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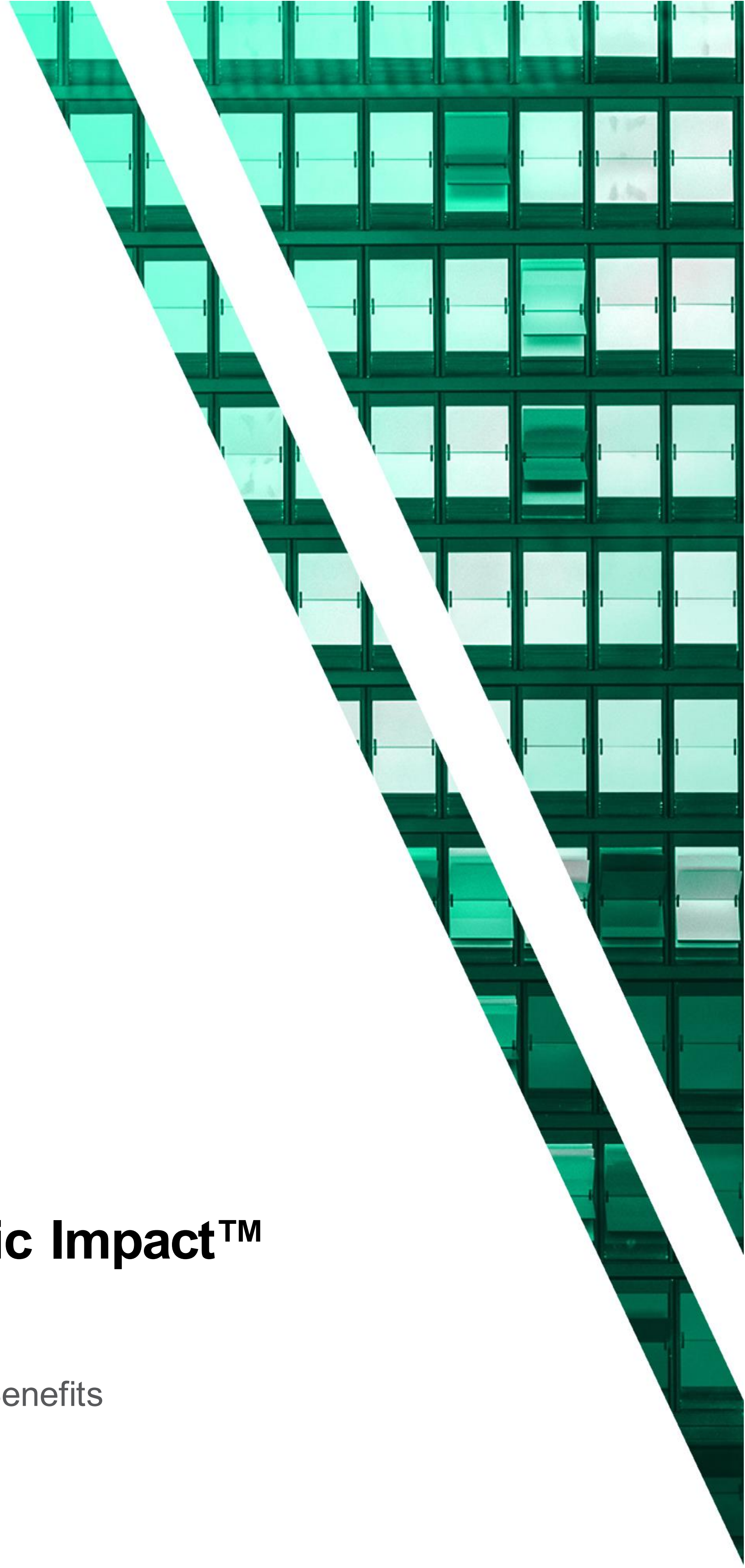

