FORRESTER®

The Total Economic Impact™ Of The Celigo Integration Platform

Cost Savings And Business Benefits
Enabled By The Celigo Integration Platform

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Executive Summary

Organizations are increasingly embracing citizen integration-platform-as-a-service solutions as a tool in their business process automation strategies to stitch together their ever-growing number of distributed applications and data while improving efficiencies for both IT teams and line of business users. The Celigo integration platform, as a unified low-code integration and automation solution, houses these capabilities to increase user productivity, data accuracy, and connectivity while reducing operational costs.

The Celigo integration platform is a cloud-native integration platform as a service (iPaaS) that allows its users to automate their business processes across the entire enterprise. It does this by enabling IT development and line-of-business teams alike to build, maintain, and manage integrations across their organization's SaaS and legacy on-premises applications, which are critical to automating these processes end to end.

Celigo commissioned Forrester Consulting to conduct a Total Economic Impact™ (TEI) study and examine the potential return on investment (ROI) enterprises may realize by deploying the Celigo integration platform.[1] The purpose of this study is to provide readers with a framework to evaluate the potential financial impact of the Celigo integration platform on their organizations.

To better understand the benefits, costs, and risks associated with this investment, Forrester interviewed four representatives with experience using the Celigo integration platform. For the purposes of this study, Forrester aggregated the interviewees' experiences and combined the results into a single composite organization.

Interviewees said that prior to using the Celigo integration platform, business processes and integrations were manual or only partially automated, but that there was high demand to improve workflow efficiencies as the organizations scaled. IT teams were strapped for time and lacked the capacity to

KEY STATISTICS

Return on investment (ROI)
364%

Net present value (NPV)
$643K

fulfill the integration and automation needs of the business, but there was no way to get business users involved in process development without an easy-to-use solution. Meanwhile, existing processes were often error prone as data scaled, which negatively affected end user, customer, and partner experiences.

With the investment in the Celigo platform, the interviewees' organizations had access to a centralized integration and automation solution with an interface that catered to both technical and business users. Key results from the investment include improved IT and business user productivity and a reduction in errors. Process efficiencies also translated to improved end user, customer, and partner experiences.

KEY FINDINGS

Quantified benefits. Three-year, risk-adjusted present value (PV) quantified benefits for the composite organization include:

- **An up to 75% reduction in development timelines for integrations and flow projects.** The Celigo platform's low-code environment allows IT staff to reduce time spent on deploying integrations and business process automation (BPA) flow projects and reallocate projects to business users. This saves the composite organization $463,100 over three years.

- **A $135,500 reduction in the cost of resolving data errors over three years.** With the introduction of automation into business processes and a centralized view into the status of all integrations and flows throughout the enterprise with the Celigo platform, the composite organization experiences a 50% reduction in data errors and reduces its error resolution time by 90%.

- **More than 100 hours of time back per year to end users affected by process automations with the Celigo platform.** Introducing automation into end-user workflows freed up employee time typically spent on manual, repetitive, and data-based tasks. This saves the composite organization $221,100 over three years.

Unquantified benefits. Benefits that provide value for the composite organization but are not quantified in this study include:

- **Improved security.** The Celigo platform contains several built-in security features, including end-to-end encryption, due diligence efforts on external service providers, and reliable infrastructure, that protect sensitive data and prevent potential threats.

- **Enhanced customer satisfaction.** With greater security and data visibility, the Celigo platform provides customers with access to information that allows them to make better decisions.

- **Business growth.** Using the Celigo platform to better serve both internal and external customers

allows organizations to make better business decisions that fuel growth.

> **"I'm partial to the Celigo platform because it can be operated in two different directions: from somebody who may not be super technical but can understand certain endpoints and create simple integrations through the platform interface, but also by a developer with more technical skills who can advance integrations even further beyond just some of the features Celigo has provided."**
>
> *Director of enterprise applications, employment services*

Costs. Three-year, risk-adjusted PV costs for the composite organization include:

- **Fees to Celigo.** Subscription fees are based on the number of endpoint apps, number of platform flows, and the use of BPAs. The organization also pays an additional fee toward Celigo professional services in Year 1 for assistance in the development efforts of initial integrations and flows. Based on the composite organization's usage, this totals $125,600 over three years.

- **Implementation and ongoing management.** IT FTEs are involved in the planning, deployment, and ongoing management of the platform. This costs the composite $48,200 over three years.

- **Internal costs.** Minimal training is required for IT and business users to become proficient using the Celigo platform. This costs the composite organization $2,600 over three years.

The representative interviews and financial analysis found that a composite organization experiences benefits of $820,000 over three years versus costs of $176,000, adding up to a net present value (NPV) of $643,000 and an ROI of 364%.

