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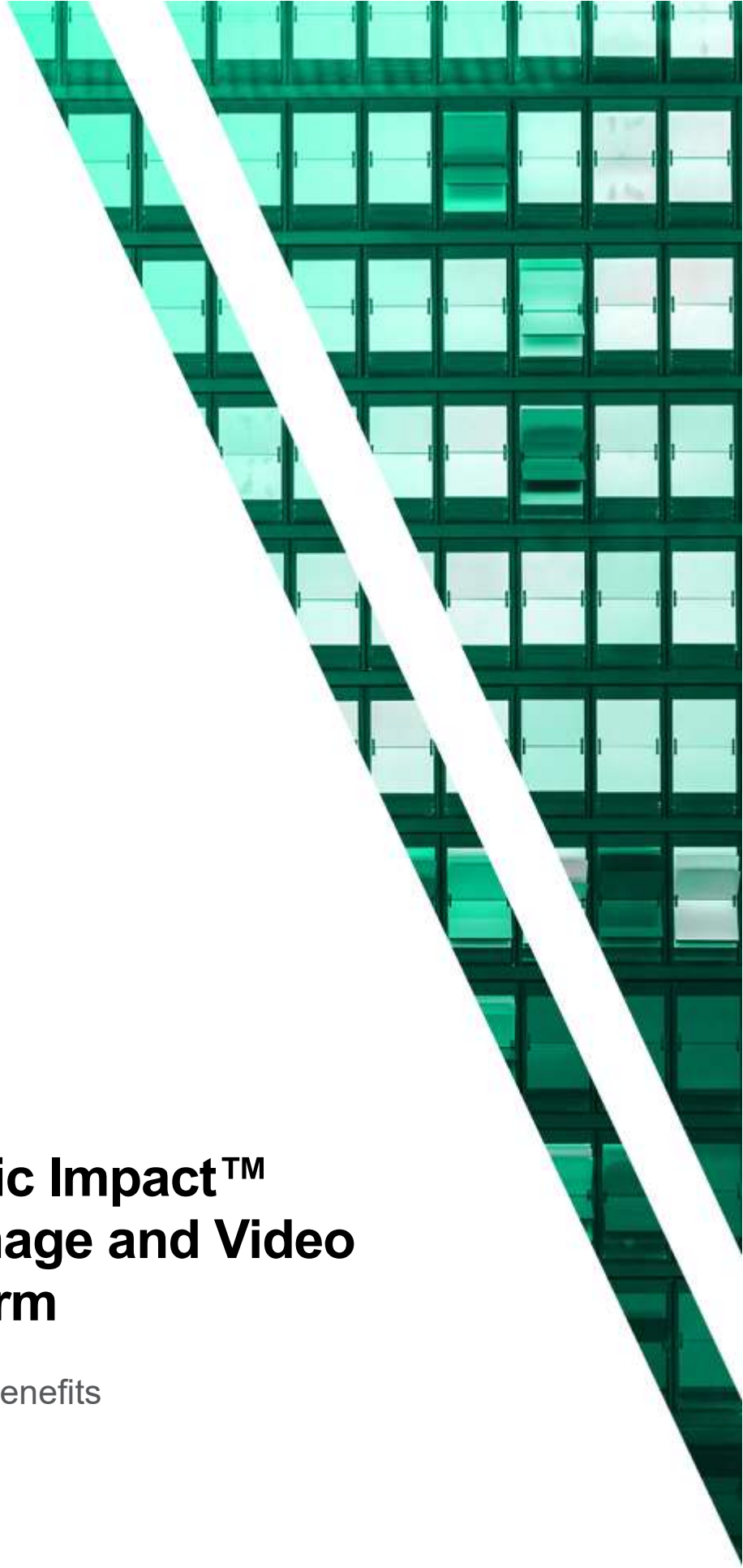