The Total Economic Impact™ Of Adyen

Cost Savings And Business Benefits Enabled By Adyen

OCTOBER 2021

A FORRESTER TOTAL ECONOMIC IMPACT™ STUDY COMMISSIONED BY ADYEN

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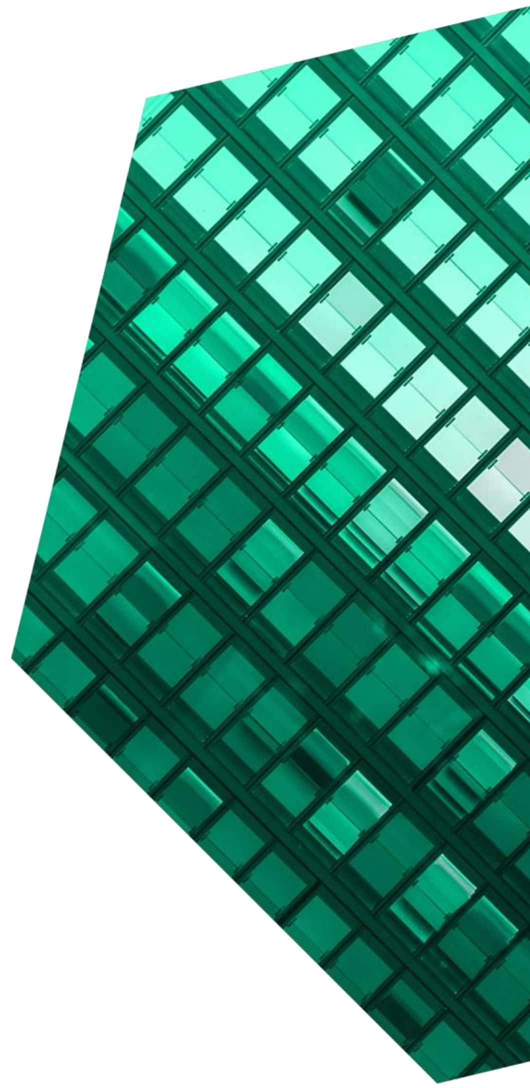


Executive Summary

As the payments landscape becomes increasingly complex due to a hodgepodge of old and new technologies, strict regulations, and a revolving door of new mandates, players, and operating models, merchants must wisely choose providers that can help navigate these challenges while continuing to support growth. The best payment providers will meet the merchant's globalization needs, support the payment flows important to the merchant's business, and match the merchant's technological pace.[1]

Adyen is an end-to-end payments solution and platform that allows merchants to securely accept e-commerce, mobile, and point-of-sale payments. With Adyen, merchants can accept payments across channels on a global scale while maximizing authorization rates and minimizing the risk of declined or false positive transactions.

Adyen commissioned Forrester Consulting to conduct a Total Economic Impact™ (TEI) study and examine the potential return on investment (ROI) enterprises may realize by deploying Adyen.[2] The purpose of this study is to provide readers with a framework to evaluate the potential financial impact of Adyen on their organizations.

To better understand the benefits, costs, and risks associated with this investment, Forrester interviewed four merchants with extensive experience using Adyen. All four of these merchants transact entirely through e-commerce channels and therefore the study examines the benefits and costs of using Adyen for online payments only. For the purposes of this study, Forrester aggregated the experiences of the interviewed merchants and combined the results into a single composite merchant organization.

Prior to using Adyen, the interviewed merchants struggled with suboptimal authorization and chargeback rates in select regional markets and lacked a payments partner needed to enter other markets altogether.

KEY STATISTICS

Return on investment (ROI)
186%

Net present value (NPV)
$7.6M

After partnering with Adyen, merchants gained better visibility into their payments cost structure, reduced chargeback fraud, and improved overall payment acceptance and authorization rates. Key results from adopting Adyen include the following:

KEY FINDINGS

Quantified benefits. Risk-adjusted present value (PV) quantified benefits include:

- **Reduced the rate of false positives due to successful payment retries by 40%.** Interviewed merchants lost an estimated 2.78% of their e-commerce revenues due to checkout attrition from false positive declines caused by temporary technical issues from the card issuer or innocuous flags such as the cardholder ordering from a different location. Leveraging Adyen's robust machine learning and auto-retry logic, merchants reduced this rate of false positives by 40%, representing a three-year present value of $5.7 million.

- **Reduced chargeback write-off rate by 27%.** With each customer transaction passing through Adyen's automated risk engine and machine learning algorithm, legitimate customers could be separated from imposters and fraudsters, and a significant portion of disputes and chargebacks could be resolved automatically through this same algorithm without manual intervention. As a result, fewer chargebacks needed to be written off as losses, an impact tantamount to a present value of $2.5 million over three years.