> **"The Celigo platform is a scalable iPaaS solution that is flexible, customizable, and powerful, and [it] doesn't require deep technical resources to manage on a daily basis."**
>
> — Director of global supply chain, e-commerce

ROI
364%
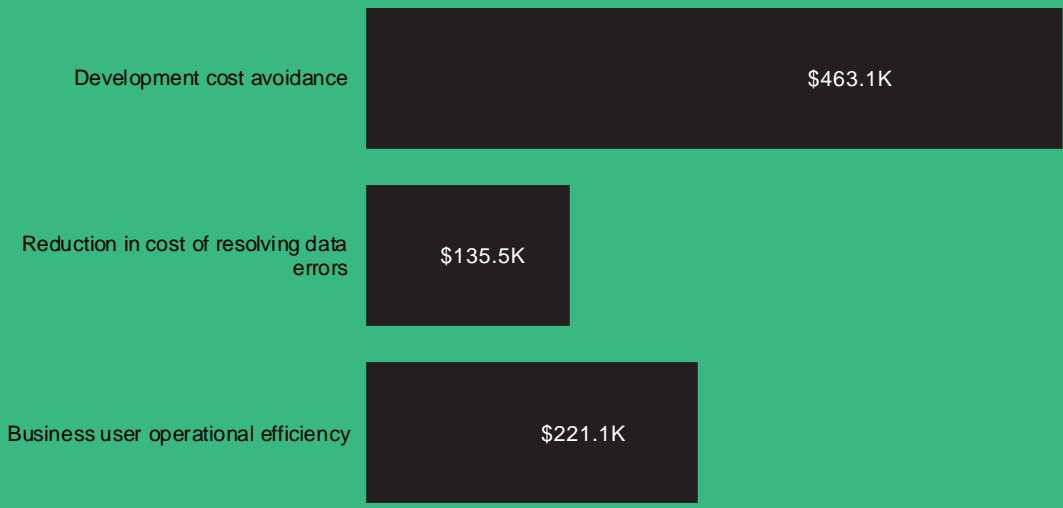
BENEFITS PV
$820K

NPV
$643K

Benefits (Three-Year)

Benefit	Value
Development cost avoidance	$463.1K
Reduction in cost of resolving data errors	$135.5K
Business user operational efficiency	$221.1K

TEI FRAMEWORK AND METHODOLOGY

From the information provided in the interviews, Forrester constructed a Total Economic Impact ™ framework for those organizations considering an investment in the Celigo integration platform.

The objective of the framework is to identify the cost, benefit, flexibility, and risk factors that affect the investment decision. Forrester took a multistep approach to evaluate the impact that the Celigo integration platform can have on an organization.

DISCLOSURES

Readers should be aware of the following:

This study is commissioned by Celigo and delivered by Forrester Consulting. It is not meant to be used as a competitive analysis.

Forrester makes no assumptions as to the potential ROI that other organizations will receive. Forrester strongly advises that readers use their own estimates within the framework provided in the study to determine the appropriateness of an investment in the Celigo integration platform.

Celigo 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.

Celigo provided the customer names for the interviews but did not participate in the interviews.

DUE DILIGENCE
Interviewed Celigo stakeholders and Forrester analysts to gather data relative to the Celigo integration platform.

INTERVIEWS
Interviewed four representatives at organizations using the Celigo integration platform to obtain data with respect to costs, benefits, and risks.

COMPOSITE ORGANIZATION
Designed a composite organization based on characteristics of the interviewees' organizations.

FINANCIAL MODEL FRAMEWORK
Constructed a financial model representative of the interviews using the TEI methodology and risk-adjusted the financial model based on issues and concerns of the interviewees.

CASE STUDY
Employed four fundamental elements of TEI in modeling the investment impact: benefits, costs, flexibility, and risks. Given the increasing sophistication of ROI 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.

■ Drivers leading to the Celigo integration platform investment

Interviews			
Role	**Industry**	**Revenue**	**Celigo usage**
Director of enterprise applications	Employment services	$750M	Number of integration flows: 45 Number of endpoints: 9
VP of corporate solutions delivery	Marketing services	$250M	Number of integration flows: 45 Number of endpoints: 6
Director of global supply chain	E-commerce	$200M	Number of integration flows: 160 Number of endpoints: 21
IT information analyst	Manufacturing	$50M	Number of integration flows: 75 Number of endpoints: 25

KEY CHALLENGES

Prior to the investment in the Celigo integration platform, IT teams at the interviewees' organizations were unable to keep up with business demands for automation and integration as their organizations scaled. Business processes and integrations were either fully manual or partially automated using antiquated point solutions. This delayed the organizations' abilities to promote business growth and created unnecessary inefficiencies.

The interviewees' organizations struggled with several shared challenges, including:

- **IT teams struggled to respond to business needs.** Integration and automation projects required heavy involvement from IT teams and took a long time to complete. However, the organizations' small IT teams had little capacity to take new projects as their businesses grew, and they often could not fully understand the needs of the business. The director of enterprise applications at an employment services organization said: "We needed IT resources to spin up any sort of integration and/or automation environment, but time to market was slow. Also, the result would never be as robust in terms of the level of capabilities and the different types of connections as we needed it to be."

"A lot of our inventory levels, pricing content, [and] things like that were all handled manually on a daily basis using spreadsheets and manual uploads to wherever the data needed to go."

IT information analyst, manufacturing

- **Organizations were unable to involve business users in the coding process.** Interviewees' organizations saw value in involving business users in the integration and automation process. But with no holistic, centralized solution in place, even minor projects were difficult to pass off from IT teams. The director of global supply chain in the e-commerce industry explained: "Minor integrations and automations were definitely at the end of IT's list of things to work on, but these really do help improve business user efficiency. Business users know what they need best, so we really saw

value in enabling business and nontechnical users to do these small projects themselves."

> **"We had a process in which information had to be manually rekeyed up to 12 different times. It was difficult to operate."**
>
> *VP of corporate solutions delivery, marketing services*

- **Manual processes resulted in inefficiencies as data scaled.** Interviewees noted that it was difficult to leverage data across the disparate systems in place at their organizations. Data (e.g., product, order, or inventory information) had to be manually uploaded from one system to another. As businesses rapidly grew, this data was becoming increasingly difficult to manage, especially with tiny operational teams.

