A Forrester Total Economic Impact™
Study Commissioned By Vindicia
December 2018

The Total Economic Impact™ Of Vindicia Select

Cost Savings And Business Benefits Enabled By Vindicia Select

FORRESTER®

Table Of Contents

Project Director:
Joe Branca
Connor Maguire

Case Study Highlights

This case study is based on interviews with five customers using Vindicia Select to recover terminally failed transactions.

Monthly revenue recovered via Vindicia Select:

$500K+

Revenue recovered from terminally failed payment transactions over three years:

$6,249,477

Executive Summary

Companies with subscription-based business models spend significant sums of money to acquire new customers.[1] When everything works as it should, they'll more than recoup these costs over the lifetime of the customer relationship. Yet, even when customers are happy with a subscription-based service, payment failures often result in interruptions to billing relationships.[2] This "involuntary" churn can make it difficult to grow or even sustain a business.[3]

There are numerous reasons a credit or debit card can be rejected, ranging from insufficient funds to suspicion of fraud, and most subscription service providers have procedures in place to deal with failed payments. Typically, billing and payments operations teams, which are tasked with optimizing payment success rates, employ a combination of retry algorithms alongside customer outreach to recover billing relationships after a payment failure occurs. However, even with sophisticated procedures in place, companies lose revenues and customers to failed transactions.

Vindicia provides a cloud-based recurring-payments solution that leverages artificial intelligence, sophisticated retry algorithms, and large data sets to reduce involuntary churn. Vindicia commissioned Forrester Consulting to conduct a Total Economic Impact™ (TEI) study and examine the potential return on investment (ROI) enterprises may realize by deploying Vindicia Select. The purpose of this study is to provide readers with a framework to evaluate the potential financial impact of using Vindicia Select on their organizations.

To better understand the benefits, costs, and risks associated with an investment in Vindicia Select, Forrester interviewed payments executives at five companies using Vindicia Select to manage involuntary churn:

- All of the companies employ subscription-based business models.
- Three sell digital services, one provides digital and print media products, and the other retails physical goods.
- Three of the companies use Vindicia's CashBox billing platform, while the others use billing systems that they developed in-house.
- Two of the companies have extensive international operations, though all companies transact globally.

Prior to deploying Vindicia Select, each organization had in place a variety of practices designed to limit failed payments. To reduce the likelihood of failed transactions, they leveraged account updater services as well as customer outreach via various channels. Once transactions did fail, they employed retry algorithms to recover billing relationships. Still, they were left with a significant number of "terminally" failed transactions.

The director of global payments for a provider of B2C and light commercial software solutions described the role Vindicia Select plays at the company: "We rely on Vindicia Select as a revenue generator because it increases our billing success rate. [Another business unit] just launched Select, and they would absolutely say that they now rely on it. It is a revenue generator. If you're using CashBox or you're only using Select, it's a very good billing resource."

FORRESTER®

Based on the customer interviews, Forrester created a composite organization to illustrate the benefits and costs associated with an investment in Vindicia Select over three years. The analysis resulted in a net present value (NPV) of $76,525,745.

18%
recovery rate for terminally failed payment transactions

687K
transaction recoveries over three years

6.2 months
added to customer lifetime after recovery

Key Findings

Quantified benefits. The following risk-adjusted present value (PV) quantified benefits are representative of those experienced by the companies interviewed:

- **Revenue from recovered payment transactions totaling $6,249,477.** Like the Vindicia Select customers interviewed for this study, the composite organization recovers a significant number of terminally failed payment transactions each month via Vindicia Select. On average, it recovers up to 55% of all failed transactions via its billing platform, owing to its sophisticated retry logic and customer outreach strategies. With Vindicia Select, it consistently recovers an additional 18% of the remaining transactions.
- **Revenue from extended customer lifetime totaling $70,412,965.** For the composite organization, Vindicia Select recovers terminally failed payment transactions, increasing subscription length and customer lifetime value. After Vindicia Select recovers a terminally failed payment transaction, users continue to pay for the organization's services for 6.2 months, on average.

