

A Forrester Total Economic Impact™
Study Commissioned By Skuid
March 2017

The Total Economic Impact™ Of Skuid

Cost Savings And Business Benefits
Enabled By Skuid

Table Of Contents

Executive Summary	1
Key Findings	1
TEI Framework And Methodology	3
The Skuid Customer Journey	4
Interviewed Organizations	4
Key Challenges	4
Key Results	5
Composite Organization	6
Financial Analysis	7
Development Time And Cost Savings With Skuid	7
Reduced Time-To-Market	8
Time And Cost Savings On Changes And Iterations With Skuid	10
Increased User Productivity	11
Decreased Technology Training	12
Avoided Headcount	13
Reduced Spend On Legacy Systems	14
Flexibility	15
Skuid Costs	16
Financial Summary	17
Skuid: Overview	18
Appendix A: Total Economic Impact	19

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Key results of composite organization



73%
faster development cycle



65 hours
saved annually per user



“When I saw Skuid, I said:

‘this is it.’

This is *exactly* what I was looking for in terms of **consumer-grade experience** along with the **speed** at which we could create.”

*Executive director,
energy organization*

Executive Summary

Smart companies know that the key to success in any industry is customer obsession. Employee engagement and strong business processes comprise the foundation that drives customer satisfaction. Employee engagement drives both better customer experience and greater profit margins.¹ A strong business process gives employees the right tools to meet and exceed customers' expectations. Companies want to digitally transform these business processes to help them increase the speed of innovation and accelerate the time-to-market and revenue returns.

Transforming a business so that it's more efficient and better meeting the needs of its employees—and ultimately, its customers—is a complex puzzle. Organizations need a solution that will help them create user-friendly, flexible, and agile applications to drive better business processes, strengthening the customer-obsessed foundation.

Skuid is a cloud-based user experience (UX) platform for organizations to create customized applications without writing code. Skuid commissioned Forrester Consulting to conduct a Total Economic Impact™ (TEI) study and examine the potential return on investment (ROI) enterprises may realize by deploying Skuid. The purpose of this study is to provide readers with a framework to evaluate the potential financial impact of the Skuid platform on their organizations. To better understand the benefits, costs, and risks associated with this investment, Forrester interviewed several customers with years of experience using Skuid.

Prior to using Skuid, the interviewees struggled to improve the efficiency of their existing business processes. The existing processes often included workflows across multiple solutions with siloed data. Employees found existing app workflows to be time consuming and cumbersome, leading to low user adoption, with employees electing to create their own workarounds to get work done. This created and perpetuated inefficiencies within the organizations, which ultimately hurt the teams' productivity. After researching Skuid and other solutions, the interviewees found that Skuid best meets their needs in terms of speed, design, and flexibility.

With Skuid, the interviewees deploy fully customizable applications with people-centric user interfaces (UIs) without timely and costly development cycles. Skuid helped them deliver improved processes that increased the efficiency of their businesses. Due to the intuitive UI and ease of use, the interviewees saw an increase in user adoption of new workflows that led to increased productivity of the end users. The no-code platform benefits organizations by significantly decreasing application development times and making it possible to use a more cost-friendly deployment team led by end users, with IT playing a supportive role

Key Findings

Quantified benefits. The following risk-adjusted quantified benefits are representative of those experienced by the companies interviewed:

¹ Source: “Sharpen Customer Experience Focus With Employee Engagement,” Forrester Research, Inc., August 26, 2013.



ROI
365%



Benefits PV
\$10.8 million



NPV
\$8.5 million



Payback
1 month

- › **Skuid reduced development time, producing cost savings.** With Skuid, it took organizations significantly less time to create applications. As these apps can be created without code, organizations move away from expensive traditional development resources and use a more cost-effective team driven by line-of-business “citizen developers.”
- › **Skuid applications get to market faster.** Due to shorter development times, the organizations are able to receive the business benefit of each application 110 days earlier compared with their previous approach.
- › **Changes and iterations take 50% less time with Skuid.** Not only is development time decreased, but updates and changes now take significantly less time. Additionally, end users are no longer delayed by IT backlogs, and they benefit from accelerated timelines to begin changes.
- › **Productivity increases save end users 1.25 hours a week with Skuid.** With Skuid, key processes became easier. It now takes less time because they are presented in an intuitive UI and continuous workflow that creates higher adoption. With higher adoption, productivity increased across end users, ultimately saving 3,000 users 1.25 hours a week.
- › **Skuid decreases required technology training by 62%.** Interviewed organizations cited that due to the decreased complexity and intuitive nature of processes built with Skuid, plus the reduction in the number of systems used, new employees spent significantly less time training with Skuid than before.
- › **Skuid helps organizations avoid future hires.** As the organizations no longer rely on traditional coding, they avoid hiring two additional traditional development resources each year. In addition, the improved processes allow the existing end users to be more efficient at their jobs, avoiding two annual line-of-business hires as well.
- › **Skuid reduces spend required on legacy systems.** As organizations simplify from multiple solutions supporting processes to just Skuid, they avoid both the solution and maintenance fees associated with retired systems.