  The organizations lacked a centralized tool to oversee all their data and connections, which led to expensive and time-consuming data errors. The VP of corporate solutions delivery at a marketing services organization said: "There was a lot of reliance on manual intervention. We had a process made up of multiple screens with multiple places to make mistakes, and we would end up having to deal with nearly 50 errors a month."

- **Disconnected and error-prone processes hurt end user, customer, and partner experiences.** Data inaccuracies, lack of data visibility, and a delay in response time due to these issues hindered the organizations' relationships with both customers and partners. The IT information analyst at a manufacturing organization said, "If

content is misrepresented, it adds time to diffuse issues with an upset customer, which may mean they would not return going forward."

Similarly, end users were often frustrated by the lack of data transparency, reliability, and integrity in their data, as it affected their ability to do their jobs. The director of enterprise applications at an employment services organization said: "If information isn't communicated in a timely manner or if the information doesn't come over correctly, it creates huge challenges for our sales reps. They lost a lot of time just because of how slow it was to ensure they were accessing the most up-to-date information."

> **"In the before state, there were a lot of errors where we wouldn't be able to create sales orders or purchase orders because a piece of data missing, the stored procedure didn't run when it was supposed to run, or the data didn't match between two systems. It put a strain on our customer relationship."**
>
> *VP of corporate solutions delivery, marketing services*

INVESTMENT OBJECTIVES

The interviewees' organizations searched for a solution that could:

- Empower both IT and business units to respond to business opportunities and challenges faced by the organizations.

- Break down silos and gain data consistency and accuracy across a myriad of systems.

- Reduce the cost of scaling as data increases and business units need to automate processes more rapidly or integrate applications.

- Streamline operations for a small IT team.

- Uplift employee, customer, and partner experiences.

"Celigo's customizability, centralized management and dashboarding, breadth of integrations, out-of-the-box connections, and business model that [doesn't] charge by transaction is what really sold us."

Director global supply chain, e-commerce

COMPOSITE ORGANIZATION

Based on the interviews, Forrester constructed a TEI framework, a composite company, and an ROI analysis that illustrates the areas financially affected. The composite organization is representative of the four interviewees, and it is used to present the aggregate financial analysis in the next section. The composite organization has the following characteristics:

Description of composite. The global enterprise with $250 million in annual revenue and 700 employees serves both business and individual customers. The organization identified weaknesses in its integration and automation strategy and process and identified the need for a more centralized and governed approach. The composite organization is looking to transform into a modern digital enterprise by streamlining the integration process and

introducing automation into its workflows to build efficient operations, improve internal agility, and better engage with customers and partners.

Deployment characteristics. The organization uses the Celigo platform for integration and automation in both back-office and business-facing operations/applications. It implements the Celigo platform as a strategic initiative with a clear view of which business processes it initially hopes to analyze and optimize with the solution. In Year 1, the organization creates 15 integrations/flows between three endpoints. The automation within these flows affects the efficiencies of 20 business users.

Following the success of early flows, the composite organization expands its deployment of the Celigo platform to include 75 integrations/flows between 20 endpoints that affect 100 business users. Over time, as more business users are onboarded onto the platform to create integrations/flows and there is an increase in reusable components, development timelines, and the cost associated with development shrinks.

Key Assumptions

- **$250M annual revenue**
- **75 integrations per platform flows by Year 3**
- **20 total endpoints by Year 3**
- **4 IT and 4 business user FTEs create integrations using Celigo**
- **Platform affects 100 business users by Year 3**

Analysis Of Benefits

■ Quantified benefit data as applied to the composite

Total Benefits						
Ref.	Benefit	Year 1	Year 2	Year 3	Total	Present Value
Atr	Development cost avoidance	$113,786	$190,402	$269,216	$573,404	$463,065
Btr	Reduction in cost of resolving data errors	$53,838	$54,405	$55,350	$163,593	$135,492
Ctr	Business user operational efficiency	$32,850	$82,125	$164,250	$279,225	$221,139
	Total benefits (risk-adjusted)	$200,474	$326,932	$488,816	$1,016,222	$819,696

DEVELOPMENT COST AVOIDANCE

Evidence and data. Interviewees' organizations experienced both faster delivery timelines and reductions in the cost of resources needed to deploy integrations and BPA flow projects. Interviewees attributed this to the low-code development environment of the Celigo platform, which enables both technical and business users to perform simple to complex integrations and BPA flows, Celigo's library of prebuilt BPAs, and the reusability of developed components.

> **"The resources required to create a flow is not as intensive with the Celigo platform. You just have to set a connection to the application, understand what endpoint you want to hit, and leverage the prebuilt connections Celigo has made available to its platform users."**
>
> *Director of enterprise applications, employment services*

- The director of global supply chain at an e-commerce organization reported that with the Celigo platform, integrations and flows could be built at least two times faster compared to with their organization's previous point solution, with some taking as little as 30 minutes. Using the platform's BPA framework along with the low-code Developer Workspace for more custom flows, the organization could leverage business users and its internal IT staff for flow development instead of having to outsource to a highly technical person. The interviewee said: "It would have cost us a quarter-million-dollars more to do the integration at the volume we are doing them with our previous integration provider. And we can do complex integrations in-house."