Unquantified benefits. The interviewed organizations experienced the following benefits, which are not quantified for this study:

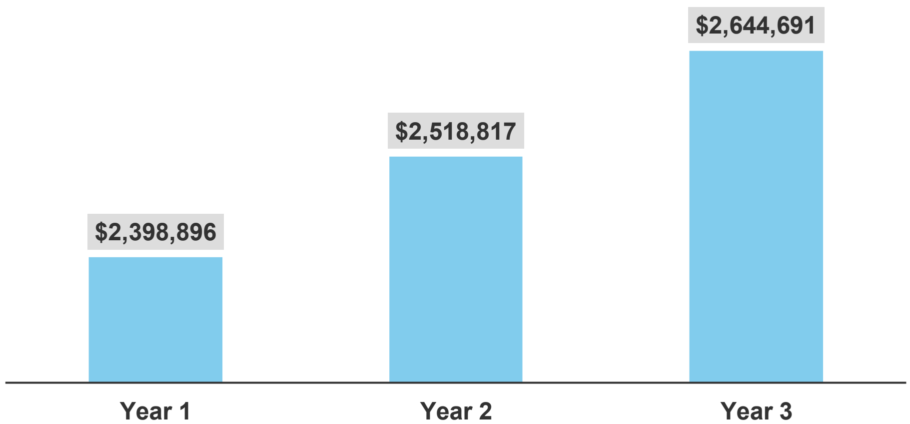
- **Customer experience and reputation benefits.** According to customers, Vindicia Select protects brand value. All customers explained that cutting off service to a user is a last resort. When organizations are forced to take this step, it creates a negative experience for the user. In some cases, personally valuable user data (e.g., stored videos and images) may be deleted. In others, customers may receive unwelcome phone calls from account representatives, reminding them of past-due payments.
- **Not having to acquire a new customer to maintain revenue.** If a company can't retain existing customers, it needs to continually invest in finding new customers. This quickly becomes expensive and unsustainable. Therefore, it makes much more sense to invest in customer retention rather than customer acquisition, where possible.

Costs. Fees paid to Vindicia, which are charged as a percentage of revenue for each transaction recovered, have already been subtracted from the benefit total (see Analysis Of Fees And Chargebacks section). The analysis revealed the following additional costs:

- **Planning, implementation, and ongoing management costs for Vindicia Select totaling $79,665.** The composite organization incurred costs for the creation of best practices documentation, execution of minor technical projects, and development of key performance metrics for Vindicia Select as well as the ongoing management of the Vindicia Select platform.

- **Credit card processing fees associated with additional authorization attempts totaling $57,032.** The composite organization incurred nominal credit card processing fees for the additional authorization attempts associated with its use of Vindicia Select. On average, Vindicia Select retries a terminally failed payment transaction three times. For each authorization attempt, the composite organization pays a payment solutions provider a fee $0.028.

Revenue From Recovered Payment Transactions Over Three Years*



*Figures shown are net revenue after a conservative 50% revenue share and applicable adjustments are applied.

FORRESTER®

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 Vindicia Select.

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 Vindicia Select can have on an organization:

DUE DILIGENCE
Interviewed Vindicia stakeholders and Forrester analysts to gather data relative to Vindicia Select.

CUSTOMER INTERVIEWS
Interviewed five organizations using Vindicia Select 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 Vindicia Select'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 Vindicia 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 Vindicia Select.

Vindicia 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.

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

The Select Customer Journey

BEFORE AND AFTER THE SELECT INVESTMENT

Interviewed Organizations

For this study, Forrester conducted five interviews with Vindicia Select customers. Interviewed customers include the following:

INDUSTRY	ANNUAL REVENUE	INTERVIEWEE	MONTHLY RECURRING TRANSACTIONS
B2C and light commercial software solutions	$4 billion	Manager of global payments	3 million
Media and publishing	$3 billion	Senior director of engineering	2.5 million
B2C and light commercial web solutions	$1 billion	Director of global payments	3.5 million
B2C and light commercial software solutions	> $100 million	Director of financial operations	150,000
Consumer goods	< $100 million	Chief technology officer	30,000

Key Challenges

The following challenges served as key drivers in the decision to invest in Vindicia Select:

- **Preventing involuntary customer churn.** Despite their best efforts, customers experienced high rates of involuntary churn. On the front end, customers employed industry-standard payment form validation and fraud prevention techniques. They also used a card updater service, which ensured that changes to a card account (e.g., issuance of a new card to replace an expired card) didn't result in a payment failure. After a transaction failure, they conducted a series of retries, using retry logic developed in-house, in parallel with customer outreach efforts. Yet, for a substantial number of failed transactions, neither method was successful in reestablishing the billing relationship.
- **Finding new ways to prevent payment failures.** Billing operations teams are tasked with continually improving the success rate of recurring-payment transactions. In some cases, however, they are limited in what they can do. While asking for a backup form of payment from a customer at signup, for example, will ensure a lower failure rate, it makes for a poor customer experience, according to the director of global payments for a provider of B2C and light commercial software solutions.

"We rely on Vindicia Select as a revenue generator because it increases our billing success rate. [Another business unit] just launched Select, and they would absolutely say that they now rely on it. It is a revenue generator. If you're using CashBox or you're only using Select, it's a very good billing resource."

