A Forrester Total Economic Impact™
Study Commissioned By Kryon
May 2020

The Total Economic Impact™ Of Kryon Full-Cycle Automation

Cost Savings And Business Benefits Enabled By Full-Cycle Automation

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ABOUT FORRESTER CONSULTING

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Benefits And Costs

Improved productivity:
$7.77 million

Improved onboarding and training efficiency:
$3.37 million

Reduced internal support costs:
$1.77 million

Executive Summary

While robotic process automation (RPA) has seen tremendous uptake in recent years, growing an estimated four-fold in the past three years alone, many organizations still find it a struggle to scale up their RPA practices. A recent Forrester study found that only 52% of firms using RPA have grown their digital workforce to more than 10 bots.

One of the key challenges for organizations looking to scale their RPA practice is discovering and implementing repetitive, rules-based processes that are considered the "sweet spot" for bot workers. The traditional approach to process identification is long, and it typically involves multiple observation and interview sessions with end users to discover and map out these processes before a bot can be scripted to perform them.

Kryon provides robotic process automation complemented with a Process Discovery module, which deploys Discovery Robots on user desktops to collect data on how users perform daily processes. Those daily processes are then analyzed to identify the best candidates for automation. Kryon describes the combined capabilities of RPA with its Process Discovery digital worker analytics tool as Full-Cycle Automation. Kryon commissioned Forrester Consulting to conduct a Total Economic Impact™ (TEI) study and examine the potential return on investment (ROI) enterprises may realize by deploying this solution. This study provides readers with a framework to evaluate the potential financial impact of Kryon's Full-Cycle Automation solution on their organizations.

To better understand the benefits, costs, and risks associated with this investment, Forrester interviewed two customers with several years of experience using Kryon's RPA solutions. The first, Wyndham Hotels & Resorts, uses attended RPA to provide just-in-time guidance for its frontline staff. The second customer, LTCG, uses unattended RPA to augment its workforce and improve operational efficiencies. Both organizations had been using Kryon RPA software for some time before introducing Process Discovery a year ago.

To create a financial model that was applicable to both organizations, several characteristics of the two interviewed customers were blended to form a representative composite organization. The key findings presented below apply to this composite organization.

Key Findings

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

- **Increased productivity.** Unattended RPA is best applied to high-volume, often-repeated processes, including, but not limited to: data processing, periodic report preparation, invoice processing, data verification, etc.[1] One of the interviewed organizations reported gross annual time savings of 5,400 hours when unattended bots were introduced to a team of approximately 100 workers. Assuming a similar proportion of time savings, the composite organization — with a workforce of 30,000 employees — would be able to save 584,730 hours over a three-year period, which comes to a savings of $7.77 million in present terms.

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ROI
352%

Benefits PV
$12.9 million

NPV
$10.0 million

› **Improved onboarding and training efficiency.** Attended bots are typically deployed on employees' workstations to either help with their performance or to guide them through specific tasks.[2] One of the interviewed organizations shared that they applied this scenario to facilitate the onboarding and training for new frontline staff. Instead of in-person trainings, they were able to transition to bot-assisted training that was delivered virtually. In addition, bots were also deployed onto frontline workstations to provide "just-in-time" training, should any newly hired workers encounter issues on the job. With these deployments of attended RPA, the interviewee reduced training time by 40% and avoided training-related travel costs of $3.37 million over three years.

› **Reduced internal support costs.** The real-time, on-screen capabilities of Kryon's bot guidance helped to reduce the number of internal help-desk support calls frontline staff made by 50%. With an average cost per support ticket of $20, this translates into a cumulative cost savings of $1.77 million over three years.

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

› **Improved employee engagement.** Automating various mundane tasks freed up capacity for employees to work on added-value activities, improving the employees' experiences by making their jobs more engaging.

› **Shift towards an automation-oriented culture.** Both interviewees introduced roadshows and incentive programs to familiarize employees with how RPA can be integrated into their work lives. Instead of worrying that their jobs will be taken over by robots, employees receive incentives for their contribution towards the organization's RPA program — namely, by making suggestions on processes that are suitable for automation. This drives a culture of innovation and openness towards automation, and also inspires employees to think creatively and act on perceived inefficiencies.