- Similarly, the director of enterprise applications at an employment services organization said their company has seen a reduction in IT backlog as platform users are able to spin up three times more integrations per year compared to its previous point-to-point, manual coding environment, and the IT team can offload the creation of less complex integrations and flows to business users. The director said: "We see a sense of relief from our IT team. They're happy that with the Celigo platform in place, they can focus on more technical integrations and

automations or reallocate time to new innovations for the company."

- The same interviewee said their organization is able to develop simple integrations in minutes instead of days and develop more complex integrations in weeks instead of months. The director of enterprise applications said: "Celigo provides very simple, out-of-the-box tools for us to leverage for integrations and automation that allow us to easily modify data, create rules, and deploy a BPA flow. There's a lot of flexibility in the platform, and you can go as prebuilt or custom as you like." The interviewee also mentioned how valuable the ability of cloning parts of integrations has been for their organization. They said, "We've been able to save a couple hours for each flow from being able to leverage pieces of integrations we have created before."

- The VP of corporate solutions delivery for a marketing services organization said their company was able to avoid external hires and consulting hours by leveraging the Celigo platform. They said: "If we didn't have this solution to bridge multiple applications, we would have spent hundreds of thousands of dollars to move our data back and forth. And we would have had to pay $25,000 for somebody to automate a task." The organization is able to deploy easy integrations and flows in 15 minutes compared to in weeks without Celigo's prebuilt automations. Additionally, complex flow deployments took one to two weeks instead of one month.

> ## "We can get integrations up and running in 15 minutes."
>
> *VP of corporate solutions delivery, marketing services*

- The IT information analyst at a manufacturing organization explained how easy and fast it was to scale use of the platform. They said: "We had two recent acquisitions, and we were able to scale one of our applications to those new accounts and get the whole process up and running within a few days. Without Celigo, we would have to manually prepare a data sheet, upload it, and continuously check whether everything is working and updating correctly. Having Celigo has increased our confidence in our integrations and trust in our data."

Modeling and assumptions. For the composite organization, Forrester assumes that:

- The composite organization implements 15 integration/flow projects in Year 1 of using the Celigo platform. As the success of projects becomes known across the organization, there is a steady increase for demand for new projects in the following years.

- 40% of the projects are complex, meaning initial integrations or flows to new applications where there may be extract, transform, load (ETL) or high manipulation of data.

- Previously, a typical complex project required two IT FTEs and an average of 40 days to be completed.

- With the Celigo platform, the same IT staff can complete the project 60% faster.

- The average fully burdened annual salary of an IT FTE is $110,000.

- The remaining 60% of projects are noncomplex, meaning they may be a connection between two applications that are already integrated, or they may be copying certain components from a similar process that is already in place.

- Previously, a typical noncomplex project required one IT FTE, and an average of two days to be completed.

- With the Celigo platform, one business user FTE completes the project 40% faster in Year 1. Average project duration decreases by 75% by Year 3 as the reusability of components and internal business-user knowledge on the platform's capabilities increases.

- The average fully burdened annual salary of a business user FTE is $73,000.

Risks. Development cost avoidance may vary depending on the following:

- The size, scope, number, and complexity of projects being implemented.

- The available capacity and skill sets of the IT and business personnel working on projects.

- The salaries of FTEs.

Results. To account for these risks, Forrester adjusted this benefit downward by 10%, yielding a three-year, risk-adjusted total PV (discounted at 10%) of $463,100.

Ref.	Metric	Source	Year 1	Year 2	Year 3
Development Cost Avoidance					
A1	Number of new integration/flow projects with Celigo	Composite	15	25	35
A2	Number of complex integration/flow projects with Celigo	A1*40%	6	10	14
A3	IT FTEs required to complete a typical project	Interviews	2	2	2
A4	Average project duration without Celigo (days)	Interviews	40	40	40
A5	Percent reduction in average project duration with Celigo	Interviews	60%	60%	60%
A6	IT FTE annual salary (fully burdened)	Composite	$110,000	$110,000	$110,000
A7	Subtotal: Cost avoidance, complex integration/flow projects	A2*A3*A4*A5*(A6/260 days)	$121,846	$203,077	$284,308
A8	Number of noncomplex integration/flow projects with Celigo	A1*60%	9	15	21
A9	IT FTEs required to complete a typical project without Celigo	Interviews	1	1	1
A10	Business user FTEs required to complete a typical project with Celigo	Composite	1	1	1
A11	Average project duration without Celigo (days)	Interviews	2	2	2
A12	Percent reduction in average project duration with Celigo	Interviews	40%	50%	75%
A13	Business user FTE annual salary (fully burdened)	Composite	$73,000	$73,000	$73,000
A14	Subtotal: Cost avoidance, noncomplex integration/flow projects	(A8*A11*A9*(A6/260 days))-(A8*A11*(1-A12)*A10*(A13/260 days))	$4,583	$8,481	$14,821
At	Development cost avoidance	A7+A14	$126,429	$211,558	$299,129
	Risk adjustment	↓10%			
Atr	Integration cost avoidance (risk-adjusted)		$113,786	$190,402	$269,216
	Three-year total: $573,404		**Three-year present value: $463,065**		

REDUCTION IN COST OF RESOLVING DATA ERRORS

Evidence and data. Prior to implementing the Celigo platform, manually transferring data from one place to another resulted in errors. Checking for and correcting mistakes took additional time and effort.

With the Celigo platform in place, the rate of errors and mistakes fell as manual processes were automated. This was particularly valuable for repetitive tasks where, over time, mental focus can decrease and human errors can increase.