Manager of global payments, B2C and light commercial software solutions

- **Retaining customers who find value in subscription products and services.** Users whose payments fail haven't made a conscious decision to cancel their subscriptions. In many cases, they may not even be aware of issues with their preferred payment method. It's common, according to one interviewee, for longstanding customers to forget to update their contact details, making it difficult for the company to alert them to issues with a card on file. The manager of global payments for a provider of B2C and light commercial software solutions explained the importance of retaining customers who haven't actively cancelled a subscription: "If they're not calling in and cancelling, you know more or less that they want to stay. If you can retain them, our [average subscription length] is quite long; it's several years."
- **Ensuring continuity of service for customers.** Customers explained how Vindicia Select provided them with an alternative to discontinuing service for a customer. According to interviewees, there is no reason to assume that customers whose payment methods fail are ready to discontinue the service. Suddenly discontinuing it, and deleting a customer's data, can cause long-term damage to the customer relationship and even the brand, said the director of financial operations for a software solutions company that stores valuable personal data for users.

> "Any additional pennies that can be squeezed out of customer acquisition make a big difference."
>
> *Chief technology officer, consumer goods company*

Key Results

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

- **Recovery of a significant number of billing relationships.** The Vindicia Select customers interviewed for this study used the technology to recover significant numbers of terminally failed payment transactions. One customer reported recovering revenues totaling more than $500,000 per month that would otherwise be lost to involuntary churn. Another customer, whose payment failure rate hovers just above 10%, reported recovering as many as 36% of all terminally failed transactions with Vindicia Select. However, because average subscription lengths are long, users that have been recovered through Vindicia Select continue to pay merchants for the service for months or years, contributing to a lift in average customer lifetime value (CLV).
- **Less pressure on billing teams.** Billing operations teams are given quotas for payment success rates. Because Vindicia Select can automatically recover terminally failed transactions, it reduces the pressure these teams face to optimize payment success rates. One customer indicated that Vindicia Select frees up at least 80 hours per month that would otherwise be dedicated to projects targeted at improving the billing success rate.
- **Little to no impact from chargebacks.** Customers explained that the chargeback rate for Vindicia Select transactions is typically higher than the overall average across all transactions. However, they added that the number of chargebacks on Vindicia Select transactions is immaterial as a percentage of total transactions and that the reward far outweighs any potential risk.

> "We're collecting $400K to $500K a month that we wouldn't otherwise collect. The way our process works, we have tried all our tricks [by the time transactions are sent to Vindicia Select]. They've gone through our recycle process, and we weren't successful."
>
> *Director of global payments, B2C and light commercial software solutions*

> "If they're not calling in and cancelling, you know more or less that they want to stay. If you can retain them, our [average subscription length] is quite long; it's several years."
>
> *Manager of global payments, B2C and light commercial software solutions*

- **Little to no negative impact on the customer experience.** Prior to onboarding Vindicia Select, billing operations teams worried that transaction recovery techniques such as capture without matching authorization might negatively impact customers. They prepped customer service teams for an increased volume of support calls. They later learned that these concerns were unfounded.
- **Greater visibility into payments metrics.** Customers using Vindicia CashBox alongside Vindicia Select gained greater visibility into payment metrics such as CLV on an individual and cohort basis.

Composite Organization

The composite organization is representative of the five companies that Forrester interviewed for this case study 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:

Composite description. The composite organization is a provider of digital services and solutions used by individual and small business customers. It has total annual revenues of approximately $1 billion; 75% of this total comes from subscription-based products and services. The organization operates in a competitive industry, with high customer acquisition costs and in multiple countries and currencies. Extending the customer lifetime is a key priority.

The composite organization's billing and payments operations. The composite organization's billing operations are well optimized, yet it still loses a significant number of customers each year to involuntary churn — i.e., billing relationships that are interrupted due to payment failures. It relies on industry-standard best practices to reduce the likelihood of payment failures. These measures include payment form validation and the use of a credit card updater service, which tracks changes to credit card accounts (e.g., card expiration and replacement) that may result in a payment failure for a stored card. It also has in place sophisticated practices aimed at retaining customers once their payment methods result in terminally failed transactions. When a payment failure occurs, the company retries transactions using best practice retry logic. At the same time, it conducts outreach to customers via email and phone. These processes are highly automated.

How the composite organization uses Vindicia Select. Vindicia Select is used in business units that own 75% of all recurring payment transactions. Each day, terminally failed payment transactions transfer to Vindicia Select, where Vindicia attempts to recover the billing relationship for a period of 72 hours.