Costs. The interviewed organizations experienced the following risk-adjusted costs:

- › **Costs for Skuid cloud licensing and professional services.** These are fees paid directly to Skuid. The composite organization incurs a fee for its cloud licensing. In addition, the composite organization pays a fee to Skuid for professional services to help it with the planning, implementation, and development for its Skuid deployment. The professional services, which are optional, make up a very small portion of this cost and are not a requirement for all customers.
- › **Planning, implementation, and ongoing support costs.** These are internal costs incurred for the planning and implementation of the Skuid deployment.
- › **Training and change management costs.** Interviewees typically engaged Skuid to train their users to handle their own ongoing app changes and iterations. With the shift to the new workflows, the organization also invests to support the organization through the transition.

Forrester’s interviews with four existing customers and subsequent

financial analysis found that an organization based on these interviewed organizations experienced benefits of \$10.8 million over three years versus costs of \$2.3 million, adding up to a net present value (NPV) of \$8.5 million and an ROI of 365%.

The TEI methodology helps companies demonstrate, justify, and realize the tangible value of IT initiatives to both senior management and other key business stakeholders.

TEI Framework and Methodology

From the information provided in the interviews, Forrester has constructed a Total Economic Impact™ (TEI) framework for those organizations considering implementing Skuid.

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 Skuid can have on an organization:



DUE DILIGENCE

Interviewed Skuid stakeholders and Forrester analysts to gather data relative to Skuid.



CUSTOMER INTERVIEWS

Interviewed four organizations using Skuid to obtain data with respect to costs, benefits, and risks.



COMPOSITE ORGANIZATION

Designed a composite organization based on characteristics of the interviewed 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 interviewed organizations.



CASE STUDY

Employed four fundamental elements of TEI in modeling Skuid's impact: benefits, costs, flexibility, and risks. Given the increasing sophistication that enterprises have regarding ROI analyses related to IT investments, Forrester's TEI methodology serves to provide a complete picture of the total economic impact of purchase decisions. Please see Appendix A for additional information on the TEI methodology.

DISCLOSURES

Readers should be aware of the following:

This study is commissioned by Skuid 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 report to determine the appropriateness of an investment in Skuid.

Skuid 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.

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

The Skuid Customer Journey

BEFORE AND AFTER THE SKUID INVESTMENT

Interviewed Organizations

For this study, Forrester conducted four interviews with Skuid customers. Interviewed customers include the following:

INDUSTRY	ANNUAL REVENUE	TOTAL EMPLOYEE SIZE	NUMBER OF USERS
Business and consumer software company	\$4.2 billion	8,000 employees	7,000 Skuid users
Energy organization	\$16.5 billion	35,000 employees	4,000 Skuid users
Telecommunications manufacturing company	Subsidiary of \$6-billion conglomerate	5,000 employees	945 Skuid users
Software organization	\$75 million	700 employees	350 Skuid users

Key Challenges

The four interviewees uncovered the following challenges and drivers behind the organizations' need for Skuid:

- **Organizations struggled with improving the efficiency of their existing business processes.** Each organization we spoke with discussed its desire to create simplified, efficient, and effective business processes within the organization to drive productivity and bottom-line results. However, these companies struggled with how to improve these workflows. Existing processes often involved siloed data spread across many disparate systems, resulting in disjointed processes. Team members found the existing workflows cumbersome and time consuming as they spent valuable time going back and forth between different software and using manual spreadsheets to get to the next step and complete the process.

One interviewee we spoke with was managing their organization through multiple acquisitions and found that each of the different businesses, while selling the same things, had its own workflows and language for what was ultimately the same process. "Our business is comprised of a bunch of acquisitions. Everyone had different lingo, different processes, different systems. We needed to optimize, so we wanted to rebuild our processes across the commonality that we wanted to drive synergy, productivity, and efficiency off of. We needed to make our processes harmonial and consistent." The end result was that these existing inefficient processes ultimately hurt the team's productivity.

- **Inefficient processes and difficult-to-use workflows created low user adoption.** In their current environment, organizations found that the tools that were made available to their teams were difficult to work with. The processes were not created with the user in mind, were not intuitive, and were difficult to work through. As users found these processes and workflows ineffective, they chose not to use them. This further perpetuated the inefficiency spiral, meaning employees were wasting time and money on workarounds, which ultimately hurts the business.

"One of the biggest challenges that we were facing was the sort of siloed nature of each of the applications that we were using to drive productivity and efficiency."

VP of sales, software organization



"Our existing processes lacked the flow that was needed to be efficient."

Business analyst manager, telecom manufacturing company



- › **They required technology to digitally transform their business processes, but time and cost were a major concern.** The interviewed organizations were considering how to tackle these issues with improved technology. They understood that in order to improve both the efficiency of the process and the adoption of the technology, the process and interface used for the workflow needed to be designed with the end user in mind. Existing solutions were not customizable enough to meet their needs: “Nine months into our large CRM deployment, we were really concerned around the cost of how we could make it do what we need.” To get the degree of customization required to meet the needs of the business, these organizations would need to hire multiple new development resources and spend months writing code. While custom code with traditional app development was an option that many of the interviewed organizations originally took on, it was timely and relied on costly resources to deliver. As one group project manager told us, “The UIs we were working on developing had thousands and thousands of lines of code.” This method also did not allow the degree of flexibility or agility required in the fast-paced world these companies operate in.