Furthermore, the Celigo platform provided a consolidated view of all integrations and flows and leveraged true artificial intelligence/machine learning (AI/ML) to assist in error management. This reduced the time spent managing errors and enabled IT resources to hand off flow maintenance to less-technical users.

- The director of global supply chain for an e-commerce organization said their company automated processes around account reconciliation and transaction reporting for its financial team using the Celigo platform. When doing the processes manually, every day there were numerous errors around data syncing, and it would take a data specialist hours per day to diagnose and resolve an issue. With the Celigo platform, a business user can find and resolve the issue in 30 minutes. The director said, "Celigo's dashboard clearly points out where the issues are and what the problem is so we can easily resolve it."

> **"Regular business users can maintain the connections between our different systems and our vendors and customer marketplace systems and resolve errors fast. There's high ease of use at a low cost."**
>
> *Director of global supply chain, e-commerce*

- The director of enterprise applications at an employment services organization also cited the centralized visibility into all data and applications across the enterprise as the reason data-error resolution times have gone down over time. They said: "The way Celigo has curated how we can visualize errors in our environment has streamlined our ability to respond and address those. Before, we didn't have anything in place to give us that visibility, so fixing errors could've taken days, months, or may not have been fixed at all."

- The VP of corporate solutions delivery for a marketing services organization said that in their company's legacy environment, it employed two FTEs to manage integrations and flows to ensure data was moving correctly. Once implementing the Celigo platform, the organization was able to cut its error workload by 60% and fully reallocate one FTE to other value-adding tasks. The VP said: "Our resources are now more focused on advancing the product we offer rather than fixing it. It's a nice reprieve for our developers to work on the product rather than building scripts to integrate two pieces of software."

> **"We saw 50 costly entry-related errors a month drop to a single error. Something like that pays tremendous dividends."**
>
> *VP of corporate solutions delivery, marketing services*

Modeling and assumptions. For the composite organization, Forrester assumes:

- In its prior environment, the composite organization experienced 20 errors resulting from data inaccuracies per month. On average it took an IT FTE 5 hours to resolve an error.

- The hourly rate of an IT FTE is $53.

- Once implementing the Celigo platform, the composite organization sees a 10% reduction in the number of errors in Year 1. The number of errors reduces by 50% in Year 3 as more integrations and flow projects are implemented on the platform.

- Additionally, a business user can resolve the error, and it takes 30 minutes with access to the Celigo dashboard and AI/ML.

- The hourly rate of a business user FTE is $35.

Risks. The reduction in the cost of resolving data errors may vary depending on the following:

- The number and complexity of errors in the organization's previous and current environment.

- The size and scope of adoption of the Celigo Platform for integration and flow projects.

- The skill sets of affected FTEs.

- The salaries of FTEs.

Results. To account for these risks, Forrester adjusted this benefit downward by 10%, yielding a three-year, risk-adjusted total PV of $135,500.

Ref.	Metric	Source	Year 1	Year 2	Year 3
Reduction In Cost Of Resolving Data Errors					
B1	Number of errors per month before Celigo	Composite	240	240	240
B2	Average time spent to resolve an error (hours)	Interviews	5	5	5
B3	IT FTE hourly rate (fully burdened)	Composite	$53	$53	$53
B4	Subtotal: Cost of resolving errors in legacy environment	B1*B2*B3	$63,600	$63,600	$63,600
B5	Reduction in the number of errors with Celigo	Interviews	10%	25%	50%
B6	Average time spent to resolve an error (hours)	Interviews	0.5	0.5	0.5
B7	Business user FTE hourly rate (fully burdened)	Composite	$35	$35	$35
B8	Subtotal: Cost of resolving errors in Celigo environment	B1*(1-B5)*B6*B7	$3,780	$3,150	$2,100
Bt	Reduction in cost of resolving data errors	B4-B8	$59,820	$60,450	$61,500
	Risk adjustment	↓10%			
Btr	Reduction in cost of resolving data errors (risk-adjusted)		$53,838	$54,405	$55,350
	Three-year total: $163,593		**Three-year present value: $135,492**		

BUSINESS USER OPERATIONAL EFFICIENCY

Evidence and data. The interviewees' organizations used the Celigo platform to automate business processes and improve business user productivity in numerous ways.

- The director of global supply chain for an e-commerce organization said their company was able to automate processes around employee onboarding and offboarding and account reconciliation in the back office. It was also able to leverage Celigo's prebuilt automations to ensure pricing, inventory, listings, sales, and returns were accurately updated in real time across applications. Automating the inventory update process saved a developer and system specialist 10 hours per month.

- The VP of corporate solutions delivery for a marketing services organization said implementing automation into flows with the Celigo platform drastically improved the process of creating sales orders and purchase orders for its finance team. The VP said: "It could take up to 4 hours to manually create a purchase order if there were issues because of data inaccuracies. And we would get 50 to 100 orders per month. Automating this process and building a bridge between the systems has saved someone on the finance team at least 30 minutes per day for the past three years." The organization has around 10 automations in place around business processes involving transferring data across the organization. Automations in flows within the Celigo platform affect 350 business users throughout the organization.

Modeling and assumptions. For the composite organization, Forrester assumes:

- In the first year, 20 business users are affected by automations created using the Celigo Platform. This number grows to 100 business

users by Year 3 as the number of integration/flow projects created on the platform increases.

- Business users see a 5% efficiency improvement with the introduction of automation in their workflows using the Celigo platform.