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

› **Service fees and other external costs.** These service fees include bot license fees payable to Kryon, as well as the costs of provisioning additional servers and virtual machines to host the bots. The service fees for Full-Cycle Automation are estimated to be $1.52 million over three years, while hardware costs over the three years are estimated at $72,893.

› **Internal RPA management costs.** In order to successfully deploy and maintain the RPA solution, it is estimated that 64 RPA developer hours are needed to: 1) identify and map a process with the end user and 2) develop and maintain the automation script. An additional 30 hours are needed to maintain and update the bot in each subsequent year. The resource costs for managing Kryon's Full-Cycle Automation are $1.26 million over three years.

Forrester's interviews with two existing customers and that subsequent financial analysis found that an organization which is based on these interviewed organizations, i.e., having an investment in Full-Cycle Automation, would yield benefits of $12.9 million over three years versus costs of $2.9 million, adding up to a net present value (NPV) of $10 million and an ROI of 352%.

The Impact of Process Discovery

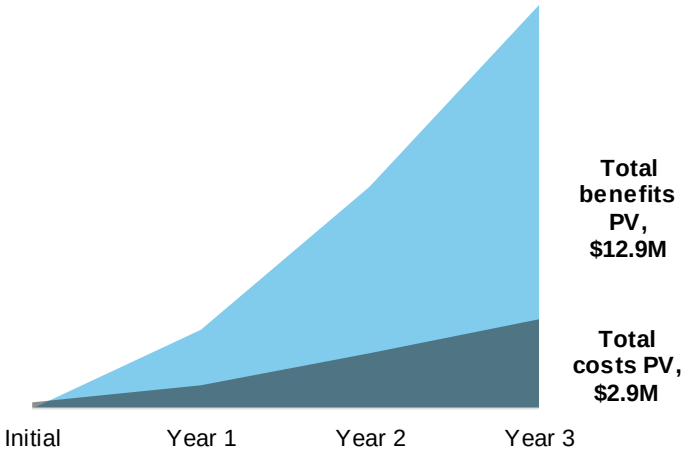
With both customers previously deploying standard RPA before introducing Process Discovery later on, the interviews were able to provide enough information to make a full comparison between the incremental impact of upgrading to Kryon Full-Cycle Automation from RPA.

By introducing Process Discovery to aid in identifying business processes that are ideal for automation, the interviewed organizations were able to:

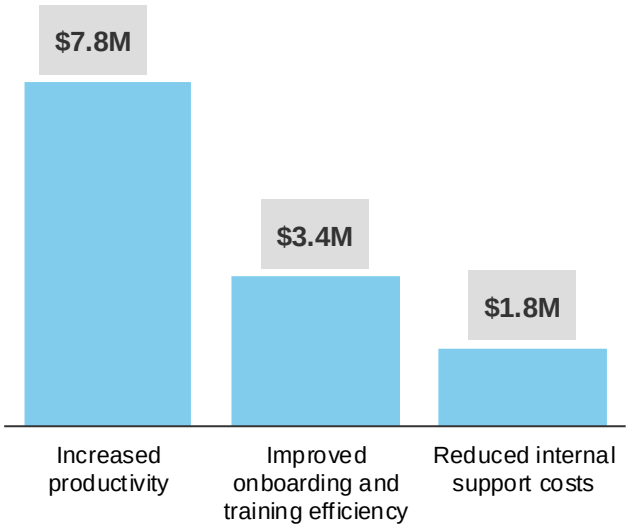
- Identify and automate 75% more processes through unattended RPA.
- Reduce time spent on identifying and mapping each process by 80%.
- Reduce time spent on developing each automation process by 50%.
- Reduce time spent on maintaining bots by 50%.

The full financial impact of Full-Cycle Automation vs RPA is compared and presented in Appendix B.

Financial Summary



Benefits (Three-Year)



Is this study improving your understanding of how to build a business case for adopting Kryon?

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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 Kryon Full-Cycle Automation.

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 Kryon Full-Cycle Automation can have on an organization:

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

DUE DILIGENCE
Interviewed Kryon stakeholders and Forrester analysts to gather data relative to Full-Cycle Automation.

CUSTOMER INTERVIEWS
Interviewed two organizations using Full-Cycle Automation 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 Kryon Full-Cycle Automation'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 Kryon 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 Kryon Full-Cycle Automation.

Kryon 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.