After evaluating different options, the organizations each chose to deploy Skuid to get the degree of customization and people-centric UI they desired.

Key Results

The interviews revealed that key results from the Skuid investment include:

- › **Processes are improved through a bespoke user experience.** A key feature of Skuid is the ability to create bespoke apps: highly customizable applications that do exactly what you want, when you need it. Skuid enabled the interviewed organizations to create cohesive workflows that increased the efficiency of their business: “We now have one sales process across our entire business — we have consistency on language, on stages, and the ability for different businesses to sell together.” Our interviewees were impressed with Skuid’s bespoke applications’ consumer-grade experience, which marries the art and science of business process workflow and quality-designed UI. “It was previously not an ideal experience with the stock functionality [of our prior solution] and became a really intuitive, easy-to-use module that we built in Skuid.” Skuid allows these organizations to create apps across multiple areas, such as CRM, sales, HR, operations, financial, and BI/analytics. It also addresses the challenge of siloed data by enabling organizations to bring together data from disparate enterprise software systems to build these applications. With increased visibility of data, organizations see an improvement in the quality of their data. The ability to create these user-friendly apps that are completely customized and relevant transforms how the organization can do business.
- › **With improved user experience comes increased adoption, which means increased productivity.** Through creating workflows that are intuitive, simple, and easy to use, users find it easier to do their jobs and become more efficient and productive. The organizations we spoke with saw an increase in user adoption:

“We use Skuid to essentially roll all of these different technologies together into one seamless experience that’s purpose-specific for each role.”

VP of sales, software organization



“One key process of our [sales journey] that used to take at least 20 minutes is down to less than 5 minutes [with Skuid].”

Group project manager, business and consumer software company



“When I think of bespoke apps, I think of it as consumer-grade user experience offered in the enterprise software”.

VP of Sales, Software Organization



- “Our user adoption across our agents has improved to 80% — they were quickly and easily able to use it,” said the group project manager of the software organization.
- “Prior to Skuid, we only had 30% to 35% adoption. With Skuid, we are up near 100%,” said the executive director of the energy organization.

The applications built in Skuid have a direct impact on how users get their work done — they are now able to do their jobs better and faster. The organizations we spoke with found that using Skuid allowed them to drive key behaviors that are integral to success as a business: “We were having a lot of trouble managing the number of ideal interactions with a client, managing that process and guiding reps into that productive pattern. With Skuid, we are able to semi-automate the process with an intuitive UI.” By improving user experiences and creating more efficient processes, the organizations that used Skuid saw increased user adoption and productivity.

› **Skuid’s “no-code” platform means quick development times.**

Skuid also solves the issue of long, expensive development timeframes. Since it does not require traditional developer skills to use, Skuid drives control and design to the end users of the applications. As a no-code app, it does not require lines and lines of code to be written, drastically reducing the development cycle. It enables organizations to share development tasks across traditional development resources and business users, decreasing the cost and time it takes to create apps. As we heard from the VP of sales at the software organization: “We are big believers that real innovation comes from the front line. Our [business users] name the challenge, state the problem, state the workflow, and validate it. They work with the right team to build out the apps.”

› **Easy to integrate and get started.** As a software-as-a-service (SaaS) offering, our interviewed organizations found Skuid easy to deploy. It also required less upfront planning, implementation support, and capital expenditure than an on-premises solution. Skuid also integrates easily across multiple data sources and allows organizations to easily link multiple data sources together. From the business side, Skuid is easy to use and requires limited training.

Composite Organization

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

Description of composite: It is a global organization, based in the US, with multiple offices around the globe. The organization has a total of 12,000 employees. The organization uses Skuid across multiple areas of its organization, including sales and sales support functions such as finance and HR.

Deployment characteristics: The organization builds four apps during each of the three years of analysis, for a total of 12 applications. It initially deploys to 1,000 users, growing to 3,000 by Year 3.

“Our main application, an online sales tool, was estimated to take our development team 10 months. [With Skuid], we were able to complete it in six weeks with less than half of the resources.”

Group project manager, business and consumer software company



“Our development time is easily 10 to 20 times faster.”

Business analyst manager, telecom manufacturing company



“We were able to push the ownership of the solution to [business users]; we owned feature building, process mapping, wireframe design, etc. etc., and IT would support us. Business users took a heavier part, and IT took a smaller support role.”