- The average fully burdened salary of a business user FTE is $73,000.

- Forrester conservatively estimates that 50% of the total time saved per business user FTE is applied directly back to value-generating tasks, and it is therefore included in the benefit calculation. Individual employees may apply additional time savings toward professional development, training, and work-life activities that were not included in the benefit analysis.

> **"Celigo's scripted solutions for data flows are huge for our organization. We were able to automate the process of updating inventory and pricing, which is a dream. It would take us at least eight times the amount of time to do it manually using spreadsheets like we were before."**
>
> *IT information analyst, manufacturing*

Risks. Business user operation efficiency may vary depending on the following:

- The total number of business users affected by automations built with the Celigo platform.

- The maturity of process automation before implementing the Celigo platform.

- The size, scope, and complexity of the business processes being automated.

- The salaries of FTEs.

- The percentage of productivity captured by the affected users.

Results. To account for these risks, Forrester adjusted this benefit downward by 10%, yielding a three-year, risk-adjusted total PV of $221,100.

Business User Operational Efficiency					
Ref.	**Metric**	**Source**	**Year 1**	**Year 2**	**Year 3**
C1	Number of business users affected by Celigo	Composite	20	50	100
C2	Operational efficiency improvement due to automations with Celigo	Interviews	5%	5%	5%
C3	Business user FTE annual salary (fully burdened)	Composite	$73,000	$73,000	$73,000
C4	Productivity recapture	TEI standard	50%	50%	50%
Ct	Business user operational efficiency	C1*C2*C3*C4	$36,500	$91,250	$182,500
	Risk adjustment	↓10%			
Ctr	Business user operational efficiency (risk-adjusted)		$32,850	$82,125	$164,250
	Three-year total: $279,225		**Three-year present value: $221,139**		

UNQUANTIFIED BENEFITS

Interviewees mentioned the following additional benefits that their organizations experienced but were not able to quantify:

- **Improved security.** The Celigo integration platform has a number of security measures in place to ensure the integrity of sensitive data and mitigate potential threats. Reinforced with end-to-end encryption, due-diligence efforts on external service providers, and reliable infrastructure, interviewees told Forrester that the Celigo integration platform has made them more confident in the level of security of their organizations' data. The director of enterprise applications of an employment services organization revealed: "I definitely know that the teams that are benefiting from it have been pleased with the fact that they no longer have to

worry about this being a manual process, tracking highly sensitive data, and potentially having to put that on your own machine and then manipulate it and then upload it. There's a lot of satisfaction and a sense of security around being able to have integrations like this in place."

- **Enhanced customer satisfaction.** The data transparency and security that the Celigo platform enables has been a source of heightened customer satisfaction. The ability to have access to updated pricing, inventory, listing, sales, and other relevant information empowers customers to make better decisions. The director of global supply chain at an e-commerce company noted: "I would say it definitely has helped us keep our inventory levels in sync better to either not have listings down or not oversell product that we didn't have. And we integrate this

with our email messaging, so all the data is running through the same system. This definitely leads to higher customer satisfaction and customer loyalty."

- **Business growth.** Interviewees' organizations used the Celigo platform to improve both business operations and the ways in which the organizations serve their customers through new integrations for internal systems, improved data exchange with partners, new workflow automations, and improved access to data and insights. For interviewees' organizations, these improvements — targeted to better meet the needs of their internal and external customers — resulted in business growth.

  The director of global supply chain for an e-commerce organization said the automation and integration capabilities of the Celigo platform allowed their company to recognize errors that had the potential to stunt revenue growth. The director was able to leverage the platform to

identify errors in real time on virtual listings that would have otherwise taken months to detect.

Interviewees also highlighted that by avoiding the manual effort of updating items across channels, they were able to skip tedious tasks and shift their focus towards high-value efforts that contribute to growing their companies.

FLEXIBILITY

The value of flexibility is unique to each customer. There are multiple scenarios in which a customer might implement the Celigo integration platform and later realize additional uses and business opportunities, including:

- **Scalability.** The Celigo platform has opened up the opportunity for continued business growth as organizations look to scale and even explore the potential of tapping into new markets. The director of global supply chain of an e-commerce company shared: "We definitely want to create more integrations as we continue to grow. We're looking at different dropship tenders and some new marketplaces to list our products on. We're pretty good on most of the other big systems that we're integrating, but most of it is going to be growth into different markets."

- **Improved communication around data.** Being able to unlock the full capabilities of data across different applications can help better communicate information throughout an organization to ensure transparency among groups. The director of enterprise applications at an employment services company noted: "In the next year, the biggest thing that we're focusing on is an integration to our ADP platform and getting all the data that ADP has and harnesses from an HR standpoint and then leveraging Celigo to communicate all that information downstream as necessary. Currently, it is a disparate process; manual in some places, automated in others. We want to consolidate that under the Celigo umbrella and have full visibility

> **"Celigo has helped our company excel at system communications efficiently and quickly, leading to agile growth within our market and further expansion. It helps us focus on more strategic projects as opposed to trying to keep our neck above water wrangling data."**
>
> *IT information analyst, manufacturing*

into all that information and how it's being disseminated and being ingested into ADP."

Flexibility would also be quantified when evaluated as part of a specific project (described in more detail in [Appendix A](#)).