Fewer write-offs on chargebacks

27%

- **Improved authorization rates through intelligent payment routing by 1.52%.** With Adyen RevenueAccelerate, customer transactions would automatically go through the highest performing processing routes and adapt to the card issuing bank's unique risk, technology, and messaging preferences. The resulting improvement in authorization rates amounts to a present value of $2.2 million over three years.

Intelligent routing auth rate uplift

1.52%

- **Reduced operational labor needed to launch into new markets by 75%.** Leveraging Adyen's out-of-the-box ready APIs, global market presence, and operational support, merchants could access new markets with little-to-no custom integration work. Instead, new market entry would primarily consist of a contractual exercise with the Adyen support team. Consequently, the cost associated with entering a new market was reduced by 75%, equal to a present value of $1.2 million over three years.

Reduced market entry FTE labor

6 FTEs down to 1.5 FTEs

Costs. Risk-adjusted PV costs include:

- **Incremental merchant fees.** On average, merchants paid an additional $0.03 per transaction using Adyen compared to regional payment service providers (PSPs), representing a three-year cost present value of $1.9 million.
- **Implementation and integration costs.** The initial integration of Adyen consisted of several months of engineering, testing, and user setup time, adding up to a three-year cost present value of $2.1 million.

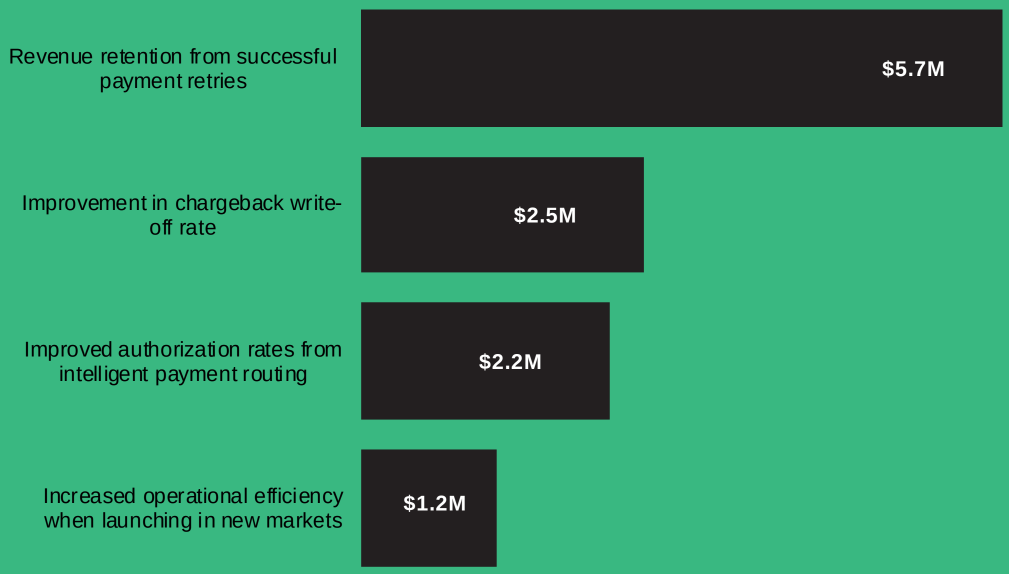
The customer interviews and financial analysis found that a composite merchant organization experiences benefits of $11.6 million over three years versus costs of $4.1 million, adding up to a net present value (NPV) of $7.6 million and an ROI of 186%.

ROI
186%

BENEFITS PV
$11.6M

NPV
$7.6M

Benefits (Three-Year)



"Adyen is really robust and has improved our overall yields. Our service levels are much better than they were before, and most importantly, we now feel like we have a partner that not only brings products to the table but also ideas to help us with everything from data retrieval to better conversion processing."

— Senior vice president, streaming

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 Adyen.

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 Adyen can have on an organization.

DUE DILIGENCE

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

CUSTOMER INTERVIEWS

Interviewed four decision-makers at organizations using Adyen 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 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.

DISCLOSURES

Readers should be aware of the following:

This study is commissioned by Adyen 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 Adyen.

Adyen 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.

