benefits. Using the TEI framework, many companies may find the potential for a compelling business case to make such an investment.

Table 13: ROI, Risk-Adjusted

Summary financial results	Original estimate	Risk-adjusted
ROI	592%	521%
Payback period (months)	3.1	3.5
Total costs (PV)	(\$2,223,722)	(\$2,357,717)
Total benefits (PV)	\$15,377,947	\$14,644,077
Total (NPV)	\$13,154,224	\$12,286,359

Source: Forrester Research, Inc.

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, risk, 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 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 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 or 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. 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.

Appendix C: About The Project Team

Amit Diddee, Consultant

Amit Diddee is a 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. Amit specializes in developing complex financial analytic models and decision-support systems to help clients solve business challenges around financial justification of investments.

Amit's past experience spans a wide variety of industries and functional areas. Amit came to Forrester from the Monitor Group, where he advised top Fortune 500 companies on high-profile projects focused on corporate and growth strategy, marketing and sales, IT, and performance improvement. Prior to the Monitor Group, Amit worked at EMC implementing process improvement projects to increase customer satisfaction levels and business productivity. He was also a senior technical analyst at Business Forecast Systems, where he provided demand management and supply chain consulting services.

Amit holds a B.S. in neuroscience and psychology from Brandeis University and a M.S. in computer science with a concentration in knowledge discovery and data mining from Worcester Polytechnic Institute.

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 a M.B.A. with concentrations in international management and finance from the Thunderbird School of Global Management.