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

The Full-Cycle Automation Customer Journey

BEFORE AND AFTER THE FULL-CYCLE AUTOMATION INVESTMENT

Interviewed Organizations

For this study, Forrester conducted two interviews with Kryon customers:

COMPANY NAME	INDUSTRY	INTERVIEWEE	NUMBER OF EMPLOYEES	SCOPE OF RPA DEPLOYMENT
Wyndham Hotels & Resorts	Travel	Vice president, hotel technology and client support	30,000 employees	Attended RPA at the front desk; unattended RPA in back-end operations
LTCG	Insurance	Vice president, operations	1,300 employees	Unattended RPA in back-end operations

Both customers had been using Kryon RPA for several years before integrating Process Discovery approximately one year ago, as it was newly released.

Key Drivers For RPA Adoption

Prior to adopting Kryon RPA, both organizations relied on manual labor to complete all workloads. Where necessary, part-time hires were used to supplement the core workforce. While there were no specific downsides to this, both organizations were looking for ways they could improve operational efficiency through:

- Optimizing workflows and business processes.
- Reducing overall time spent on tasks to improve customer service.
- Reducing mundane and/or time-consuming workloads for employees.

> "Some of the key results we've seen since the Kryon deployment are reduced errors, reduced expenses, and decreased turnaround time."
>
> *VP, operations, LTCG*

Key Results

The interviews revealed that key results from the Full-Cycle Automation investment include:

- **Higher efficiency in both the back and front offices,** as bots completed tasks 50% to 75% faster than their human counterparts.
- **Improved service levels,** as turnaround time for key processes drastically reduced.
- **Increased employee morale and engagement,** as bots lightened employees' workloads and freed up their time to tackle higher value work.

> "With manual labor, it would have taken us two months to [migrate the data and onboard a newly acquisitioned hotel chain], but we leveraged many of the 100 bots we have and did it over a weekend."
>
> *VP, hotel technology and client support, Wyndham*

Composite Organization

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

- **Description of composite.** The composite organization is a regional bank with 30,000 employees. Its workforce comprises of front-, middle-, and back-office staff. Front-office workers make up 10% of the entire organization. As is typical of the industry, front-office workers are largely part-time hires and there is constant staff turnover.
- **Deployment characteristics.** The composite organization has deployed both attended and unattended RPA. Unattended RPA bots assist back-office staff with a variety of tasks. While there are numerous use cases for attended RPA, the two key use cases for the composite organization are in the training and onboarding of new frontline staff. The composite organization also deployed Process Discovery from the start of implementation.

The composite organization started out its RPA program with a one-year pilot limited to one department. After it was satisfied with the initial success, it set up a center of excellence (CoE) in its second year for the purpose of expanding its automation program by internally promoting awareness and adoption of RPA.

Key assumptions:

- 30,000 employees
- 3,000 front-office staff
- CoE to promote RPA internally

"Before Process Discovery, we were only able to go after the simple cases. It was all done internally, but the effort to go after complex processes was too high. Moving forward most processes will be identified through Process Discovery because we've matured into our abilities."

VP, hotel technology and client support, Wyndham

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	Increased productivity	$851,472	$3,491,035	$5,478,927	$9,821,434	$7,775,617
Btr	Improved onboarding and training efficiency	$1,237,550	$1,359,274	$1,496,358	$4,093,182	$3,372,649
Ctr	Reduced internal support costs	$648,810	$713,610	$784,971	$2,147,391	$1,769,348
	Total benefits (risk-adjusted)	$2,737,832	$5,563,919	$7,760,256	$16,062,007	$12,917,614

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 over $12.91 million.

Increased Productivity

Unattended RPA can be applied to a vast number of use cases in the back office. According to our interviewees, the most common tasks assigned to unattended bots include data processing (i.e., data scraping, extraction, input, transfers, etc.), report preparation, invoice processing, data verification, etc.

Both interviewees reported improvements in the speed of delivery, the accuracy of task completion, and employees' time being freed up for higher value tasks. (Refer to the customer quotes in the sidebar for further accounts detailing specific use cases.)

For the composite organization, Forrester assumes that:

- Unattended RPA is first introduced to departments and/or employees whose jobs involve a lot of manual and repetitive tasks. These jobs represent about 10% of all jobs throughout the entire organization.
- On average, and without automation, the tasks would have taken employees 36 minutes to complete.
- Employees' consistently were able to achieve an average task completion frequency of 10 per day.