The Total Economic Impact™ Of Cloudinary's Image and Video Technology Platform

Cost Savings And Business Benefits Enabled By Cloudinary

DECEMBER 2022

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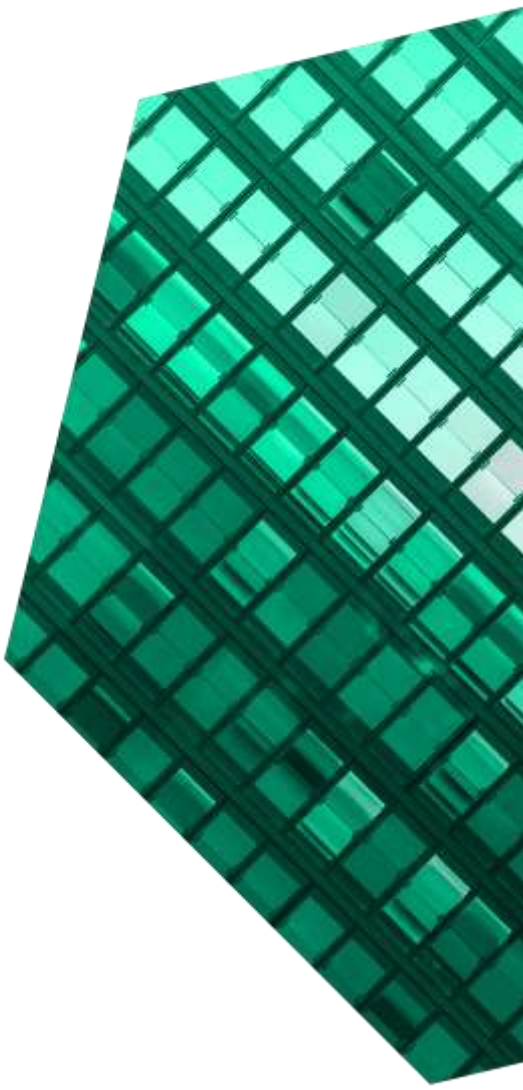


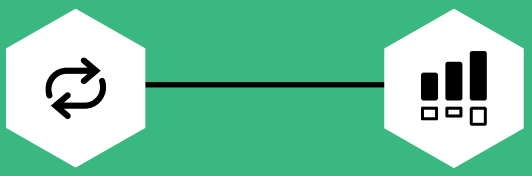
Executive Summary

The presence of rich media assets on digital channels is proliferating globally. Companies across all industries need a scalable, centralized solution to produce, distribute, and manage optimized rich media assets. Cloudinary's solution involves an intelligent set of features that brings better digital experiences to life and promotes collaboration across teams through centralized asset management and workflows.

Cloudinary's Image and Video Technology Platform includes Programmable Media, an API dynamic media solution, and a Digital Asset Management (DAM) platform. Cloudinary's Image and Video Technology Platform automates media asset workflows, editing and delivery, saving digital teams considerable time and enabling enterprises to present high quality and engaging visual experiences across digital channels. Cloudinary's API-first and AI-powered Image and Video Technology Platform dynamically transforms and optimizes images and video, easily connects to other third-party tools, and centralizes rich media assets, leading to a better customer experience, revenue growth, and increased efficiency.

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

KEY STATISTICS



Return on investment (ROI)
203%

Net present value (NPV)
$5.48M

To better understand the benefits, costs, and risks associated with this investment, Forrester interviewed four representatives with experience using Cloudinary's Image and Video Technology Platform. For the purposes of this study, Forrester aggregated the interviewees' experiences and combined the results into a single composite organization, which is a digital commerce organization with 4,000 employees, revenue of $1 billion per year, and an operating profit margin of 15%.

Prior to using Cloudinary, the interviewees noted how their organizations often relied on homegrown and decentralized systems to manage media assets from creation to delivery. However, these legacy systems impeded internal teams and required considerable time to manage the production and distribution of rich media assets. These limitations led to suboptimal,

Improvement in page load time due to better visual experience:

100 milliseconds

rich media renditions across digital channels, unscalable processes, and integration limitations across the enterprise architecture.

After the investment in Cloudinary's Image and Video Technology Platform, the interviewees noted significant time savings due to the automation of media content transformation and optimization. In addition to the elimination of manual tasks, the organizations can now access all rich media management capabilities and rich media assets in one centralized place from within their application of choice. Further, Cloudinary's streamlined workflows enable scalability, leading to associated revenue growth. Key business results from the investment include an increase in revenue, efficient workflows, reduced asset production costs, and the ability to scale faster in market.

KEY FINDINGS

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

- **Refocus of FTEs due to centralization and automatic transformation of images and videos, resulting in $4.1 million of savings.** Cloudinary's Image and Video Technology Platform enables the composite organization to transform and optimize rich media assets using algorithms and AI. Its DAM platform also provides a central repository for rich media assets. Instead of manually transforming and searching for assets, advance capabilities and features save the composite's marketing team substantial time. In addition, the advanced platform reduces the time the engineering team needs to spend on building, maintaining, and enhancing an internally developed, proprietary system.
- **Sunsetting legacy tools, resulting in savings of $2.2 million .** Cloudinary's Image and Video Technology Platform allows the composite organization to decommission less modern technology that's used to transform, store, and share rich media assets. These legacy systems can be outdated, rigid, siloed, and often lack the functionality to meet today's technological demands. This sunsetting of legacy tools also allows the composite organization to realize savings on infrastructure storage costs.
- **Increase in operating profit due to improved page load time, totaling $1.7 million.** Cloudinary's Image and Video Technology Platform technology helps the composite organization optimize its rich media assets across all channels, resulting in optimized asset renditions. Optimized assets (images and video) download faster, thereby improving page load time. Higher quality assets also increase SEO, which translates to more engagement, clicks, and better customer loyalty over the long term across channels.
- **Gain in efficiencies due to more effective media asset workflows, resulting in savings of $196,792.** Cloudinary's Image and Video Technology Platform promotes collaboration and improves the workflow efficiencies of the composite organization. Examples of this include making it easier to share rich media assets between users of the platform and work in

"This has been an effective project. This is not a core competency of our company. Cloudinary has been a great partner."