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

The Adyen Customer Journey

Drivers leading to the Adyen investment

Interviewed Decision-Makers			
Interviewee	**Industry**	**Region**	**Revenue**
Senior vice president	Streaming	North America	$100 million to $500 million
Payments partner manager	Technology	Global	$1 billion+
Senior program manager	Technology	Global	$1 billion+
Payments manager	Transportation	Global	$1 billion+

KEY CHALLENGES

Prior to engaging Adyen, interviewed merchants relied on regional PSPs for payment processing in nondomestic markets. In doing so, these merchants struggled with common challenges, including:

- **Suboptimal authorization rates.** Without the machine learning logic leveraging Adyen's expansive historical payments data, a percentage of merchant transactions using regional PSPs would be declined due to avoidable errors such as incompatibilities in card- or issuer-specific messaging types or temporary flags such as the shopper making a purchase from a different address. Oftentimes, these declined transactions would result in customer frustration, empty shopping carts, and in the worst case, attrition.

> **"Adyen's longevity of experience has helped us improve our authorization rates. They've developed really close relationships with the issuers in different markets and understand the local preferences that help transactions get approved."**
>
> *Payments manager, transportation*

- **Complex payments integrations.** Establishing payments infrastructure in a net-new market historically involved long integration periods across a multitude of payment providers and formats aligned to the market's unique payment preferences. Each launch required heavy involvement from both engineering teams and operational teams to ensure broad payments acceptance and robust internal reporting, dashboarding, and analytics.

> **"Being able to outsource alternative payment integration work to Adyen was very appealing to us and has taken a huge burden off of our engineering team."**
>
> *Senior program manager, technology*

- **Costly chargebacks.** As merchants expanded into international markets, chargebacks and chargeback-related fraud increasingly cut into their profits. Without an automated engine evaluating transactions and chargeback cases, merchants had no way of knowing whether chargebacks were legitimate without manually reviewing each case. Furthermore, without a consistent and proven method for approving transactions, merchants that tried to combat chargebacks at the point of sale would often put themselves at risk of increasing false-positive declines due to mistakenly categorizing a legitimate transaction as risky or fraudulent.

> **"Reporting and predictive analytics on the transaction and settlement side of chargebacks would never have been possible without Adyen because we wouldn't have the granularity of data to build out accurate models."**
>
> *Payments manager, transportation*

SOLUTION REQUIREMENTS

The interviewees searched for a solution that met the following needs:

- APIs for easy alternative payment integration.
- Global presence and relationships with issuers and payments providers in local markets.
- The ability to understand and process multiple payment formats and messaging types.
- Intuitive and easily accessible reporting, dashboarding, and analytics.

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 companies that Forrester interviewed and is used to present the aggregate financial analysis in the next section. The composite merchant organization has the following characteristics:

- A global technology organization headquartered in North America with $3 billion in annual revenues, all coming from digital and e-commerce channels.
- Leverages a combination of regional and global PSPs and launches Adyen specifically in regional markets not currently covered by a global provider.
- Revenue from non–North American countries represents 44% of total revenues.
- Card transactions comprise 65% of total transactions.
- Transactions processed through Adyen represent 40% of total transactions.
- Average order size per transaction is $30.

Key assumptions

- **44% of revenues outside of North America**
- **65% of transactions made through card**
- **40% of transactions through Adyen**
- **$30 average order size**

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	Revenue retention from successful payment retries	$2,289,830	$2,289,830	$2,289,830	$6,869,491	$5,694,469
Btr	Improvement in chargeback write-off rate	$1,010,880	$1,010,880	$1,010,880	$3,032,640	$2,513,909
Ctr	Improved authorization rates from intelligent payment routing	$886,829	$886,829	$886,829	$2,660,486	$2,205,412
Dtr	Increased operational efficiency when launching in new markets	$486,000	$486,000	$486,000	$1,458,000	$1,208,610
	Total benefits (risk-adjusted)	$4,673,539	$4,673,539	$4,673,539	$14,020,618	$11,622,400

REVENUE RETENTION FROM SUCCESSFUL PAYMENT RETRIES

Evidence and data. Interviewed merchants all experienced revenue loss due to generic errors and flags such as those caused by issuer-specific messaging preferences or incorrectly diagnosed fraud. Without advanced retry logic built into the payments processor, these transactions would simply stop in their tracks and return a decline code to the customer, often resulting in frustration or even worse, attrition. With Adyen's collective global payments data and experience, transactions would go through multiple retry attempts optimized for inputs such as historical customer and transaction characteristics in addition to the basic error code categories. As a result, merchants resolved a significant percentage of declined transactions simply by retrying the transaction at the right time and with the right strategy.