It is important to note that organizations will experience varying improvements in productivity, depending not only on the assumptions listed above, but also on the number of suitable processes they manage to identify and automate.

The volume of automated processes, as presented in the table below, assumes the following deployment progression (see reference A1):

- In Year 1, there is a small learning curve as the RPA pilot program is rolled out to a small group of employees. The RPA manager and/or the developers spend a few months upfront working on internal change management and planning how best to tactically deploy the RPA strategy.

"Across our landscape, we see a 75% reduction in processing time between human and bots performing the same tasks."

VP, hotel technology and client support, Wyndham

"We've significantly reduced some of our processes from errors associated with [a system limitation]. We would have spent 500 to 600 hours a year correcting them manually."

VP, operations, LTCG

With the deployment of Process Discovery bots on more workstations, processes can be identified and automated at a quicker pace.

- In Year 2, the RPA deployment expands to the wider organization; although its application is still limited to certain job roles, i.e., more administrative in nature. With the deployment of Process Discovery bots on more workstations, processes can be identified and automated at a quicker pace.
- In Year 3, the RPA program is further expanded. And although there is a slight drop in the number of new automated processes, the organization has matured to the stage where they are exploring the automation of slightly more complex tasks.

To account for these risks and variations, Forrester adjusted this benefit downward by 10%, yielding a three-year, risk-adjusted total PV of $7.78 million.

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.

Increased Productivity: Calculation Table

REF.	METRIC	CALC.	YEAR 1	YEAR 2	YEAR 3
A1	Number of new processes automated	Composite	32	96	68
A2	Total number of processes automated	$A1_{PY}+A1_{CY}$	32	128	196
A3	Average run frequency of each process	Composite	3,650	3,650	3,650
A4	Average time spent on each process by employees (hour)	Composite	0.60	0.60	0.60
A5	Total time savings (hours)	A2*A3*A4	70,080	280,320	429,240
A6	Productivity captured	Assumption	75%	75%	75%
A7	Net time savings (hours)	A5*A6	52,560	210,240	321,930
A8	Average fully loaded hourly wage of employee	Assumption (including 2.5% annual increase)	$18.00	$18.45	$18.91
At	Increased productivity	A7*A8	$946,080	$3,878,928	$6,087,696
	Risk adjustment	↓10%			
Atr	Increased productivity (risk-adjusted)		$851,472	$3,491,035	$5,478,927

Improved Onboarding And Training Efficiency

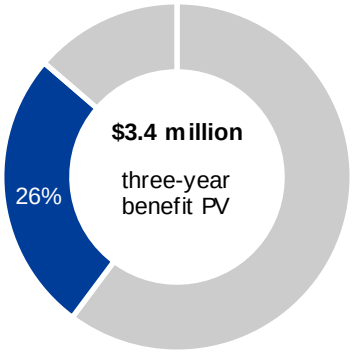
A primary need for one of the interviewed organizations was to be able to train and onboard new frontline employees quickly. With a rapidly expanding business, there was an urgency to get new employees trained swiftly and economically in the organization's processes and operating systems, so that they could serve customers efficiently.

Instead of conducting costly in-person training programs that last one to two weeks, one interviewee shared that, "Bots help us eliminate travel costs, and today we conduct virtual training in 4 to 5 days."

By leveraging Kryon's attended bots, an organization can reassess how they design its onboarding and training program. Training sessions can now be conducted virtually, with attended bots facilitating on-screen engagement. In addition, bots were also deployed onto frontline workstations to provide just-in-time training, should any newly hired workers encounter issues on the job.

For the composite organization, Forrester assumes that:

- There are approximately 2,400 new frontline employees to be trained and onboarded every year (growing at 10% annually).



Improved onboarding and training efficiency: 26% of total benefits

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- New hire training time is reduced by 40%, from 10 full days down to 6.
- Trainings are held twice a month, with three instructors per session.
- Trainings are now conducted virtually, eliminating the need for instructors to travel.

The value captured from improved onboarding and training will vary with:

- The number of frontline employees in the company, annual growth, and employee turnover rates.
- Reduction in training time and cost avoidance of training-related travel.

To account for these variances, Forrester adjusted this benefit downward by 10%, yielding a three-year, risk-adjusted total PV of $3.37 million.