SVP of engineering, digital commerce

parallel. Another example is reducing the time required to upload and download media assets.

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

- **Faster time to market.** The product's modern technology and systems integration capabilities enable the composite organization to achieve a higher level of technological performance in servicing its customers. Cloudinary easily connects with others through APIs that allow the composite organization to integrate effectively with other media-related tools. This flexibility and connectivity allows the composite organization to scale faster. The ability to transform rich media assets quickly and easily into appropriate aspect ratios and file sizes as needed enables the composite to engage customers sooner than in its legacy environment, which can directly lead to an increase in revenue by capturing new market share. The composite organization can also more easily incorporate 3D and 360-degree images, along with augmented reality, virtual reality, and the internet of things (IoT).
- **Improved SEO rankings.** Search engines routinely focus on improved page speed, which is achieved via optimized rich media pages. These types of pages tend to allow the composite organization to achieve higher SEO rankings.
- **Access to a full rich media library.** Centralizing rich media assets not only provides an organized single source of truth, but it also allows the composite organization's marketing team to easily access the full range of its media content library. Assets created for one customer experience can be used in the development of future experiences, due to the ability to store multiple renditions of a rich media asset. This allows the composite to reduce investment, in terms of labor and dollars, when creating new assets.
- **Stability, reliability, and security.** The composite finds Cloudinary's platform to be stable. Most questions can be easily answered by existing documentation, and if not, Cloudinary is readily available to provide support. In addition, Cloudinary works with the composite organization to add extra layers of security. For example, through its API functionality, Cloudinary can set permissions to limit the data visible to external parties. This allows the composite to operate reliably and securely across the globe.

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

- **Total license fees of $1.5 million.** Cloudinary charges a license fee for usage. While dependent on several factors, this on average amounts to 0.05% of the composite's total revenue.
- **Initial and ongoing costs of $1.2 million .** Upon purchase of Cloudinary's Image and Video Technology Platform, the composite incurs some initial implementation costs, which include technical setup and training of intended users. From there, ongoing costs include evangelizing Cloudinary internally, training new users, adding additional features, and maintaining the platform.

The representative interviews and financial analysis found that a composite organization experiences benefits of $8.17 million over three years versus costs of $2.69 million, adding up to a net present value (NPV) of $5.48 million and an ROI of 203%.

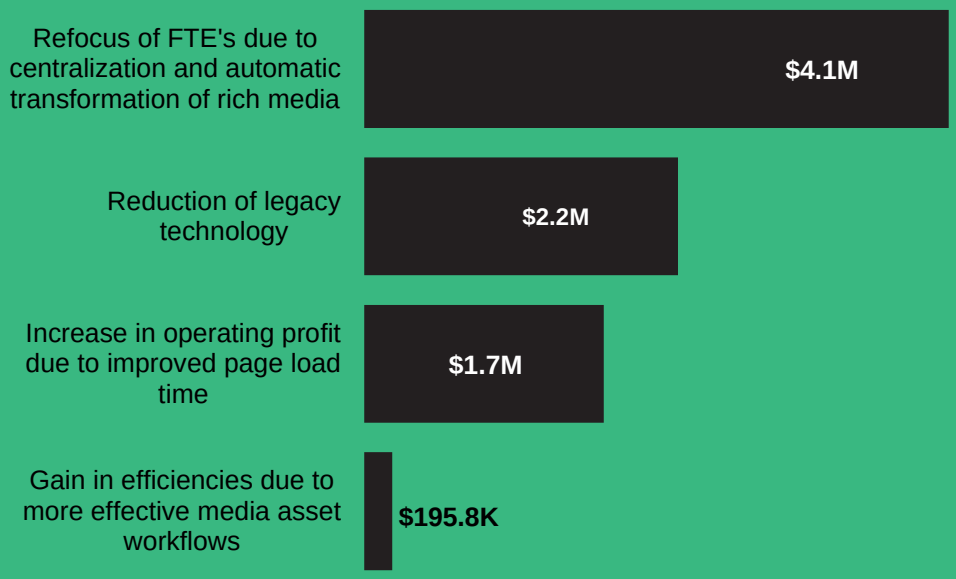
ROI
203%

BENEFITS PV
$8.17M

NPV
$5.48M

PAYBACK
<6 months

Benefits (Three-Year)



“Cloudinary has been very additive. Sure, improving page speed is good, but equipping our teams with an additional suite of tools that we never had before has become really important to us as our company has grown.”

— VP of product management, digital commerce

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 Cloudinary.