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

- False-positives account for 2.78% of lost revenue. Merchants estimated losing anywhere from 1% to 4% of their revenues to false-positives.

Risks. Revenue retention from successful payment retries may vary for other merchants based on the following factors:

- Alternative payment partners and integrations.
- Individual industry and customer characteristics.

Results. To account for these risks, Forrester adjusted this benefit downward by 40%, yielding a three-year, risk-adjusted total PV (discounted at 10%) of nearly $5.7 million.

> **"Adyen has numerous tools on both the credit and debit side that have increased our hit rate on transactions. Tokenization alone has given us at least a 100-basis-point uplift."**
>
> *Senior vice president, streaming*

Revenue Retention From Successful Payment Retries					
Ref.	**Metric**	**Source**	**Year 1**	**Year 2**	**Year 3**
A1	Global annual revenues	Composite	$3,000,000,000	$3,000,000,000	$3,000,000,000
A2	Percentage of revenue made outside of North America	Composite	44%	44%	44%
A3	Percentage of transactions made using a credit/debit card	Interviews	65%	65%	65%
A4	Percentage of credit/debit card transactions processed by Adyen	Interviews	40%	40%	40%
A5	Percentage of revenue lost due to false positives	Composite	2.78%	2.78%	2.78%
A6	Reduction in rate of false positives with successful retries	Composite	40%	40%	40%
At	Revenue retention from successful payment retries	A1*A2*A3*A4*A5	$3,816,384.0	$3,816,384.0	$3,816,384.0
	Risk adjustment	↓40%			
Atr	Revenue retention from successful payment retries (risk-adjusted)		$2,289,830.4	$2,289,830.4	$2,289,830.4
	Three-year total: $6,869,491			**Three-year present value: $5,694,469**	

IMPROVEMENT IN CHARGEBACK WRITE-OFF RATE

Evidence and data. Digital e-commerce fraud is an increasingly complex issue as fraudsters continue to find new ways to go unnoticed by detection systems. While many larger merchants will have proprietary risk and fraud management solutions catered to their specific industry and customer characteristics, others will lean heavily on their payment providers and processors to be the first — and sometimes only — line of defense against fraudsters. For example, while all interviewed merchants used a combination of different proprietary and third-party tools for risk management, several merchants also leveraged Adyen's RevenueProtect tool to automatically detect, manage, and resolve chargeback fraud. With Adyen, these merchants significantly reduced the need for inconsistent manual reviews and benefitted from lower write-offs on successful chargeback attempts.

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

- The existing state chargeback write-off percentage is 0.8% of total transactions.

Risks. The improvement in chargeback write-off rate may vary for other merchants based on the following factors:

- Individual industry and customer characteristics.
- Existing risk and fraud management tools.

Results. To account for these risks, Forrester adjusted this benefit downward by 40%, yielding a three-year, risk-adjusted total PV of more than $2.5 million.

Improvement In Chargeback Write-Off Rate					
Ref.	**Metric**	**Source**	**Year 1**	**Year 2**	**Year 3**
B1	Gross annual revenue	Composite	$3,000,000,000	$3,000,000,000	$3,000,000,000
B2	Percentage of transactions made using a credit/debit card	Interviews	65%	65%	65%
B3	Percentage of credit/debit card transactions processed by Adyen	Interviews	40%	40%	40%
B4	Global card revenue processed through Adyen	B1*B2*B3	$780,000,000	$780,000,000	$780,000,000
B5	Existing state chargeback write-off percentage	Composite	0.8%	0.8%	0.8%
B6	Improvement in chargeback write-off rate with automated fraud/risk engine (not accounting for manual reviews)	Composite	27%	27%	27%
Bt	Improvement in chargeback write-off rate	B4*B5*B6	$1,684,800	$1,684,800	$1,684,800
	Risk adjustment	↓40%			
Btr	Improvement in chargeback write-off rate (risk-adjusted)		$1,010,880	$1,010,880	$1,010,880
	Three-year total: $3,032,640			**Three-year present value: $2,513,909**	