Improved Onboarding And Training Efficiency: Calculation Table

REF.	METRIC	CALC.	YEAR 1	YEAR 2	YEAR 3
B1	Number of employees (10% annual growth)	Composite	30,000	33,000	36,300
B2	Percentage of workforce in frontline roles	Assumption	10%	10%	10%
B3	Number of frontline staff	B1*B2	3,000	3,300	3,630
B4	Annual frontline staff turnover rate	Assumption	71%	71%	71%
B5	Number of new frontline hires due to turnover	B3*B4	2,130	2,343	2,577
B6	Number of new frontline hires from organic growth	$B3_{PY}$*10%	273	300	330
B7	Total number of new frontline hires	B5+B6	2,403	2,643	2,907
B8	Number of hours each new hire spends in training	Composite	80	80	80
B9	Reduction in training time due to improved training efficiency	Composite	40%	40%	40%
B10	Time saved per new hire from improved training efficiency (hours)	B8*B9	32	32	32
B11	Productivity captured	Assumption	75%	75%	75%
B12	Net time savings from improved training efficiency	B10*B11	24	24	24
B13	Average fully loaded hourly wage of frontline staff (including 2.5% annual increase)	Assumption	$18.00	$18.45	$18.91
B14	Cost saving from improved training efficiency	B7*B12*B13	$1,037,978	$1,170,320	$1,319,536
B15	Number of training sessions per year	Assumption	24	24	24
B16	Number of instructors per training session	Assumption	3	3	3
B17	Average fully loaded hourly wage of training instructors (including 2.5% annual increase)	Assumption	$52.50	$53.81	$55.16
B18	Cost savings from reduced training time	B10*B15*B16*B17	$120,960	$123,984	$127,084
B19	Training-related travel costs (per session)	Assumption	$9,000	$9,000	$9,000
B20	Cost avoidance of training-related travel	B19*B15	$216,000	$216,000	$216,000
Bt	Improved onboarding and training efficiency	B14+B18+B20	$1,374,938	$1,510,304	$1,662,620
	Risk adjustment	↓10%			
Btr	Improved onboarding and training efficiency (risk-adjusted)		$1,237,444	$1,359,274	$1,496,358

Reduced Internal Support Costs

One of the interviewed organizations deployed Kryon attended RPA in an effort to better support and assist their frontline staff's daily activities. Once available on their desktop, the bots are able to guide employees through the different steps and screens required to complete a specific task. The company has found it to be particularly useful to new hires, generating cost savings from their help-desk assistance team.

Indeed, the organization has observed that using the bots to provide real-time guidance to its employees has reduced the number of calls made to its internal help desk. In particular, they experienced a 50% reduction in the number of support calls made by new hires.

For the composite organization, Forrester assumes that:

- The average cost per support call/ticket remains the same over the three-year prior.

The reduction in internal support costs will vary with:

- The average cost per internal support call/ticket (e.g., fully loaded staff salaries, variance in time-to-resolution, etc.)
- Number of new frontline employees based on growth and attrition rates.
- Complexity of frontline operations

To account for these variances, Forrester adjusted this benefit downward by 10%, yielding a three-year, risk-adjusted total PV of $1.77 million.

50% reduction in the number of support calls with on-screen bot guidance for frontline workers.

Reduced Internal Support Costs: Calculation Table

REF.	METRIC	CALC.	YEAR 1	YEAR 2	YEAR 3
C1	Number of support calls made per new employee	Composite	30	30	30
C2	Number of support calls received per year prior to bots' deployment	B7*C1	72,090	79,290	87,219
C3	Reduction in number of support calls	Composite	50%	50%	50%
C4	Number of support calls avoided	C2*C3	36,045	39,645	43,610
C5	Cost per internal support ticket	Composite	$20	$20	$20
Ct	Reduced internal support costs	C4*C5	$720,900	$792,900	$872,190
	Risk adjustment	↓10%			
Ctr	Reduced internal support costs (risk-adjusted)		$648,810	$713,610	$784,971

Unquantified Benefits

The deployment of unattended and attended bots has yielded additional benefits observed by the interviewed organizations that are not quantified in this study. These benefits include:

- **Improved employee engagement.** Using unattended bots to perform mundane and repetitive tasks has freed up capacity for employees to work on added-value activities. In addition to generating time-savings and improving productivity, interviewees have also reported seeing a positive impact on employee experience, engagement, and the overall workplace environment.
- **Shift towards an automation-oriented culture.** Deploying a new technology is often not limited to just technical implementation, it often also requires change management and business support initiatives. Interviewed organizations have taken this opportunity to roll out incentive programs and roadshows to encourage employees to identify processes for RPA. This has helped to build a culture which is more open to innovation, inspiring employees to think creatively and to act on perceived inefficiencies.