Executive director, energy organization



Key assumptions

3,000 users by Year 3

4 new applications each year

Initial deployment: 2 months

Financial Analysis

QUANTIFIED BENEFIT AND COST DATA AS APPLIED TO THE COMPOSITE

Total Benefits						
REF.	Benefit	Year 1	Year 2	Year 3	Total	Present Value
Atr	Development time and cost savings with Skuid	\$773,885	\$773,885	\$773,885	\$2,321,654	\$1,924,536
Btr	Reduced time-to-market	\$409,863	\$409,863	\$409,863	\$1,229,589	\$1,019,269
Ctr	Time and cost savings on changes and iterations with Skuid	\$591,357	\$591,357	\$591,357	\$1,774,070	\$1,470,617
Dtr	Increased user productivity from using apps	\$717,188	\$1,912,500	\$3,585,938	\$6,215,625	\$4,926,735
Etr	Decreased tech training	\$73,990	\$73,990	\$73,990	\$221,971	\$184,003
Ftr	Avoided headcount	\$378,000	\$378,000	\$378,000	\$1,134,000	\$940,030
Gtr	Reduced spend on legacy systems	\$140,125	\$140,125	\$140,125	\$420,375	\$348,470
Total benefits (risk-adjusted)		\$3,084,407	\$4,279,720	\$5,953,157	\$13,317,284	\$10,813,660

Development Time And Cost Savings With Skuid

Our first benefit looks at the reduction in both development time and development costs with Skuid. With Skuid, it took organizations significantly less time to create applications. As we heard from one interviewee, “Our development time is easily 10 to 20 times faster.” Another told Forrester, “Our main application, an online sales tool, was estimated to take our development team 10 months. [With Skuid], we were able to complete it in six weeks with less than half of the resources.” With its no-code development platform, Skuid allowed companies to move away from expensive, scarce traditional development resources and enabled them to use a more cost-effective team driven by line-of-business “citizen” developers with support from IT. The organizations also reported it took a significantly smaller team to develop with Skuid than if they needed to write code.

For the composite organization, Forrester assumes that:

- > Each year, the organization creates four new applications.
- > Prior to Skuid, it took 150 days to develop an application using the equivalent of three traditional development resources full time, for a total of 450 man-days.
- > The model assumes a fully loaded annual salary of \$120,000 per traditional developer resource, and a cost for one day of development for one resource of \$461.52.

The table above shows the total of all benefits across the areas listed below, as well as present values (PVs) discounted at 10%. Over three years, the composite organization expects risk-adjusted total benefits to be a PV of more than \$10.8 million.



73% reduction in time spent on development

- > With Skuid, it now takes only 40 days to develop an application using the equivalent of one resource full time, for a total of 40 man-days. It is important to note that because of the blended team of IT and line-of-business users, we use a blended hourly rate to account for the difference in salary.
- > The model assumes an IT resource has a fully loaded annual salary of \$120,000, while a line-of-business user has a fully loaded annual salary of \$90,000, for an average annual salary of \$105,000. This works out to a cost per day of development of \$403.85 with Skuid.

The time and cost savings associated with developing with Skuid can vary based on:

- > The number of applications developed.
- > The number of IT and line-of-business resources used.
- > Variances in time to develop an application based on size and complexity.
- > The fully loaded compensation of each resource.

Impact risk is the risk that the business or technology needs of the organization may not be met by the investment, resulting in lower overall total benefits. The greater the uncertainty, the wider the potential range of outcomes for benefit estimates.

To account for these risks, Forrester adjusted this benefit downward by 5%, yielding a three-year risk-adjusted total PV of \$1.9 million.

Development Time And Cost Savings With Skuid

Ref.	Metric	Calculation	Year 1	Year 2	Year 3
A1	Number of new apps per year		4	4	4
A2	Average time to develop prior to Skuid (days)		150	150	150
A3	Average time to develop with Skuid (days)		40	40	40
A4	Average development cost per day prior to Skuid	(\$120,000 annual salary/2,080 working hours per year)*8 hours per day	\$461.54	\$461.54	\$461.54
A5	Number of FTEs required before Skuid		3	3	3
A6	Average development cost per day with Skuid	Blended annual salary of \$105,000 a year/2,080 working hours per year * 8 hours a day	\$403.85	\$403.85	\$403.85
A7	Number of FTEs required with Skuid		1	1	1
At	Development time and cost savings with Skuid	$A1*(A2*A4*A5)-(A3*A6*A7)$	\$814,615	\$814,615	\$814,615
	Risk adjustment	5%			
Atr	Development time and cost savings with Skuid (risk-adjusted)		\$773,885	\$773,885	\$773,885

Reduced Time-To-Market

The reduction in the time it takes to develop an application with Skuid means the interviewed organizations are able to receive the business benefit of each application faster compared with their previous approach. Interviewees noted a number of ways these new applications create more efficient business processes that affect their business in a variety of ways, including shortened sales cycles, an increase in pipeline and

new deals created, and improved management of sales teams. Each of these applications enabled the organizations to earn incremental revenue.