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 Cloudinary can have on an organization.

DUE DILIGENCE

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

INTERVIEWS

Interviewed four representatives at organizations using Cloudinary 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.

The Cloudinary Customer Journey

Drivers leading to the Cloudinary investment

Interviews

Role	Industry	Region	Investment Objectives
VP product management	Digital commerce	US	One stop shop, API based, and easy to develop on top of platform
Solutions architect	Electronics	EU	Automation, fewer touchpoints, improved customer experience, and better organization
SVP of engineering	Digital commerce	US	Best-in-breed solution that's immediately available, reliable, and secure
Marketing specialist	Electronics	EU	API based, confidentiality

KEY CHALLENGES

Before investing in and deploying Cloudinary's Image and Video Technology Platform, the interviewees used homegrown solutions or licensed solutions to transform, share, and store rich media assets. Both options required additional resources to perform, maintain, and grow effectively. The SVP of engineering at a digital commerce company said: "If we had built a solution ourselves, what we probably would have done is built it and then just kind of forgotten about it. As a result, the quality of our solution and its capabilities would be worse than the industry."

The interviewees noted how their organizations struggled with common challenges, including:

- **Manual transformation of media assets.** Visual experiences across channels and devices required specific sizes, colors, and backgrounds. Keeping up with the ever-increasing demands for optimized visual content proved to be burdensome and expensive. Interviewees noted that often their marketing and engineering teams spent considerable time transforming media assets manually for each use case. Some teams would manually crop, resize, and adjust images while others would continuously have to update the algorithms that their homegrown solutions used to transform images. An SVP of engineering at a digital commerce company noted: "It is a decent amount of work to continually update those algorithms to do as well as Cloudinary's [algorithms] are doing. So, if we want it to be at parity with them, it would be a relatively substantial amount of effort."

> **"Before Cloudinary, people were using network drives, and as a result people did not have the full access to everything."**
>
> *Marketing specialist, electronics*

- **Media assets not centralized.** The interviewees mentioned the absence of a single source of truth. Their organizations' disparate media assets were unconsolidated, with some even stored locally on personal devices or network drives, while others lived in the cloud on various platforms. Tagging media assets was not a consistent practice. This led to teams often producing duplicate content and redundant

transformation processes as the full media asset library was not readily available to all users across the organization.

- **Heavy images and slow page load time.** According to the interviewees, in their legacy environments, they opted for larger images to preserve image quality and used a one-size-fits-all compression setting across all images. This resulted in slower page load times, leading to a decrease in customer engagement, lower SEO rankings, and ultimately fewer conversions and a loss of revenue and reputation.
- **Inefficient media asset workflows.** Many of the interviewees shared how inefficient their media asset workflows were before their investment in Cloudinary. This included the time and effort it took for content creators to upload into and transfer media assets out of their systems. In addition, previous solutions were not API-focused, thus growth and scalability were discouraged. These organizations needed a solution on which they could build, easily connect to other vendors, and customize as necessary.

SOLUTION REQUIREMENTS/INVESTMENT OBJECTIVES

The interviewees' organizations searched for a solution that had:

- An API-based platform.
- The ability to transform images at scale using algorithms and AI.
- The capability to improve efficiencies of media asset workflows.
- A best-in-breed solution with advanced functionality.
- A reliable and secure experience.
- A DAM platform and content delivery network (CDN) access under one roof.

"The main reason why we moved to Cloudinary was that our old system was 10 years old and not manageable. We didn't want the burden of managing [content delivery networks] and images. We wanted to move multiple operational functions to a [software-as-a-service] offering."

Solutions architect, electronics

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, B2C digital commerce organization sells products through online channels. The composite organization has a strong brand, global operations, and a large customer base. Its online presence is rich with media assets — both images and video. The composite organization has 4,000 employees across the globe. Annual revenue is $1 billion, and it has an operating profit margin of 15%.

Key Assumptions

- **$1 billion in annual revenue**
- **4,000 employees**
- **15% operating profit margin**

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	Refocus of FTEs due to centralization and automatic transformation of rich media	$1,647,000	$1,647,000	$1,647,000	$4,941,000	$4,095,845
Btr	Reduction of legacy technology	$729,600	$972,800	$972,800	$2,675,200	$2,198,119
Ctr	Increase in operating profit due to improved page load time	$675,000	$675,000	$675,000	$2,025,000	$1,678,625
Dtr	Gain in efficiencies due to more effective media asset workflows	$78,731	$78,731	$78,731	$236,193	$195,792
	Total benefits (risk-adjusted)	$3,130,331	$3,373,531	$3,373,531	$9,877,393	$8,168,381

REFOCUS OF FTES DUE TO CENTRALIZATION AND AUTOMATIC TRANSFORMATION OF RICH MEDIA

Evidence and data. Interviewees reported the following:

- Their deployment of Cloudinary allowed them to refocus marketing and engineering FTEs due to automation and centralization.
- The VP of product management at a digital commerce company said: "We really love the dynamic transformations that Cloudinary provides. They call it 'on the fly transformations.' Through code, it allows us to reformat our images, resize them, crop them, compress them, and do whatever we need to do to make sure that they're delivered to our users in the most optimal format based on the user's location, connectivity speed, and device size."
- The VP added: "Something as simple as having filtering and metadata structures were things we never really had in this sophisticated way before. It has allowed us to create a lot more best practices and processes that enable us to scale on the cropping, resizing, and multiple versions front."