Key assumptions

● $1 billion in annual revenue

● 75% of total revenue comes from subscription business

● More than 2.5 million customers

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 from recovered payment transactions (annual)	$2,398,896	$2,518,817	$2,644,691	$7,562,404	$6,249,477
Btr	Revenue from extended customer lifetime (annual)	$27,028,032	$28,379,136	$29,798,688	$85,205,856	$70,412,965
	Total benefits (risk-adjusted)	$29,426,928	$30,897,953	$32,443,379	$92,768,260	$76,662,442

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 $76.7 million.

Revenue From Recovered Payment Transactions

Customers reported that Vindicia Select recovered a significant number of terminally failed transactions each month, allowing them to capture revenue that would otherwise be lost.

Transaction failure rates varied from customer to customer, as did the success rate for recovering failed transactions via customer outreach and retry logic developed in-house. However, across the board, customers described significant improvements in their ability to recover terminally failed transactions, owing to Vindicia Select.

- The director of global payments for a B2C and light commercial web solutions provider told Forrester that Vindicia Select enables the organization to recover 10% to 15% of its terminally failed transactions each month; these transactions are worth upwards of $500,000 per month.
- The manager of global payments for a $4 billion B2C and light commercial software solutions provider reported that Vindicia Select recovers 15% to 20% of the company's terminally failed transactions.
- The senior director of engineering for a $3 billion media and publishing company told Forrester that Vindicia Select consistently recovers upwards of 36% of all terminally failed transactions.

The following assumptions are represented in the financial model:

- In Year 1, the composite organization has 2.5 million subscribers. In years 2 and 3, the total subscriber count grows by 5%.
- Vindicia Select is used in business units that own 75% of all recurring payment transactions.
- On average, 13% of recurring payment transactions fail each month.
- On its own, the composite organization can consistently recover 55% of the transactions that fail each month, owing to its sophisticated retry logic and customer outreach strategies.

The following factors may impact other organizations' realization of this benefit category:

- Payment methods particular to an industry, geography, or customer segment.

Even customers who said they had sophisticated transaction recovery protocols consistently recovered 10% to 15% of terminally failed transactions with Vindicia Select.

- The length of the Vindicia Select retry cycle. (For the composite organization, the retry cycle is 72 hours. Typically, longer retry cycles will yield a greater number of successful transactions.)
- The number of chargebacks on successfully recovered transactions.
- The types of retry strategies employed via Vindicia Select.

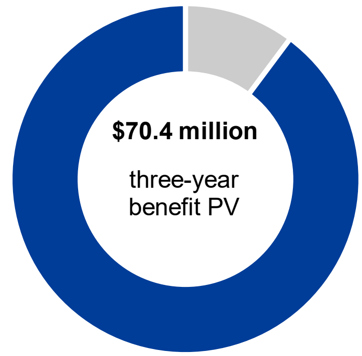
To account for these risks, Forrester applied a 10% risk adjustment, yielding a three-year, risk-adjusted total PV of $6,249,477.

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.

Revenue From Recovered Payment Transactions: Calculation Table

REF.	METRIC	CALC.	YEAR 1	YEAR 2	YEAR 3
A1	Monthly transactions from subscription business		1,875,000	1,968,750	2,067,188
A2	Percentage of transactions that fail		13%	13%	13%
A3	Failed transactions (monthly)	A1*A2	243,750	255,938	268,734
A4	Percentage of transactions recovered via internal methods		55%	55%	55%
A5	Number of transactions recovered via internal methods (monthly) (rounded)	A3*A4	134,063	140,766	147,804
A6	Percentage of remaining failed transactions recovered via Vindicia Select (monthly)		18%	18%	18%
A7	Number of transactions recovered via Vindicia Select (rounded)	(A3-A5)*A6	19,744	20,731	21,767
A8	Average order value		$25.00	$25.00	$25.00
A9	Gross value of recovered transactions (monthly) (rounded)	A7*A8	$493,600	$518,275	$544,175
A10	Revenue share fees and other applicable adjustments (monthly)		$271,480	$285,051	$299,296
At	Revenue from recovered payment transactions (annual)	(A9-A10)*12	$2,665,440	$2,798,685	$2,938,545
	Risk adjustment	↓10%			
Atr	Revenue from recovered payment transactions (annual) (risk-adjusted)		$2,398,896	$2,518,817	$2,644,691

Revenue From Extended Customer Lifetime



Revenue from extended customer lifetime: 92% of total benefits

According to customers, the greatest benefit of Vindicia Select is not in the initial recovery of a terminally failed payment transaction but in capturing the subscription-based revenue over the customer lifetime that would otherwise be lost. "In most cases, we're keeping those customers [recovered by Vindicia Select] for an additional year. We're pretty confident that without [Vindicia Select] we wouldn't collect those payments," said the director of global payments for a B2C and light commercial software solutions provider.