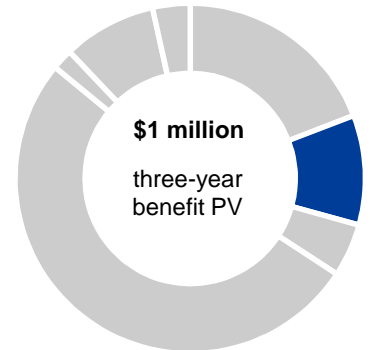
For the composite organization, Forrester assumes that:

- > The developed applications help to improve the workflow of various business processes and have a direct impact on incremental revenue generation.
- > Due to the decrease in development times with Skuid, each new application is brought to market 110 days faster; this means that the organization is now able to capture 110 days more of the revenue associated with each application and thus realize incremental revenue.
- > Based on the experience of the interviewed organizations, the model assumes that each application generates an average of \$1 million per application and a gross profit margin of 40%.

The incremental revenue associated with reduced time-to-market can vary with:

- > The type of application, which may change the assumed average annual incremental revenue.
- > The number of applications developed each year.
- > Changes in the decreased time-to-market based on the time to develop an application.
- > Variance in user adoption.

To account for these risks, Forrester adjusted this benefit downward by 15%, yielding a three-year risk-adjusted total PV of \$1.02 million.



**Reduced time-to-market:
10% of total benefits**

Reduced Time-To-Market

Ref.	Metric	Calculation	Year 1	Year 2	Year 3
B1	Number of new apps per year		4	4	4
B2	Average number of days saved per app	A2 - A3	110	110	110
B3	Average annual incremental revenue per Skuid app		\$1,000,000	\$1,000,000	\$1,000,000
B4	Gross profit margin		40%	40%	40%
Bt	Reduced time-to-market	$B1 * ((B3 / 365 \text{ days per year}) * B2) * B4$	\$482,192	\$482,192	\$482,192
	Risk adjustment	15%			
Btr	Reduced time-to-market (risk-adjusted)		\$409,863	\$409,863	\$409,863

Time And Cost Savings On Changes And Iterations With Skuid

The interviewed organizations benefit not only from a faster time to initially develop applications but also from reduced time and costs around updating their existing applications. Prior to using Skuid, if a line-of-business group required an update to an application it used, it would rely solely on either an IT resource or a vendor to create that update. As one interviewee told us: "If we needed to change something, the request will go from the business to IT. Then IT would do the vetting and process mapping and would code when they had time in their backlog." This meant that organizations had to wait a long time before the required update was even started, in addition to the time it took to actually make the change. With Skuid, the business users are able to vet out their own changes. As we saw with initial development, these organizations also benefit from using the more cost-effective resources driven by the line-of-business developers, who are supported by IT.

For the composite organization, Forrester assumes that:

- › Each app has an average of two changes per year. Across four apps, that is eight annual changes.
- › Prior to implementing Skuid, it took 6 hours to make a change; now it only takes 3 hours.
- › Assumes the same resources and cost associated with the initial development: Prior to implementing Skuid, the team of three traditional developers would address the change at a cost of \$173.08 per hour; now it takes the equivalent of one full-time equivalent (FTE) (a blended rate of a citizen developer being supported by IT) to make the change at \$50.48 per hour.
- › The composite organization also benefits from a reduction in time spent waiting for a change request to be addressed. Prior to Skuid, the composite organization conservatively waited an average of four weeks for an update to be started.
- › To calculate the value of waiting one week, we take the average annual incremental value of an application and divide it by 52 weeks per year.

The time and cost savings associated with updates to applications using Skuid can vary based on:

- › The number of changes made per year.
- › The number of IT and line-of-business resources used.
- › Variances in time to address based on size and complexity.
- › The fully loaded compensation of each resource.
- › The type of application, which may change the assumed average annual incremental revenue

To account for these risks, Forrester adjusted this benefit downward by 5%, yielding a three-year risk-adjusted total PV of \$1.47 million.



50% decrease in time to update an app, plus additional four weeks of wait time avoided

Time And Cost Savings On Changes And Iterations With Skuid

Ref.	Metric	Calculation	Year 1	Year 2	Year 3
C1	Average number of annual changes		8	8	8
C2	Average time to address change prior to Skuid (hours)		6	6	6
C3	Average time to address change with Skuid (hours)		3	3	3
C4	Average development cost per hour prior to Skuid	$(A4 * A5) / 8 \text{ hours per day}$	\$173.08	\$173.08	\$173.08
C5	Average development cost per hour with Skuid	$(A6 * A7) / 8 \text{ hours per day}$	\$50.48	\$50.48	\$50.48
C6	Cost of waiting one week	$(B3/52 \text{ weeks per year})$	\$19,230.77	\$19,230.77	\$19,230.77
C7	Average weeks waiting for change		4	4	4
Ct	Time and cost savings on changes and iterations with Skuid	$C1 * (((C2 * C4) - (C3 * C5)) + (C6 * C7))$	\$622,481	\$622,481	\$622,481
	Risk adjustment	5%			
Ctr	Time and cost savings on changes and iterations with Skuid (risk-adjusted)		\$591,357	\$591,357	\$591,357