"Through Cloudinary, we can produce at scale the perfectly cropped image using code. We don't require a user to go in and crop the image manually."

VP of product management, digital commerce

"Our marketing team used to come to us looking for lost assets. Due to Cloudinary, they don't need to ask us or check their e-mail archives anymore. That's where we save a lot of time because they know where to find these assets."

Marketing specialist, electronics

- An SVP of engineering at a digital commerce company commented: “If we wanted to catch up with Cloudinary features, we would have had to keep funding a five-person engineering team, probably indefinitely.”

Modeling and assumptions. For the composite organization, Forrester makes the following assumptions:

- The composite organization refocuses eight marketing team members, who are each earning a fully loaded salary of $135,000 annually.
- The composite organization refocuses five engineers, who are each earning a fully loaded salary of $195,750 annually.

Risks. The refocus of FTEs due to centralization and automatic transformation of rich media will vary depending on:

- The size and experience of the marketing and engineering teams.
- The number of departments within the organization use Cloudinary and for what purpose.
- The salary of the marketing and engineering team members based on location and skill level.

Results. To account for these risks, Forrester adjusted this benefit downward by 20%, yielding a three-year, risk-adjusted total PV (discounted at 10%) of $4,095,845.

Refocus Of FTEs Due To Centralization And Automatic Transformation Of Rich Media

Ref.	Metric	Source	Year 1	Year 2	Year 3
A1	Refocus of marketing team members	Interviews	8	8	8
A2	Salary per marketing team member	TEI standard	$135,000	$135,000	$135,000
A3	Refocus of engineers	Interviews	5	5	5
A4	Salary per engineer	TEI standard	$195,750	$195,750	$195,750
At	Refocus of FTEs due to centralization and automatic transformation of rich media	(A1*A2)+(A3*A4)	$2,058,750	$2,058,750	$2,058,750
	Risk adjustment	↓20%			
Atr	Refocus of FTEs due to centralization and automatic transformation of rich media (risk-adjusted)		$1,647,000	$1,647,000	$1,647,000
	Three-year total: $4,941,000		**Three-year present value: $4,095,845**		

REDUCTION OF LEGACY TECHNOLOGY

Evidence and data. Interviews reported the following:

- The organizations reduced hardware costs associated with their legacy systems. This includes decommissioning prior technologies, whether homegrown or licensed, and reducing storage costs.
- The SVP of engineering at a digital commerce company relayed: "It was around $1,000,000 a year essentially that we saved by getting rid of our own solution."

Modeling and assumptions. For the composite organization, Forrester makes the following assumptions:

- The composite organization saves $1 million annually in hardware costs and $2,000 per month in storage costs.
- Due to implementation and a transition time of three months in Year 1, the composite organization only realizes 75% of the cost reduction.

> **"We had our own homegrown image management solution that we were 100% able to get rid of."**
>
> *SVP of engineering, digital commerce*

Risks. Reduction in legacy technology will vary depending on the following:

- The capabilities and functionalities of the legacy solutions.
- Level of adoption.

Results. To account for these risks, Forrester adjusted this benefit downward by 5%, yielding a three-year, risk-adjusted total PV of $2,198,119.

Reduction Of Legacy Technology

Ref.	Metric	Source	Year 1	Year 2	Year 3
B1	Reduction in annual hardware cost	Interviews	$768,000	$1,024,000	$1,024,000
Bt	Reduction of legacy technology	B1	$768,000	$1,024,000	$1,024,000
	Risk adjustment	↓5%			
Btr	Reduction of legacy technology (risk-adjusted)		$729,600	$972,800	$972,800
	Three-year total: $2,675,200			**Three-year present value: $2,198,119**	

INCREASE IN OPERATING PROFIT DUE TO IMPROVED PAGE LOAD TIME

Evidence and data. Interviewees reported the following:

- Due to Cloudinary's Image and Video Technology Platform, the organizations were able to improve page load times, which resulted in an increase in operating profit.
- Improved page load time resulted from delivering a more optimized page with lighter rich media assets. A VP of product management at a digital commerce company noted: "Cloudinary is a win for us because it ultimately leads to improved site performance and site speed because we have a lot of images on our site. The faster each image loads, the faster the page loads as a whole."
- An SVP of engineering at a digital commerce company said: "When a user comes to the site, the images are smaller so they download more quickly. The faster a webpage downloads, the more often people use it and you get more clicks. More engagement results in more revenue."
- Improvements in page load speed also led to an increase in new customer acquisition and growth in wallet share due to the improved customer experience. This translated into an increase in conversions and associated revenue.