The following assumptions are represented in the financial model:

- The number of customers retained each month (B1) is the number of transactions recovered each month with Vindicia Select (A7) less those that initiate chargebacks (C4).
- On average, a customer subscription lasts 18 months. When the initial payment failure occurs, that subscription is 60% complete.
- Revenue recovered in month 1 is accounted for in the previous benefit category; this revenue is excluded from the customer lifetime value calculation by subtracting one month from the post-recovery customer lifetime (see B2).

The following factors may impact other organizations' realization of this benefit category:

- The percentage of customers whose payment methods fail repeatedly after an initial failed payment transaction that is recovered by Vindicia Select.
- The average subscription length, which is related to a company's ability to retain its customers apart from billing and payments concerns.
- The percentage of the customer relationship that is complete when the transaction failure occurs.

To account for these risks, Forrester applied a 20% risk adjustment, yielding a three-year, risk-adjusted total PV of $70,412,965.

Revenue From Extended Customer Lifetime: Calculation Table

REF.	METRIC	CALC.	YEAR 1	YEAR 2	YEAR 3
B1	Customers retained each month (rounded)	A7 - 8% chargebacks	18,164	19,072	20,026
B2	Months remaining at transaction failure point		6.2	6.2	6.2
B3	Average order value		$25.00	$25.00	$25.00
B4	Lifetime value of transactions recovered in monthly cycle	B1*B2*B3	$2,815,420	$2,956,160	$3,104,030
Bt	Revenue from extended customer lifetime (annual)	B4*12	$33,785,040	$35,473,920	$37,248,360
	Risk adjustment	↓20%			
Btr	Revenue from extended customer lifetime (annual) (risk-adjusted)		$27,028,032	$28,379,136	$29,798,688

Unquantified Benefits

Customers discussed the following benefits of Vindicia's technology. However, these benefits were not quantified as part of the analysis.

- **Customer experience and reputation benefits.** Customers explained how Vindicia Select protects brand value. All customers explained that cutting off service to a user is a last resort. When organizations are forced to take this step, it creates a negative experience for the user. In some cases, personally valuable user data may be deleted. In others, customers may receive unwelcome phone calls from account representatives, reminding them of past-due payments. Yet, the value to the brand is difficult to quantify.
- **Not having to acquire a new customer.** If a company can't retain existing customers, it needs to continually invest in finding new customers. This quickly becomes expensive and unsustainable. Therefore, it makes much more sense to invest in customer retention rather than customer acquisition, where possible.

Cutting off service to a user is a last resort. According to customers, Vindicia Select improves the user experience by ensuring continuity of service for those whose payment methods failed.

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 Vindicia Select and later realize additional uses and business opportunities, including:

- **Deploying Select more broadly across business units and geographies.** Customer organizations comprise multiple business units, many of them gained through acquisition, and billing and payments infrastructure isn't universally shared. (One customer had up to 19 different business units, each with its own billing and payments infrastructure.) Seeing the success some business units have enjoyed with Vindicia Select, additional business units within customer organizations plan to integrate it into their billing programs. The ramp-up in the transaction recovery rate for these additional business units will be much faster, according to interviewees, since they can leverage learnings from their peers.
- **Ensuring the viability of a business.** In some cases, Vindicia Select may make the difference between a business that is healthy and viable and one that is not. High customer churn rates, coupled with high customer acquisition costs, can make it difficult for a business to sustain itself. Limiting involuntary churn improves customer retention and ensures that investments into customer acquisition go toward growing the business.
- **Optimizing acquired assets.** Several of the customer organizations interviewed for this study frequently acquire new businesses. Like their core businesses, acquired businesses often utilize subscription-based billing models. Vindicia Select enables acquiring organizations to significantly and immediately improve customer retention rates as they onboard new businesses, according to interviewees.

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 do so.

FORRESTER®

Analysis Of Fees And Chargebacks

For each transaction recovered with Vindicia Select, customers share a percentage of the recovered revenue with Vindicia. In a limited number of instances, recovered transactions result in chargebacks.

- **The 50% revenue share rate shown in the financial model is used to produce a conservative estimate of the impact of Vindicia Select; revenue share agreements are negotiated with Vindicia on a case-by-case basis and depend on volume and cost of goods sold, among other factors.**
- **Fees as well as adjustments for chargebacks, as calculated for the composite organization, are subtracted from the benefit total in the Revenue From Recovered Payment Transactions: Calculation Table. (See A10)**

The financial model is based on the following assumptions:

- For each transaction recovered with Vindicia Select, the composite organization shares 50% of the recovered revenue with Vindicia.
- Among the transactions recovered by Vindicia Select, 8% result in chargebacks.
- Approximately 75% of all chargebacks for transactions recovered with Vindicia Select occur within 15 days, and Vindicia issues a refund for fees assessed on these transactions. The refund offsets the net fees paid to Vindicia (see C8).