Initiatives supporting RPA deployment help drive higher employee engagement and an automation-oriented organisational culture.

Flexibility — Future Value

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 Full-Cycle Automation and later realize additional uses and business opportunities, including:

- **Paired with advanced analytics, strong RPA listening skills will further rationalize processes.** This allows automation of more complex processes by identifying the best path for less standardized tasks based on users' behaviors. Some of the use cases include using analytics to both solve nagging platform issues and allow for text the use of unstructured data into clean files for RPA tasks.[3]
- **Additional business process optimization (BPO) improvements.** Using RPA as part of a larger BPO exercise will enable organizations to further identify and streamline processes (with or without automation components), providing gains in efficiencies and productivity. Mapping out processes, either manually or through the use of Process Discovery, can provide visibility into operations and uncover improvement areas and fix further pain points.

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.

Analysis Of Costs

QUANTIFIED COST DATA AS APPLIED TO THE COMPOSITE

Total Costs

REF.	COST	INITIAL	YEAR 1	YEAR 2	YEAR 3	TOTAL	PRESENT VALUE
Dtr	External RPA costs	$21,000	$572,250	$656,250	$687,750	$1,937,250	$1,600,299
Etr	Internal RPA management resource cost	$144,883	$37,195	$645,850	$725,679	$1,553,608	$1,257,671
	Total costs (risk-adjusted)	$165,883	$609,445	$1,302,100	$1,413,429	$3,490,858	$2,857,970

The table above shows the total of all costs across the areas listed below, as well as present values (PVs) discounted at 10%. Over three years, the composite organization expects risk-adjusted total costs to be a PV of more than $2.85 million.

External RPA Costs

The service fees depicted in the table below are indicative for the Full-Cycle Automation deployment as described in the Benefits section above. They were provided by Kryon and include license fees for bot workers, as well as a separate set of fees for the deployment of Process Discovery bots to help identify workflows for automation. Additionally, some new servers and virtual machines are required to host the unattended bot workers.

To account for variances in deployment, Forrester adjusted this cost upward by 5%, yielding a three-year, risk-adjusted total PV of $1.6 million.

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.

External RPA Costs: Calculation Table

REF.	METRIC	CALC.	INITIAL	YEAR 1	YEAR 2	YEAR 3
D1	Kryon license fees			$545,000	$585,000	$635,000
D2	Hardware costs		$20,000		$40,000	$20,000
Dt	External RPA costs	D1+D2	$20,000	$545,000	$625,000	$655,000
	Risk adjustment	↑5%				
Dtr	Externa RPA costs (risk-adjusted)		$21,000	$572,250	$656,250	$687,750

Internal RPA Management Resource Cost

A second key component in the total cost of operations (TCO) for an RPA program is the internal resources required to deploy and maintain the solution. This consists primarily of time needed to: 1) identify and map a process with the end user (i.e., the line-of-business employee) and 2) develop and maintain the automation script.

With Process Discovery in place to pre-identify suitable workflows and visually map process flows, the time needed for RPA developers to verify the workflow and develop the automation script is estimated at 16 hours and 40 hours, per process respectively. This is significantly lower than the traditional approach to process identification and mapping, which would have required 80 hours in interviews and observation sessions, followed by another 80 hours in development time.

It is also estimated that once the Process Discovery bot has pre-identified a workflow for automation, the business user will spend about 8 hours in discussion with the RPA developer to review, tweak, and test the automation before it is released.

The total time and resources that are needed to set up and maintain an automation program for an organization varies based on the volume of processes. Costs incurred for the composite organization are estimated in the following table.

To account for variances in deployment, and differing familiarity with RPA, Forrester adjusted this cost upward by 5%, yielding a three-year, risk-adjusted total PV of $1.26 million.