IMPROVED AUTHORIZATION RATES FROM INTELLIGENT PAYMENT ROUTING

Evidence and data. One of the key differences between Adyen and regional PSPs is Adyen's integrations with its extensive global network of constituents across the payments value chain, including issuing banks and acquirers. Across these constituents, Adyen collects data from thousands of transactions daily, which feeds into a continuously optimizing machine learning model. Adyen's merchant partners can then tap into this model each time a customer makes a transaction to maximize the chance of approval. For instance, a percentage of international transactions may not go through due to not matching the acquiring bank's approval characteristics. In this case, Adyen would route the transaction agnostically through a network of local acquirers to increase the chance of authorization. With Adyen's intelligent payment routing, several interviewed merchants were even able to justify entering entirely new markets in instances where no other payments providers could access the region's local payment rails.

> **"In some regions, such as France, we get higher authorization rates with Adyen simply because no other provider has the ability to process on the local rails."**
>
> *Payments partner manager, technology*

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

- In the markets where Adyen is deployed, 20% of transactions are routed through alternative local/regional payment rails.

Risks. The benefit of improved authorization rates from intelligent payment routing may vary for other merchants based on the following factors:

- Alternative payment partners and integrations.
- Individual industry and customer characteristics.

Results. To account for these risks, Forrester adjusted this benefit downward by 15%, yielding a three-year, risk-adjusted total PV of more than $2.2 million.

Improved Authorization Rates From Intelligent Payment Routing

Ref.	Metric	Source	Year 1	Year 2	Year 3
C1	Global annual revenues	Composite	$3,000,000,000	$3,000,000,000	$3,000,000,000
C2	Percentage of revenue made outside of North America	Composite	44%	44%	44%
C3	Percentage of transactions made using a credit/debit card	Interviews	65%	65%	65%
C4	Percentage of credit/debit card transactions processed by Adyen	Interviews	40%	40%	40%
C5	Percentage of credit/debit card transactions routed by Adyen to optimized local/regional acquirers	Composite	20%	20%	20%
C6	Improvement in authorization rates through intelligent payment routing	Composite	1.52%	1.52%	1.52%
Ct	Improved authorization rates from intelligent payment routing	C1*C2*C3*C4*C5*C6	$1,043,328.0	$1,043,328.0	$1,043,328.0
	Risk adjustment	↓15%			
Ctr	Improved authorization rates from intelligent payment routing (risk-adjusted)		$886,828.8	$886,828.8	$886,828.8
	Three-year total: $2,660,486		**Three-year present value: $2,205,412**		

INCREASED OPERATIONAL EFFICIENCY WHEN LAUNCHING IN NEW MARKETS

Evidence and data. In addition to optimizing authorization rates when entering new markets, merchants also benefited from reducing the operational debt associated with launching payments. Historically, these merchants would spend months on contract negotiations with acquiring partners before spending an additional three to six months manually testing, certifying, and integrating with local PSPs. Using Adyen's existing connections to regional payment ecosystems, this process was simplified through ready APIs, saving months of costly integration work. All merchants emphasized the value of removing the technical complexity of setting up payments, ultimately allowing for new-market entry to be solely a contractual exercise rather than an engineering effort.

> **"I simply tell the Adyen team what country we want to go into, and they give me a contract to sign. Then I alert our operational teams, we do some light testing, and then we roll it out. It's straightforward."**
>
> *Payments partner manager, technology*

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

- Payments are launched in three net new markets per year using Adyen.
- The fully burdened monthly compensation per payments engineer FTE, which includes a 25% benefits overhead premium, is $10,000.

Risks. The benefit of increased operational efficiency when launching in new markets may vary for other merchants based on the following factors:

- Skill and experience of the engineering and payments operations team.
- Regional differences in alternative payment preferences.

Results. To account for these risks, Forrester adjusted this benefit downward by 10%, yielding a three-year, risk-adjusted total PV of more than $1.2 million.