> **"The biggest thing we get with the Celigo platform is data consistency. My team and all our business partners know that when we submit something, it will just work. There are no doubts."**
>
> — VP of corporate solutions delivery, marketing services

Analysis Of Costs

Quantified cost data as applied to the composite

Total Costs							
Ref.	**Cost**	**Initial**	**Year 1**	**Year 2**	**Year 3**	**Total**	**Present Value**
Dtr	Fees to Celigo	$0	$21,000	$52,500	$84,000	$157,500	$125,590
Etr	Implementation and ongoing management	$18,150	$12,100	$12,100	$12,100	$54,450	$48,241
Ftr	Internal costs	$0	$2,594	$184	$184	$2,961	$2,648
	Total costs (risk-adjusted)	$18,150	$35,694	$64,784	$96,284	$214,911	$176,479

FEES TO CELIGO

Evidence and data. The interviewees' organizations incurred software subscription fees for Celigo's iPaaS platform based on the number of endpoint apps, platform flows, and the use of business process automations.

- An "endpoint app" is a SaaS application that is being integrated. Multiple instances count as one endpoint app.

- A "platform flow" is the data integration flow between two endpoint apps.

- A "business process automation" refers to a set of flows that automate a business process end to end.

> **"Celigo helped us develop some initial integration in-house, and we learned from that moving forward without going to any outside resource. I was a big fan of that."**
>
> *IT information analyst, manufacturing*

Interviewees' organizations also paid an additional fee for Celigo professional services to assist with initial integrations/flows.

Modeling and assumptions. For the composite organization, Forrester assumes:

- The composite organization pays $15,000 in software license fees and $5,000 in professional services fees to Celigo in Year 1.

- As deployment expands, the organization pays $50,000 and $80,000 in Celigo platform license fees in Years 2 and 3 respectively.

> **"With Celigo's pricing model, you get a much better, more expansive product at a better price than other iPaaS solutions."**
>
> *Director of enterprise applications, employment services*

Risks. Fees to Celigo may vary depending on the following:

- The number of endpoint apps, platform flows, and business process automations.

- The complexity of automated processes or integrations.

- The skill sets of those involved in automations and integrations, and the need for professional services to assist.

Results. To account for these risks, Forrester adjusted this cost upward by 5%, yielding a three-year, risk-adjusted total PV (discounted at 10%) of $125,600.

Fees To Celigo						
Ref.	Metric	Source	Initial	Year 1	Year 2	Year 3
D1	Subscription fees for Celigo platform	Composite		$15,000	$50,000	$80,000
D2	Celigo professional services fees	Composite		$5,000		
Dt	Fees to Celigo	D1+D2	$0	$20,000	$50,000	$80,000
	Risk adjustment	↑5%				
Dtr	Fees to Celigo (risk-adjusted)		$0	$21,000	$52,500	$84,000
	Three-year total: $157,500			Three-year present value: $125,590		

IMPLEMENTATION AND ONGOING MANAGEMENT

Evidence and data. Interviewees described the implementation and ongoing management of the Celigo platform as a simple and relatively minimal time investment.

- Implementation periods varied from two weeks to two months and involved between one and three IT FTEs for planning and strategizing data flows and testing out the platform.

- IT FTEs helped monitor the solution, deploy updates, onboard new users, and ensure continued releases were effective.

Modeling and assumptions. For the composite organization, Forrester assumes:

- Three IT FTE dedicate 50% of their time during the initial two-month implementation process.

- Two IT FTEs spend 5% of their time year-over-year to manage and maintain the solution.

- The average fully burdened salary of an IT FTE is $110,000.

Risks. Implementation and ongoing management may vary depending on the following:

- The size, scope, and complexity of operations.

- The available capacity and skill sets of teams.

- The salaries of FTEs.

Results. To account for these risks, Forrester adjusted this cost upward by 10%, yielding a three-year, risk-adjusted total PV of $48,200.

Implementation And Ongoing Management

Ref.	Metric	Source	Initial	Year 1	Year 2	Year 3
E1	IT FTE involved in implementation and ongoing management	Composite	3	2	2	2
E2	Time dedicated by IT FTEs (months)	Interviews	2	12	12	12
E3	Percentage of IT FTEs' time dedicated to implementation and ongoing management	Interviews	30%	5%	5%	5%
E4	IT FTE annual salary (fully burdened)	TEI standard	$110,000	$110,000	$110,000	$110,000
Et	Implementation and ongoing management	E1*E2*E3*(E4/12 months)	$16,500	$11,000	$11,000	$11,000
	Risk adjustment	↑10%				
Etr	Implementation and ongoing management (risk-adjusted)		$18,150	$12,100	$12,100	$12,100
	Three-year total: $54,450		**Three-year present value: $48,241**			

INTERNAL COSTS

Evidence and data. Internal costs related to training to use the Celigo platform for both IT and business users FTEs was extremely minimal. Interviewees noted that it only took hours for users to become proficient in using the solution.

Modeling and assumptions. For the composite organization, Forrester assumes:

- Four IT FTEs are onboarded onto the Celigo platform in Year 1. It takes them 10 hours to become proficient in using the solution for the complexity of the integrations/flows they are performing.

- Four business users are onboarded onto the platform over three years. It takes them 5 hours to become proficient in using the solution for the complexity of the integrations/flows they are performing.

- The average hourly rate of an IT FTE is $53.

- The average hourly rate of a business user is $35.

Risks. Internal costs may vary depending on the following:

- The number, skill set, and prior experience of users being trained on the Celigo platform.

- The salaries of FTEs.

Results. To account for these risks, Forrester adjusted this cost upward by 5%, yielding a three-year, risk-adjusted total PV of $2,600.