Modeling and assumptions. For the composite organization, Forrester makes the following assumptions:

- The composite organization has an annual revenue of $1 billion per year.
- For every increase in page load time, measured per 100 milliseconds, revenue increases by 1%.[2]
- Not all 100 milliseconds saved can be attributed to Cloudinary alone, as most teams deploy multiple, simultaneous initiatives to improve page load speed. Therefore, Forrester attributes 50% of the improved page load time to Cloudinary.
- The composite organization has a 15% operating margin.

Risks. An increase in operating profit due to improved page load time will vary with:

- Percent of improvement attributed to Cloudinary.
- Operating profit margin.
- Revenue increase from improved page load time.

Results. To account for these risks, Forrester adjusted this benefit downward by 10%, yielding a three-year, risk-adjusted total PV of $1,678,625.

> **"We have been able to improve our site speed by about 20% simply by utilizing Cloudinary [content delivery networks] and the various transformations and optimizations that they offer."**
>
> *VP of product development, digital commerce*

Increase In Operating Profit Due To Improved Page Load Time					
Ref.	**Metric**	**Source**	**Year 1**	**Year 2**	**Year 3**
C1	Number of milliseconds saved	Interviews	100	100	100
C2	Gross revenue	Composite	$1,000,000,000	$1,000,000,000	$1,000,000,000
C3	Revenue impacted by Cloudinary	Interviews	50%	50%	50%
C4	Percent revenue gained per 100 milliseconds	Interviews	1%	1%	1%
C5	Operating profit margin	Composite	15%	15%	15%
Ct	Increase in operating profit due to improved page load time	C2*C3*C4*C5	$750,000	$750,000	$750,000
	Risk adjustment	↓10%			
Ctr	Increase in operating profit due to improved page load time (risk-adjusted)		$675,000	$675,000	$675,000
	Three-year total: $2,025,000			**Three-year present value: $1,678,625**	

GAIN IN EFFICIENCIES DUE TO MORE EFFECTIVE MEDIA ASSET WORKFLOWS

Evidence and data. Interviewees reported the following:

- Cloudinary affords organizations workflow efficiencies by offering the ability to upload and download media assets seamlessly on and off its platform.
- A marketing specialist at an electronics company provided an example: “If you need to send an asset to an agency, you need to download it once, and then upload it again. Then the agency needs to download it before they can work with it. Sometimes sending it by e-mail doesn’t work and e-mail takes a lot of space, so you need another platform to send your asset through. That all takes time. We save so much time with Cloudinary because no one needs to upload/download assets since we can grant access rights to all parties.”

“I’m sure our customers appreciate seeing nice photos. Well, they had nice photos before, but they didn’t see how much effort it was for us to get the nice photos to them.”

Solutions architect, electronics

Modeling and assumptions. For the composite organization, Forrester makes the following assumptions:

- Teams save 1,275 hours per year due to workflow efficiencies. This translates to each person on a five-person team saving over 5 hours per week.
- The fully loaded hourly rate per team member is $65.

Risks. A gain in efficiencies due to more effective media asset workflows will vary with:

- Effectiveness and efficiencies of legacy solutions.
- The salary of each team member based on location and skill level.

Results. To account for these risks, Forrester adjusted this benefit downward by 5%, yielding a three-year, risk-adjusted total PV of $195,792.

Gain In Efficiencies Due To More Effective Media Asset Workflows

Ref.	Metric	Source	Year 1	Year 2	Year 3
D1	Hours saved uploading/downloading images	Interviews	1,275	1,275	1,275
D2	Hourly rate	TEI standard	$65	$65	$65
Dt	Gain in efficiencies due to more effective media asset workflows	D1*D2	$82,875	$82,875	$82,875
	Risk adjustment	↓5%			
Dtr	Gain in efficiencies due to more effective media asset workflows (risk-adjusted)		$78,731	$78,731	$78,731
	Three-year total: $236,193		**Three-year present value: $195,792**		

UNQUANTIFIED BENEFITS

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

- **Faster time to market.** Cloudinary's Image and Video Technology Platform reduces time to market. Companies can quickly launch on new platforms, meeting the rich media assets specifications required. A VP of product management at a digital commerce company stated: "Many of our third-party distribution partners have their own guidelines on image sizing, etc. It would be unrealistic for us to ask a writer to go and create a completely different version of their articles just for a particular distribution platform. Cloudinary allows us to get up and running on new platforms very quickly because we can easily convert content into the format, aspect ratio, and file size automatically."