The following factors may impact costs that other organizations incur:

- The total number of chargebacks.
- The percentage of chargebacks that occur within 15 days (or the contracted period with Vindicia during which the company will refund fees associated with chargebacks).

Transactions are sent to Vindicia Select only after customers have already tried and failed to recover the transaction via internal processes. Therefore, customers view any revenue collected by Vindicia as revenue that would otherwise be lost.

Analysis Of Fees And Chargebacks: Calculation Table						
REF.	**METRIC**	**CALC.**	**INITIAL**	**YEAR 1**	**YEAR 2**	**YEAR 3**
C1	Gross value of recovered transactions (monthly) (rounded)	A9		$493,600	$518,275	$544,175
C2	One-time revenue share with Vindicia for transaction recovery			50%	50%	50%
C3	Gross fees paid to Vindicia for recovered transactions (monthly)	C1*C2		$246,800	$259,138	$272,088
C4	Percentage chargebacks on recovered transactions			8%	8%	8%
C5	Gross value of chargebacks (monthly)	C1*C4		$39,488	$41,462	$43,534
C6	Percentage of chargebacks that occur within 15 days (rounded)			75%	75%	75%
C7	Refund on fees for chargebacks that occur within 15 days (rounded)			$14,808	$15,548	$16,325
C8	Net fees paid to Vindicia for recovered transactions (monthly)	C3-C7		$231,992	$243,589	$255,762
Ct	Adjustment to recovered revenue for fees and chargebacks (monthly)	C5+C8	$0	$271,480	$285,051	$299,296

Analysis Of Additional Costs

QUANTIFIED COST DATA AS APPLIED TO THE COMPOSITE

Total Additional Costs

REF.	COST	INITIAL	YEAR 1	YEAR 2	YEAR 3	TOTAL	PRESENT VALUE
Dtr	Planning, implementation, and ongoing management of Vindicia Select	$69,552	$4,066	$4,066	$4,066	$81,751	$79,665
Etr	Credit card processing fees associated with additional authorization attempts (annual)	$0	$21,892	$22,987	$24,135	$69,014	$57,032
	Total costs (risk-adjusted)	$69,552	$25,959	$27,053	$28,202	$150,765	$136,697

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 $136,697.

Planning, Implementation, And Ongoing Management Of Vindicia Select

All of the customers interviewed for this study described the process of deploying Vindicia Select as quick and inexpensive. Customers using CashBox indicated that they simply “flipped a switch” to enable Vindicia Select. Those using other billing platforms undertook minor technical projects. Several of the customer organizations also dedicated internal resources to user journey-mapping exercises prior to deploying Vindicia Select. In particular, they enacted plans to address support questions from users, which they anticipated might arise from use of transaction recovery techniques such as forced authorization.

The following assumptions are represented in the financial model:

- Planning and implementation activities spanned eight weeks.
- Producing internal documentation on best practices related to Vindicia Select required 16 hours from one operations analyst.
- Technical implementation activities required a 70% commitment from two product managers and two developers over the course of the eight-week period.
- Developing key performance indicators (KPIs) for Vindicia Select required a four-day commitment from two operations analysts.
- The average hourly rate of resources is calculated using fully burdened salary estimates provided by Payscale.com. Operations analysts, product managers, and developers are compensated at $71,500, $118,300, and $143,000, respectively.
- Ongoing management of the platform, which includes analysis and auditing of transactions processed through Vindicia Select, requires a 5% commitment from one operations analyst throughout the year.

The following factors may impact costs other organizations incur:

- The length of the Vindicia Select retry cycle. (Typically, longer retry cycles will yield a greater number of successful transactions.)

All of the customers interviewed for this study described the process of deploying Vindicia Select as quick and inexpensive.

Implementation risk is the risk that a proposed investment may deviate from the original or expected requirements, resulting in higher costs than anticipated. The greater the uncertainty, the wider the potential range of outcomes for cost estimates.

› The most prevalent underlying reasons for payment transaction failures.

To account for these risks, Forrester applied a 15% upward risk adjustment, yielding a three-year, risk-adjusted total PV of $79,665.