Increased Operational Efficiency When Launching In New Markets

Ref.	Metric	Source	Year 1	Year 2	Year 3
D1	Number of new markets launched per year	Composite	3	3	3
D2	Average number of months to launch payments solution in net-new market	Interviews	4	4	4
D3	Average number of FTEs to launch a payments solution in net-new market, prior to Adyen	Interviews	6	6	6
D4	Average number of FTEs to launch a payments solution in net-new market, with Adyen	Interviews	1.5	1.5	1.5
D5	Reduction in FTEs to launch payments solution in net-new market, with Adyen	D3-D4	4.5	4.5	4.5
D6	Average monthly fully burdened rate per FTE	Assumption	$10,000	$10,000	$10,000
Dt	Increased operational efficiency when launching in new markets	D1*D2*D5*D6	$540,000	$540,000	$540,000
	Risk adjustment	↓10%			
Dtr	Increased operational efficiency when launching in new markets (risk-adjusted)		$486,000	$486,000	$486,000
	Three-year total: $1,458,000		**Three-year present value: $1,208,610**		

FLEXIBILITY

The value of flexibility is unique to each merchant. A merchant might implement Adyen and later realize additional uses and business opportunities, including the reduction in fraud losses. While interviewees primarily leveraged Adyen RevenueProtect to help automate chargeback management and protect against chargeback fraud, some merchants are testing other use cases such as customizing risk profiles to protect against identity and account fraud.

> **"With Adyen, we're able to use unique identifiers to limit our free subscriptions to one per customer, so we're not getting gamed by individual customers creating multiple trial accounts."**
>
> *Senior vice president, streaming*

An interviewee in the subscription business estimated that it was able to use Adyen's custom risk-profiling tools to reduce the number of fraudulent accounts by up to 20% while commensurately increasing the conversion rate of free-trial customers to paid-subscription customers.

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	Incremental Adyen merchant fees	$0	$780,000	$780,000	$780,000	$2,340,000	$1,939,745
Ftr	Adyen implementation and integration costs	$2,129,531	$0	$0	$0	$2,129,531	$2,129,531
	Total costs (risk-adjusted)	$2,129,531	$780,000	$780,000	$780,000	$4,469,531	$4,069,276

INCREMENTAL ADYEN MERCHANT FEES

Evidence and data. Because the merchants interviewed for this study would have partnered with regional payment providers in the locations where they ultimately leveraged Adyen, the incremental fees in the calculation table below compare the average transactional cost of Adyen to these regional counterparts. The fees consist of Adyen's standard per-transaction processing fees plus incremental fees for transactions leveraging features such as network tokenization and the real-time account updater.

Modeling and assumptions. For the composite merchant organization, Forrester assumes that the incremental Adyen merchant fees per transaction represent the average amount paid on top of what the merchant would have incurred leveraging only regional payment providers.

Global annual revenues and average order size remain consistent over the evaluated three-year horizon at $3 billion and $30, respectively.

"Adyen's fees are typically higher than other providers, but the benefit they bring to our top line has also been substantial. The Adyen team is constantly exploring new and innovative ways to generate incremental revenue for our business, something that traditionally has been hard to find in a payment provider."

Senior program manager, technology

Risks. No risk adjustment was made because the incremental fees the composite merchant pays to Adyen represent actual fees.

Results. Over three years, the composite merchant's incremental Adyen merchant fees yield a three-year total PV (discounted at 10%) of $1.9 million.

Incremental Adyen Merchant Fees						
Ref.	**Metric**	**Source**	**Initial**	**Year 1**	**Year 2**	**Year 3**
E1	Global annual revenues	Composite		$3,000,000,000	$3,000,000,000	$3,000,000,000
E2	Average order size	Composite		$30	$30	$30
E3	Average number of transactions	E1/E2		100,000,000	100,000,000	100,000,000
E4	Percentage of transactions made using a credit/debit card	Assumption		65%	65%	65%
E5	Percentage of credit/debit card transactions processed by Adyen	Interviews		40%	40%	40%
E6	Incremental merchant fees beyond regional PSP fees	Interviews		$0.03	$0.03	$0.03
Et	Incremental Adyen merchant fees	E3*E4*E5*E6	$0	$780,000	$780,000	$780,000
	Risk adjustment	0%				
Etr	Incremental Adyen merchant fees (risk-adjusted)		$0	$780,000	$780,000	$780,000
	Three-year total: $2,340,000			**Three-year present value: $1,939,745**		

ADYEN IMPLEMENTATION AND INTEGRATION COSTS

Evidence and data. Full setup of Adyen consisted of two parts: technical integration and operationalization, which often took place simultaneously. On average, merchants spent anywhere from two to four months per location to complete the setup, and they fully dedicated between one to three FTEs per task during this time. Operational setup included tasks such as managing and negotiating contracts, creating dashboards and reporting processes, and managing user access. Technical implementation consisted of establishing front- and back-end integrations across the merchant's various payment systems.