  Additionally, interviewees relayed that Cloudinary provided a best-in-breed solution that's constantly innovating and adding new capabilities. A VP of product management at a digital commerce company said: "What I like about Cloudinary is that we can push the ball further on customizing the integration that we have with all the various other tool in our stack. We try and tailor that experience to meet our team's needs in a more unique or particular way. It's been nice to see Cloudinary's continued development in those areas to make those things available to us."

  Cloudinary's API-forward model allows it to connect easily to other third-party and internal solutions, offering organizations the ability to scale. A VP of product management at a digital commerce company noted: "The thing that was really attractive to us was that everything was really well connected through APIs, so it is very easy for us to develop on top of it. Things are very well documented. Cloudinary started as an

API-and-developer-first company. We are very happy with that from an engineering perspective."

- **Improved SEO rankings.** Improved page load time due to smaller, optimized pages and images allows organizations to improve their SEO rankings. Top search engines value this and reward highly performant pages higher rankings. A higher rank in organic search can lead to better visibility and discoverability for a company, correlating to a potential increase in revenue through new customers and/or wallet share of existing customers. In some industries, improved SEO leads to new readers and increased customer traffic and engagement, which ultimately leads to an increase in brand awareness and customer loyalty.

"The top search engines prioritize faster pages over slower pages, so there's more SEO that we would get from our sites being faster. These are all things that we care about as engineers, that is how we can eke out every last millisecond because we believe that improves the user experience, which improves our revenue."

SVP of engineering, digital commerce company

- **Access to full rich media library.** Cloudinary helps organizations eliminate silos and promotes collaboration by providing a single, consolidated location for all digital commerce assets. This results in time and cost savings for content creation at a company. A VP of product management at a digital commerce company described how beneficial it is for all rich media assets to be easily available to everyone, commenting: "One big thing that we never used to be able to do is: Let's say we do a photo shoot for a project, and we only use five out of the 50 images we shot. Previously, there was no good way for us to store all 50 images in our in-house system. You could only sort or store the images you were going to use, which means that the other 45 images which we paid money for, have on hand, and may want to use in the future are left to sit on someone's personal computer or on a file hosting service site. With Cloudinary, we have the ability to access all of our assets regardless of initial use."
- **Stability, reliability, and security.** According to interviewees, Cloudinary's platform is operationally stable, and training materials and documentation are comprehensive. In addition, they note that the Cloudinary customer team is responsive and available when needed. From a security perspective, new features such as the ability to set user permissions provides assurances as organizations release new products and content. A marketing specialist at an electronics company said: "Cloudinary is implementing something that separates the content in the system from what the API can do. You can manage an asset, hide an asset, and even delete a user."

FLEXIBILITY

The value of flexibility is unique to each customer. There are multiple scenarios in which a customer might implement Cloudinary and later realize additional use cases and business opportunities, including:

- **Scale without adding overhead.** Interviewees mentioned that they can plan for future growth without requiring additional resources to support the growth. A marketing specialist at an

electronics company noted: “Certain online design teams will have the need for more people in the future, but because Cloudinary does so much automatically, our current team has less work to do. If we would not have chosen Cloudinary for this, we would probably need an extra designer down the road as we grow.”

- **Innovation partner.** Cloudinary partners with its customers to help them innovate and builds additional capabilities on customer wish lists. Examples of this are security features they added upon a customer’s request. A solution architect at an electronics company mentioned: “The Cloudinary team is really pleasant to work with, and so I feel hopeful that if we have the capacity and the budget, we could do more innovative things with them in the future. They are a good partner to work with.”

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

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**
Etr	Total license fees	$0	$600,000	$600,000	$600,000	$1,800,000	$1,492,111
Ftr	Initial and ongoing costs	$443,520	$304,128	$304,128	$304,128	$1,355,904	$1,199,841
	Total costs (risk-adjusted)	$443,520	$904,128	$904,128	$904,128	$3,155,904	$2,691,952

TOTAL LICENSE FEES

Modeling and assumptions. For the composite organization, Forrester makes the following assumptions:

- The composite organization spends 0.05% of its revenue to license the Cloudinary platform.
- The license fees include transformations, the DAM platform, and CDN access.
- Pricing isn't necessarily linear and may depend on actual usage, organizational needs, and other variables. Contact Cloudinary for additional details.

Risks. Total license fees will vary with:

- Needed functionality.
- Annual revenue of the organization.
- The magnitude of deployment and the number of teams using Cloudinary.
- The volume of rich media transformed and delivered using Cloudinary's platform.

Results. To account for these risks, Forrester adjusted this cost upward by 20%, yielding a three-year, risk-adjusted total PV (discounted at 10%) of $1,492,111.