Planning, Implementation, And Ongoing Management Of Vindicia Select: Calculation Table

REF.	METRIC	CALC.	INITIAL	YEAR 1	YEAR 2	YEAR 3
D1	Number of staff resources involved in planning and implementation		7			
D2	Average hourly rate of resources		$60			
D3	Average number of hours devoted to planning and implementation activities per resource per week		18			
D4	Number of weeks		8			
D5	Total planning and implementation costs	D1*D2*D3*D4	$60,480			
D6	Operations analysts dedicated to ongoing management of platform	Assume 2,080 working hours per analyst, per year		1	1	1
D7	Percentage of time dedicated to ongoing management of platform			5%	5%	5%
D8	Operations analyst hourly rate			$34	$34	$34
D9	Total cost associated with ongoing management of platform	2,080*D7*D8		$3,536	$3,536	$3,536
Dt	Planning, implementation, and ongoing management of Vindicia Select	D5+D9	$60,480	$3,536	$3,536	$3,536
	Risk adjustment	↑15%				
Dtr	Planning, implementation, and ongoing management of Vindicia Select (risk-adjusted)		$69,552	$4,066	$4,066	$4,066

Credit Card Processing Fees Associated With Additional Authorization Attempts

Customers incurred nominal credit card processing fees for the additional authorization attempts associated with their use of Vindicia Select.

The following assumptions are represented in the financial model:

› On average, Vindicia Select retries a terminally failed payment transaction three times.

› For each authorization attempt, the composite organization pays a payment solutions provider a fee of $0.028.

The following factors may impact costs that other organizations incur:

› The length of the Vindicia Select retry cycle. (Typically, longer retry cycles will yield a greater number of successful transactions.)

› The vendor-negotiated credit card processing fee.

FORRESTER®

- The most prevalent underlying reasons for payment transaction failures.

To account for these risks, Forrester applied a 10% upward risk adjustment, yielding a three-year, risk-adjusted total PV of $57,032.

Credit Card Processing Fees Associated With Additional Authorization Attempts: Calculation Table

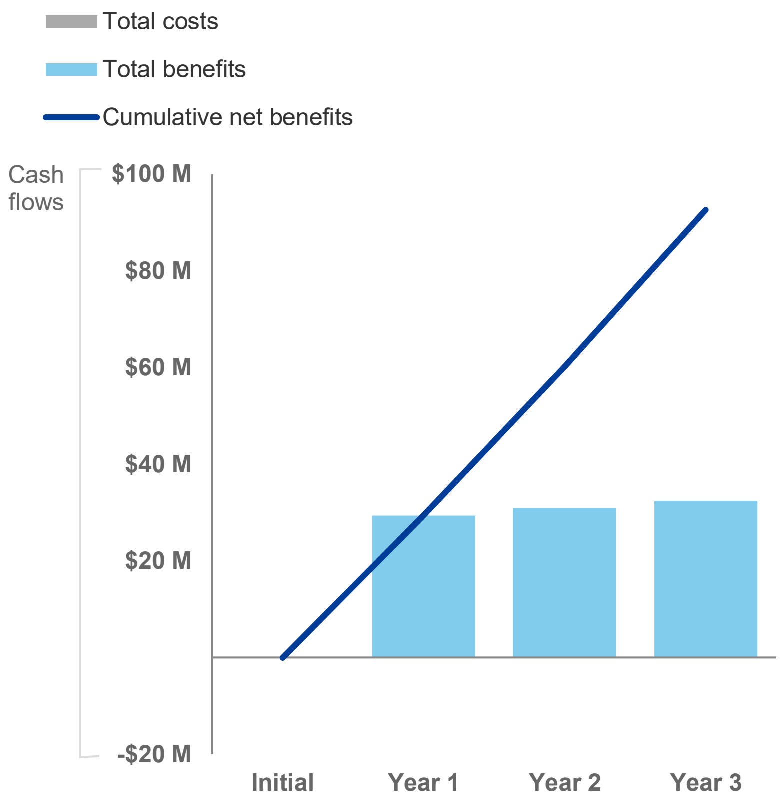
REF.	METRIC	CALC.	INITIAL	YEAR 1	YEAR 2	YEAR 3
E1	Number of transactions recovered via Vindicia Select (monthly) (rounded)	A7		19,744	20,731	21,767
E2	Average number of retry attempts to recover transaction			3	3	3
E3	Credit card processing fees for each authorization attempt			$0.0280	$0.0280	$0.0280
Et	Credit card processing fees associated with additional authorization attempts (annual)	E1*E2*E3*12		$19,902	$20,897	$21,941
	Risk adjustment	↑10%				
Etr	Credit card processing fees associated with additional authorization attempts (annual) (risk-adjusted)		$0	$21,892	$22,987	$24,135

FORRESTER®

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.