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

- Initial launch of Adyen includes 15 different global markets.
- The fully burdened salary per integration FTE, which includes a 25% benefits-overhead premium, is $120,000.
- The fully burdened salary per payments operations FTE, which includes a 25% benefits-overhead premium, is $78,125.

Risks. Adyen implementation and integration costs may vary for other merchants based on the following factors:

- The experience and skill level of the merchant's payments engineering teams.
- The complexity of the merchant's back-end payment systems, including the number and type of payment partners.
- Differences in regional and merchant-specific compensation rates.

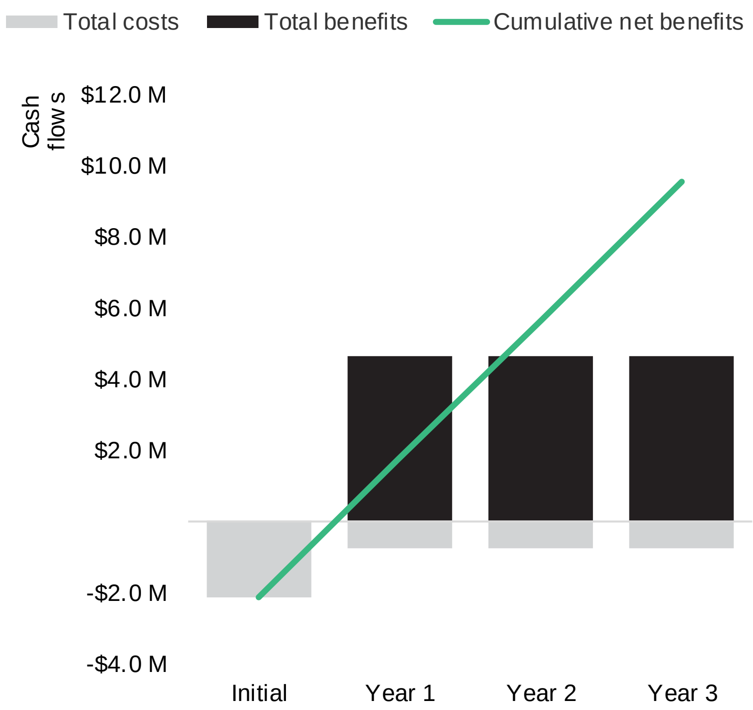
Results. To account for these risks, Forrester adjusted this cost upward by 10%, yielding a three-year, risk-adjusted total PV of $2.1 million.

Adyen Implementation And Integration Costs						
Ref.	**Metric**	**Source**	**Initial**	**Year 1**	**Year 2**	**Year 3**
F1	Number of initial markets launching Adyen	Composite	15			
F2	Number of FTEs delivering front- and back-end integration of Adyen	Interviews	3			
F3	Time spent on Adyen integration (years)	Interviews	0.25			
F4	Fully burdened annual salary per integration FTE	Assumption	$120,000			
F5	Number of FTEs required to handle operational setup	Interviews	2			
F6	Time spent on Adyen operational setup (years)	Composite	0.25			
F7	Fully burdened annual salary per engineering FTE	Assumption	$78,125			
Ft	Adyen implementation and integration costs	F1*((F2*F3*F4)+(F5*F6*F7))	$1,935,938	$0	$0	$0
	Risk adjustment	↑10%				
Ftr	Adyen implementation and integration costs (risk-adjusted)		$2,129,531	$0	$0	$0
	Three-year total: $2,129,531			**Three-year present value: $2,129,531**		

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 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	($2,129,531)	($780,000)	($780,000)	($780,000)	($4,469,531)	($4,069,276)
Total benefits	$0	$4,673,539	$4,673,539	$4,673,539	$14,020,618	$11,622,400
Net benefits	($2,129,531)	$3,893,539	$3,893,539	$3,893,539	$9,551,086	$7,553,124
ROI						186%

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] Source: "The Forrester Wave™: Merchant Payment Providers, Q3 2020," Forrester Research, Inc., September 23, 2020.

[2] 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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