Total License Fees						
Ref.	**Metric**	**Source**	**Initial**	**Year 1**	**Year 2**	**Year 3**
E1	Gross revenue	Composite		$1,000,000,000	$1,000,000,000	$1,000,000,000
E2	License fees as a percent of revenue	Interviews		0.05%	0.05%	0.05%
Et	Total license fees	E1*E2	$0	$500,000	$500,000	$500,000
	Risk adjustment	↑20%				
Etr	Total license fees (risk-adjusted)		$0	$600,000	$600,000	$600,000
	Three-year total: $1,800,000			**Three-year present value: $1,492,111**		

INITIAL AND ONGOING COSTS

Modeling and assumptions. For the composite organization, Forrester makes the following assumptions:

- The composite organization incurs the cost of five people working 77 hours per month to implement Cloudinary, each earning a fully loaded hourly rate of $80.
- Ongoing costs to maintain the platform, train new users, and add needed functionality require six people from the composite organization to spend 44 hours per month on an ongoing basis. Each person's fully loaded hourly rate is $80.

Risks. Initial and ongoing costs will vary with:

- The size of the organization and the complexity of its digital presence.
- Salary levels, depending on skill level and geographical location.

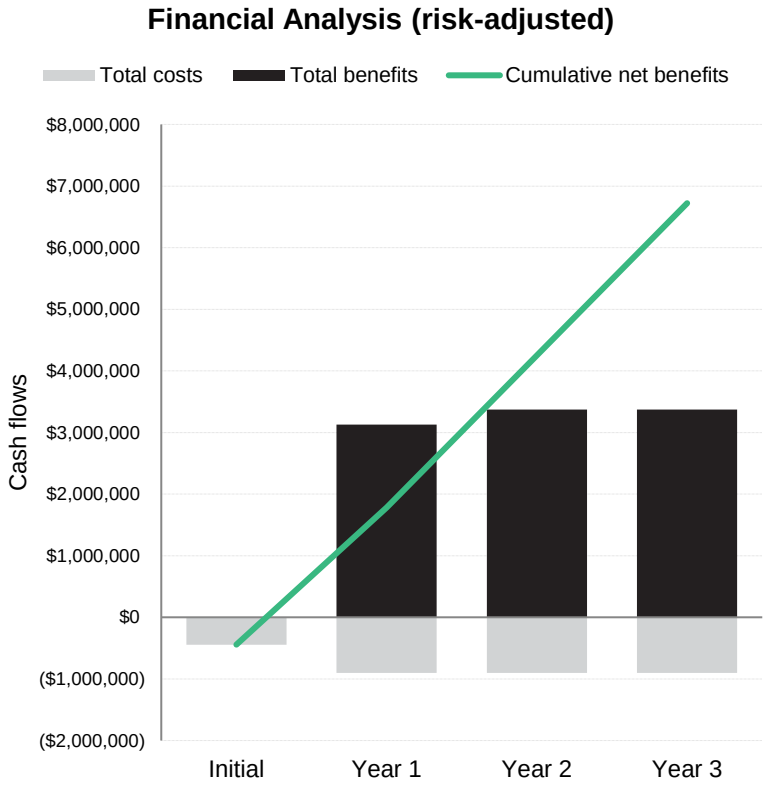
Results. To account for these risks, Forrester adjusted this cost upward by 20%, yielding a three-year, risk-adjusted total PV of $1,199,841.

Initial And Ongoing Costs

Ref.	Metric	Source	Initial	Year 1	Year 2	Year 3
F1	Implementation and training FTE resources	Interviews	5			
F2	Hourly rate per FTE resource	TEI standard	$80			
F3	Hours per month per person	Interviews	77			
F4	Subtotal – initial implementation costs	F1*F2*F3*12	$369,600			
F5	Ongoing management FTE resources	Interviews		6	6	6
F6	Hourly rate per FTE resource	TEI standard		$80	$80	$80
F7	Hours per month per person	Interviews		44	44	44
F8	Subtotal – ongoing costs	F5*F6*F8*12		$253,440	$253,440	$253,440
Ft	Initial and ongoing costs	F4+F8	$369,600	$253,440	$253,440	$253,440
	Risk adjustment	↑20%				
Ftr	Initial and ongoing costs (risk-adjusted)		$443,520	$304,128	$304,128	$304,128
	Three-year total: $1,355,904			**Three-year present value: $1,199,841**		

Financial Summary

CONSOLIDATED THREE-YEAR RISK-ADJUSTED METRICS



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	($443,520)	($904,128)	($904,128)	($904,128)	($3,155,904)	($2,691,952)
Total benefits	$0	$3,130,331	$3,373,531	$3,373,531	$9,877,393	$8,168,381
Net benefits	($443,520)	$2,226,203	$2,469,403	$2,469,403	$6,721,489	$5,476,429
ROI						203%
Payback period						<6 months

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.

[2] Source: "Amazon study: Every 100ms in Added Page Load Time Cost 1% in Revenue," ContentKing for Conductor, August 10, 2021.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