Increased User Productivity

Due to the improved workflow created with Skuid, user adoption increased for the interviewed organizations. Prior to Skuid, many day-to-day processes involved multiple systems and manual inputs and were sources of frustration to employees. With Skuid, key processes became easier — they took less time because they were presented in an intuitive UI and continuous workflow that created higher adoption. Based on the specific business process, interviewees reported a range of time savings. For example, the group project manager at the business and consumer software company shared, “One key process of our [sale journey] that used to take at least 20 minutes is down to less than 5 minutes [with Skuid].” This is a process that was completed multiple times a day. In addition, we heard that prior to Skuid, managers were spending too much time managing technology issues instead of coaching and supporting their teams: “Our managers were spending a disproportionate amount of time troubleshooting on different technologies.” The time saved by these users can now be spent on more important, higher-value tasks, including improved customer service, more time selling, and improved mentoring.

For the composite organization, Forrester assumes that:

- > In Year 1, the initial 1,000 users of Skuid conservatively save 45 minutes each week on business processes that are now managed through Skuid. An additional 1,000 users are added to Skuid in Year 2 and in Year 3.



End users save
65 hours a year
with Skuid.

- › As time goes by and users become more comfortable and confident with Skuid, time saved increases to 1 hour and 15 minutes by Year 3. Based on feedback from interviewed organizations, this is a conservative estimate. Readers should estimate how much time can be saved per process for their organization.
- › As not all time gained from improved productivity will be fully realized by the composite organization, Forrester assumes that only 50% of the time saved will be converted into productive output.

User productivity can vary with:

- › The number of end users and variance in adoption.
- › The complexity of a process, resulting in potential variances in time saved.
- › The fully loaded compensation of each resource.

To account for these risks, Forrester adjusted this benefit downward by 15%, yielding a three-year risk-adjusted total PV of \$4.9 million.

Increased User Productivity

Ref.	Metric	Calculation	Year 1	Year 2	Year 3
D1	Number of users		1,000	2,000	3,000
D2	Average weekly time savings with Skuid (hours)		0.75	1.00	1.25
D3	Cost per hour	\$90,000 average annual salary/2,080 working hours per year	\$43.27	\$43.27	\$43.27
D4	Percentage productivity captured		50%	50%	50%
Dt	Increased user productivity	$D1 * (D2 * 52 \text{ weeks per year}) * D3 * D4$	\$843,750	\$2,250,000	\$4,218,750
	Risk adjustment	15%			
Dtr	Increased user productivity (risk-adjusted)		\$717,188	\$1,912,500	\$3,585,938

Decreased Technology Training

Interviewed organizations cited that due to the decreased complexity and intuitive nature of processes and the reduction in the number of systems used for these processes, new employees spent significantly less time training with Skuid than in the previous environment. As the VP of sales at the software organization explained: “[Before Skuid], they were spending a disproportionate amount of time just learning how to use technology. As far as a technical onboarding, learning the systems and processes, they used to do roughly two days of tech training. It’s less than one now.” He told us that prior to Skuid, new sales employees would spend multiple days learning processes that crossed over at least eight different technologies. With Skuid, the organization reduced the number of technologies to one.

For the composite organization, Forrester assumes that:

- › Each year, 180 new employees who will use Skuid are hired.
- › Prior to Skuid, these employees would have spent two days (16 hours) in training specific to systems and processes. With Skuid, this is reduced to a total of 6 hours.

The decreased time in technology training can vary with:



62% reduction in time spent on training

- > The number of annual new hires who will use Skuid.
- > The complexity of training processes.
- > The fully loaded compensation of each resource.

To account for these risks, Forrester adjusted this benefit downward by 5%, yielding a three-year risk-adjusted total PV of \$184,003.

Decreased Technology Training

Ref.	Metric	Calculation	Year 1	Year 2	Year 3
E1	Number of new employees per year		180	180	180
E2	Time spent being trained on technology before Skuid (hours)		16	16	16
E3	Time spent being trained on technology with Skuid (hours)		6	6	6
E4	Average hourly salary	D3	\$43.27	\$43.27	\$43.27
Et	Decreased tech training	$E1*(E2-E3)*E4$	\$77,885	\$77,885	\$77,885
	Risk adjustment	5%			
Etr	Decreased tech training (risk-adjusted)		\$73,990	\$73,990	\$73,990

Avoided Headcount

Interviewed organizations explained that with Skuid, they avoided hiring additional development resources that would have been required to hand-code these apps. In addition, with the increased efficiency seen across business users, the organizations are able to do “more with less.” As one interviewee noted, Skuid helped them “accelerate the speed and touch patterns that a normal account executive or customer success rep can operate, and allows them to do more with less and/or manage more opportunities, call more accounts, support more clients with less headcount. This has allowed us to scale our business without necessarily having to scale headcount in a perfectly linear manner.” With Skuid, the interviewed organizations avoided additional line-of-business hires, as well as IT hires.