Internal Costs

| Ref.	Metric	Source	Initial	Year 1	Year 2	Year 3
F1	Number of new IT FTEs using Celigo	Composite		4	0	0
F2	Number of hours to proficiency	Interviews		10	10	10
F3	IT FTE hourly rate (fully burdened)	Composite		$53	$53	$53
F4	Number of new business user FTEs using Celigo	Composite		2	1	1
F5	Number of hours to proficiency	Interviews		5	5	5
F6	IT FTE hourly rate (fully burdened)	Composite		$35	$35	$35
Ft	Internal costs	(F1*F2*F3)+(F4*F5*F6)	$0	$2,470	$175	$175
	Risk adjustment	↑5%				
Ftr	Internal costs (risk-adjusted)		$0	$2,594	$184	$184
	Three-year total: $2,961			**Three-year present value: $2,648**		

"The Celigo platform enables a small staff to connect, integrate, and monitor data sources and endpoints with ease. Integrations are quick to implement, and tools are available to make communication between systems efficient and seamless."

— IT information analyst, manufacturing

Financial Summary

CONSOLIDATED THREE-YEAR RISK-ADJUSTED METRICS

Cash Flow Chart (Risk-Adjusted)
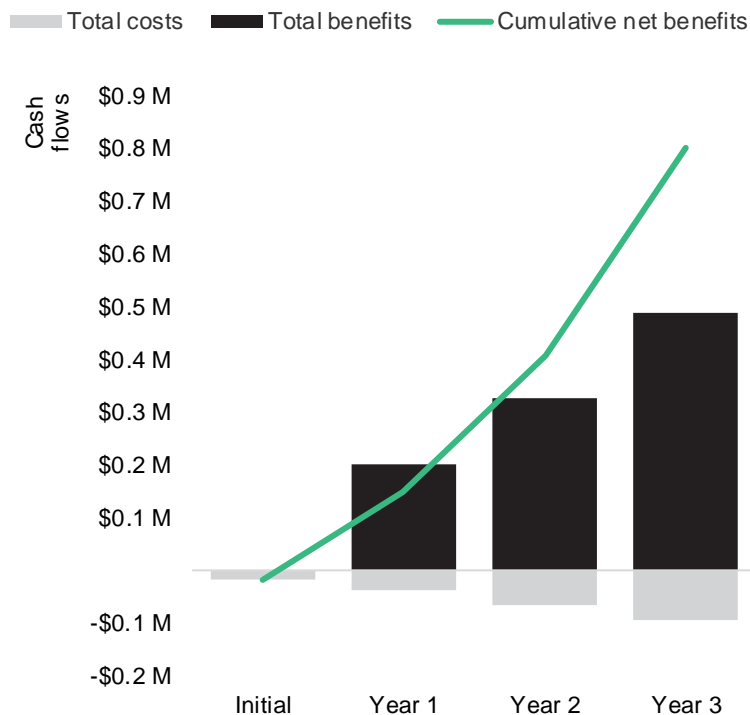
The financial results calculated in the Benefits and Costs sections can be used to determine the ROI and NPV for the composite organization's investment. Forrester assumes a yearly discount rate of 10% for this analysis.

These risk-adjusted ROI and NPV are determined by applying risk-adjustment factors to the unadjusted results in each Benefit and Cost section.

Cash Flow Analysis (Risk-Adjusted Estimates)						
	Initial	**Year 1**	**Year 2**	**Year 3**	**Total**	**Present Value**
Total costs	($18,150)	($35,694)	($64,784)	($96,284)	($214,911)	($176,479)
Total benefits	$0	$200,474	$326,932	$488,816	$1,016,222	$819,696
Net benefits	($18,150)	$164,781	$262,148	$392,532	$801,311	$643,217
ROI						364%

Appendix A: Total Economic Impact

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.

TOTAL ECONOMIC IMPACT APPROACH

Benefits represent the value delivered to the business by the product. The TEI methodology places 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.

Costs consider all expenses necessary to deliver the proposed value, or benefits, of the product. The cost category within TEI captures incremental costs over the existing environment for ongoing costs associated with the solution.

Flexibility represents the strategic value that can be obtained for some future additional investment building on top of the initial investment already made. Having the ability to capture that benefit has a PV that can be estimated.

Risks measure the uncertainty of benefit and cost estimates given: 1) the likelihood that estimates will meet original projections and 2) the likelihood that estimates will be tracked over time. TEI risk factors are based on "triangular distribution."

The initial investment column contains costs incurred at "time 0" or at the beginning of Year 1 that are not discounted. All other cash flows are discounted using the discount rate at the end of the year. PV calculations are calculated for each total cost and benefit estimate. NPV calculations in the summary tables are the sum of the initial investment and the discounted cash flows in each year. Sums and present value calculations of the Total Benefits, Total Costs, and Cash Flow tables may not exactly add up, as some rounding may occur.

PRESENT VALUE (PV)

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

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.

RETURN ON INVESTMENT (ROI)

A project's expected return in percentage terms. ROI is calculated by dividing net benefits (benefits less costs) by costs.

DISCOUNT RATE

The interest rate used in cash flow analysis to take into account the time value of money. Organizations typically use discount rates between 8% and 16%.

PAYBACK PERIOD

The breakeven point for an investment. This is the point in time at which net benefits (benefits minus costs) equal initial investment or cost.

Appendix B: Endnotes

[1] 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.

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