The risk-adjusted NPV and payback period values are determined by applying risk-adjustment factors to the unadjusted results in each Benefit and Cost section.

Cash Flow Table (Risk-Adjusted)

	INITIAL	YEAR 1	YEAR 2	YEAR 3	TOTAL	PRESENT VALUE
Total costs*	($69,552)	($25,959)	($27,053)	($28,202)	($150,765)	($136,697)
Total benefits	$0	$29,426,928	$30,897,953	$32,443,379	$92,768,260	$76,662,442
Net benefits	($69,552)	$29,400,969	$30,870,900	$32,415,177	$92,617,495	$76,525,745

*All fees paid to Vindicia for transaction recovery are subtracted directly from total benefits.

Vindicia Select: Leveraging Data Insights to Recover Failed Transactions

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

Vindicia Select utilizes machine learning, subscription intelligence, and sophisticated algorithms to address the problem of payment card declines, automatically resolving up to 30% of failed payment transactions that other strategies are unable to recapture. Select helps clients that offer products or services on a subscription basis to reduce passive churn, increase revenue by up to 3% to 6%, and extend customer lifetime value.

Select is a non-invasive, automated software-as-a-service (SaaS) solution that is easy and rapid to deploy. The solution requires little IT involvement and minimal modification of existing billing systems. Select complements the client's existing billing workflows without disruption.

Once failed transactions are fed into Select, the solution leverages data insights to evaluate the reason for a transaction failure and then automatically applies proprietary business rules, machine learning, and smart logic to resolve the underlying issue. When re-presented, the transaction completes successfully, sending funds straight into the client's bank account.

Vindicia Select benefits go beyond the recovered revenue from the failed transactions. In most cases, once the initial reason for failure has been resolved, it will not recur in future billing cycles. After Select successfully captures the transaction, clients see income from all future billings as they continue to use Select.

Benefits of Vindicia Select

- Reduce passive churn by as much as 30%.
- Increase overall customer retention by as much as 5%.
- Boost revenue by as much as 5% immediately, with even higher gains as many retained customers continue to subscribe over the long term.
- Improve customer lifetime value without increasing customer-service spending.
- Enhance customer satisfaction by keeping customers connected to the services they choose.

The Vindicia Network Effect

The unique analysis that Select applies to failed transactions is derived from what Vindicia calls the "Network Effect." With over 15 years in the global subscription and payment business, Vindicia has processed massive volumes of data. The company has processed over $29 billion in recurring payments, involving 600 million transactions, 191 million payment accounts, and 250 million digital accounts.

These transactions cover a huge range of payment methods, card networks, and banks from around the world. The Network Effect of this vast and varied data set, coupled with smart logic and machine learning methodologies, enables Vindicia experts to derive actionable insights and best practices that no merchant or service provider can achieve on its own.

Vindicia CashBox

In addition to Vindicia Select, Vindicia also offers CashBox, a complete SaaS billing platform for subscription business success. CashBox is the ideal solution for recurring-revenue businesses because it supports all aspects of the subscription business life cycle, including:

- **Acquire:** Cost-effectively attract and convert new subscribers. Add agility to the creation of products and promotions, fine-tune campaigns, and rapidly bring them to market.
- **Bill:** Deliver the pricing options and frictionless subscription billing platform that today's customers expect, while supporting reporting, revenue recognition, and other financial processes.

- **Retain:** Measurably minimize all types of churn. Automatically resolve declined transactions, prevent passive churn, extend customer lifetime value, and boost long-term revenue streams.
- **Expand:** Grow revenues by upselling, cross-selling, and rapidly expanding into new geographies, new products, and new lines of business.
- **Succeed:** Learn from Vindicia consultants who will share industry benchmarking data, best practices, and revenue-enhancing ideas.

About Vindicia

Vindicia, an Amdocs company, offers comprehensive subscription management solutions that help businesses acquire and retain more customers across the globe. Providing much more than just a billing and payments system, the company's SaaS-based subscription management solutions combine big data analysis, strategic consulting, and proprietary retention technology. Vindicia provides its clients with more recurring revenue, more customer data, better insights, and greater value throughout the entire subscriber life cycle. That's why they call Vindicia "the Subscription People." To learn more, visit www.vindicia.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.

Appendix B: Endnotes

[1] As much as 37% of all marketing dollars at B2C companies are spent on new customer acquisition. Source: Forrester Analytics Global Business Technographics® Marketing Survey, 2016, Forrester Research, Inc.
[2] Source: “The Definitive Technology Guide To Recurring Revenue Models,” Forrester Research, Inc., March 6, 2018.
[3] “Involuntary” churn refers to customer attrition resulting from reasons apart from customers’ own volition. Ibid.