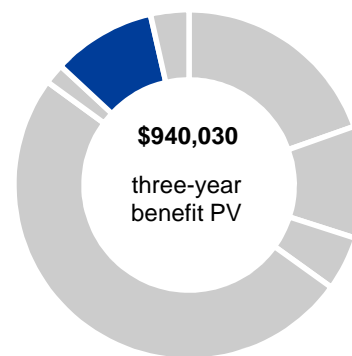
For the composite organization, Forrester assumes that:

- > Each year, two additional developer hires are avoided due to Skuid.
- > The organization avoids hiring two line-of-business employees each year, as the existing team is more efficient.

The savings associated with avoided headcount can vary with:

- > The average fully loaded salary of avoided hires.
- > The number of avoided hires.

To account for these risks, Forrester adjusted this benefit downward by 10%, yielding a three-year risk-adjusted total PV of \$940,030.



**Avoided headcount:
10% of total benefits**

Avoided Headcount

Ref.	Metric	Calculation	Year 1	Year 2	Year 3
F1	Number of avoided developer hires per year		2	2	2
F2	Average annual salary		\$120,000	\$120,000	\$120,000
F3	Number of avoided business hires per year		2	2	2
F4	Average annual salary		\$90,000	\$90,000	\$90,000
Ft	Avoided headcount	$(F1 * F2) + (F3 * F4)$	\$420,000	\$420,000	\$420,000
	Risk adjustment	10%			
Ftr	Avoided headcount (risk-adjusted)		\$378,000	\$378,000	\$378,000

Reduced Spend On Legacy Systems

Prior to implementing Skuid, the interviewed organizations' processes involved many legacy systems that are now no longer needed. As one interviewee told us, "We were able to retire many antiquated tools due to Skuid." With investment in Skuid, the organizations are able to retire these solutions, therefore reducing the cost of maintaining them as well as the spend on the software itself. This amount varied across organizations; one interviewee told us: "So, with Skuid, what do we not have to spend on that we otherwise would? Several hundred thousand dollars of spend we would have put into [other solutions]."

For the composite organization, Forrester assumes that:

- > Each year, the organization conservatively saves \$125,000 due to reducing the amount of spend on legacy systems.
- > The organization saves on the maintenance associated with the solution, estimated at 18% annually.

The savings associated with the reduction can vary with:

- > The number of legacy systems retired.
- > The cost of those solutions.

To account for these risks, Forrester adjusted this benefit downward by 5%, yielding a three-year risk-adjusted total PV of \$348,470.

Reduced Spend On Legacy Systems

Ref.	Metric	Calculation	Year 1	Year 2	Year 3
G1	Annual savings from retiring legacy systems		125,000	125,000	125,000
G2	Average maintenance saved per year	18% * G1	22,500	22,500	22,500
Gt	Reduced spend on legacy systems	G1+G2	\$147,500	\$147,500	\$147,500
	Risk adjustment	5%			
Gtr	Reduced spend on legacy systems (risk-adjusted)		\$140,125	\$140,125	\$140,125

Flexibility

The value of flexibility is clearly unique to each customer, and the measure of its value varies from organization to organization. There are multiple scenarios in which a customer might choose to implement Skuid and later realize additional uses and business opportunities, including:

- › Creating additional applications within Skuid.
- › Adding additional users or departments.
- › Using more reporting and analytics features within Skuid. This has the added benefit of enabling the organization to leverage insights in new ways.

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

Flexibility, as defined by TEI, represents an investment in additional capacity or capability that could be turned into business benefit for a future additional investment. This provides an organization with the "right" or the ability to engage in future initiatives but not the obligation to so.

Total Costs

REF.	Cost	Initial	Year 1	Year 2	Year 3	Total	Present Value
Htr	Skuid cloud licensing and professional services costs	\$105,000	\$430,500	\$808,500	\$1,186,500	\$2,530,500	\$2,055,980
Itr	Planning, implementation, and ongoing support	\$17,493	\$42,000	\$42,000	\$42,000	\$143,493	\$121,941
Jtr	Training and change management	\$7,350	\$55,933	\$55,933	\$55,933	\$175,148	\$146,446
Total costs (risk-adjusted)		\$129,843	\$528,433	\$906,433	\$1,284,433	\$2,849,141	\$2,324,368

Skuid Costs

The composite organization incurred external and internal costs in several categories:

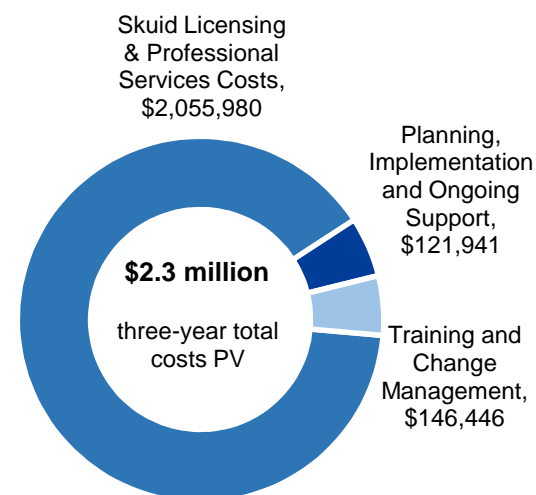
- Skuid cloud licensing and professional services costs.** These are fees paid directly to Skuid. The composite organization incurs a fee for its cloud licensing: In Year 1, the organization rolled out its deployment to 1,000 users. With its success, the organization then rolled it out to an additional 1,000 users over years 2 and 3, for 3,000 total licenses. In addition, the composite organization pays a fee to Skuid for professional services to help it with the planning, implementation, and development for its Skuid deployment. The professional services, which are optional, make up 10% of this cost and are not a requirement for all customers. Please note that these fees vary based on subscription type and volume; a Skuid representative can help you understand what your specific fees would be.
- Planning, implementation, and ongoing support costs.** These are internal costs incurred for the planning and implementation of the Skuid deployment. Similar to the interviewed organizations, the composite organization spends two months in planning and implementation with the equivalent of one full-time employee. In addition, the company incurs costs associated with the internal resources to maintain, support, and administer Skuid. This is equal to 40% of one full-time employee.
- Training and change management.** Interviewees typically engaged Skuid to train their users to handle their own ongoing app changes and iterations. Initially, the composite organization purchased training from Skuid for key citizen developers and IT support staff. In addition, 1 hour of training was given to new end users. With the shift to the new workflows, the organization also invests to support itself through the transition.

Skuid costs can vary with:

- The number of licenses and amount of professional services required.
- The time and costs associated with planning and maintaining Skuid.
- The number of developers and end users trained, as well as the time involved.

To account for these risks, Forrester adjusted this cost upward by 5%, yielding a three-year risk-adjusted total PV of \$2.32 million.

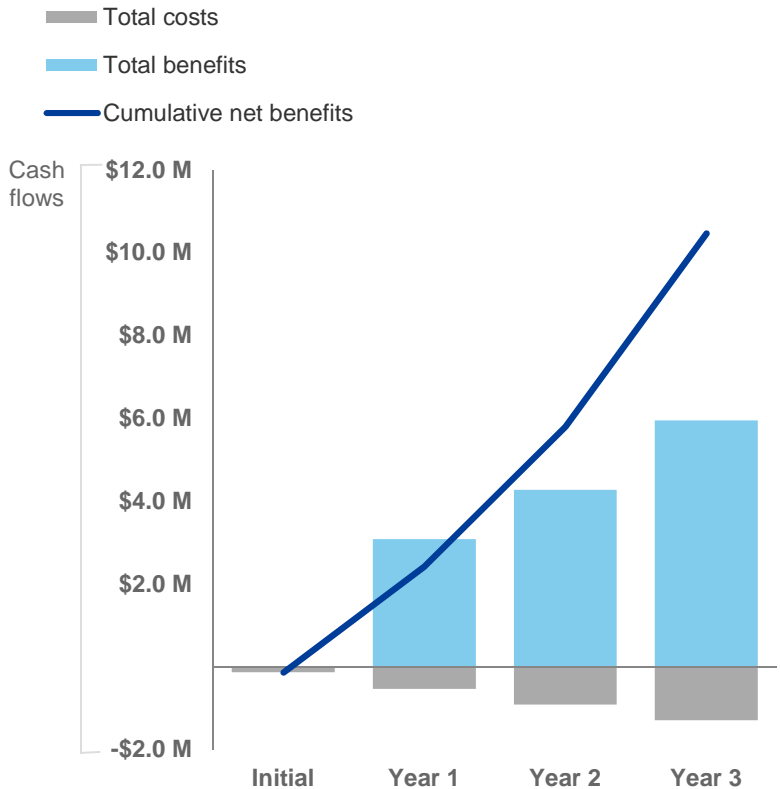
The table above shows the total of all costs across the areas listed below, as well as present values (PVs) discounted at 10%. Over three years, the composite organization expects risk-adjusted total costs to be a PV of more than \$2.32 million.



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, NPV, and payback period for the composite organization's investment. Forrester assumes a yearly discount rate of 10% for this analysis.



These risk-adjusted ROI, NPV, and payback period values 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	(\$129,843)	(\$528,433)	(\$906,433)	(\$1,284,433)	(\$2,849,141)	(\$2,324,368)
Total benefits	\$0	\$3,084,407	\$4,279,720	\$5,953,157	\$13,317,284	\$10,813,660
Net benefits	(\$129,843)	\$2,555,975	\$3,373,287	\$4,668,725	\$10,468,143	\$8,489,293
ROI						365%
Payback period (months)						1 month

Skuid: Overview

The following information is provided by Skuid. Forrester has not validated any claims and does not endorse Skuid or its offerings.

Skuid was founded in 2013 on the simple belief that enterprise apps should stop forcing people to behave like machines. Instead, apps should behave more like the humans who use them, so everyone can thrive in the digital world. With Skuid's simple-to-use but incredibly robust cloud platform, anyone can connect to disparate data sources and assemble highly complex and beautiful bespoke applications without writing code. More than 5 million users across 32 countries use Skuid to engage with each other, with data, and with new customers in meaningful ways. For more information, please visit www.skuid.com.

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.