Estimated Time Required To Fully Automate One Business Process

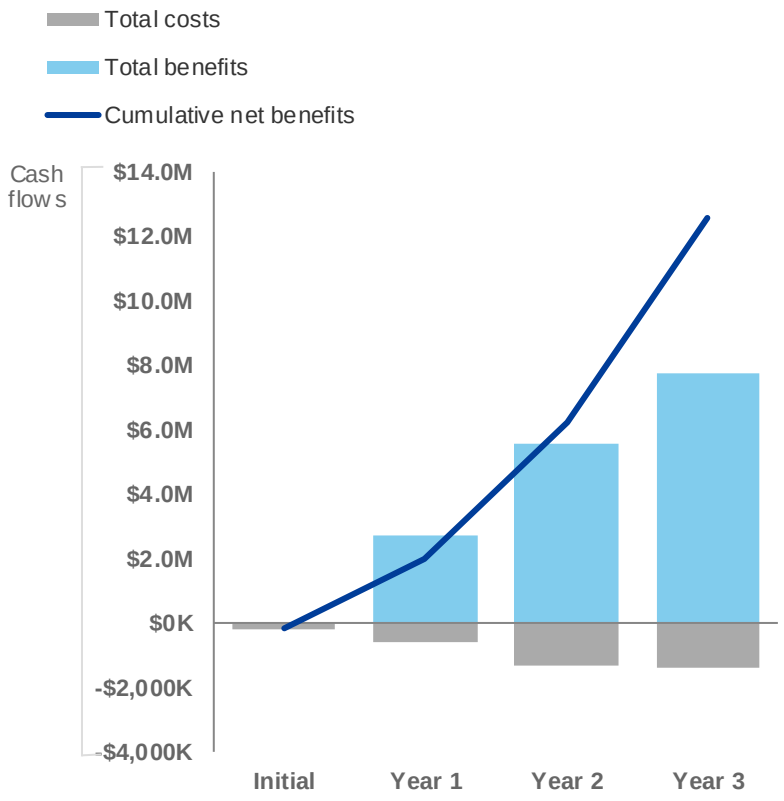
	WITH ROBOTIC PROCESS AUTOMATON	WITH FULL-CYCLE AUTOMATION	TIME SAVINGS WITH FULL-CYCLE AUTOMATION
Identify and map process	80 hours	16 hours	80%
Develop automation script	80 hours	40 hours	50%
Maintain bot (in each subsequent year)	60 hours	30 hours	50%

Internal RPA Management Resource Cost: Calculation Table						
REF.	**METRIC**	**CALC.**	**INITIAL**	**YEAR 1**	**YEAR 2**	**YEAR 3**
E1	Total number of processes automated	Composite	0	32	128	196
E2	Number of new processes identified and automated	Composite	32		96	68
E3	Number of developer hours needed to identify and map each process	Composite	16		16	16
E4	Total time spent identifying and mapping all processes	E2*E3	512		1,536	1,088
E5	Number of hours needed to develop each automation process	Composite	40		40	40
E6	Total time spent developing all automation process	E2*E5	1,280		3,840	2,720
E7	Number of hours needed to maintain bots to run each process	Composite		30	30	30
E8	Total time spent maintaining bots	E1*E7		480	2,400	4,860
E9	Total developer time spent on managing RPA solutions	E4+E6+E8	1,792	480	7,776	8,668
E10	Average fully loaded hourly wage of RPA developer (including 2.5% annual increase)	Assumption	$72.00	$73.80	$75.65	$77.54
E11	Developer cost of RPA development and maintenance	E9*E10	$129,024	$35,424	$588,216	$672,083
E12	Number of business-line employees involved in process identification and mapping	Composite	1	1	1	1
E13	Time spent by business manager on process identification and mapping (hours)	Composite	8		8	8
E14	Total time spent by business manager on process identification and mapping (hours)	E2*E13	256		768	544
E15	Average fully loaded hourly wage of employee		$35	$35	$35	$35
E16	Business-line resource cost of RPA management		$8,960		$26,880	$19,040
Et	Internal RPA management resource cost	E11+E16	$137,984	$35,424	$615,096	$691,123
	Risk adjustment	↑5%				
Etr	Internal RPA management resource cost (risk-adjusted)		$144,883	$37,195	$645,850	$725,679

Financial Summary

CONSOLIDATED THREE-YEAR RISK-ADJUSTED METRICS

Cash Flow Chart (Risk-Adjusted)



The financial results calculated in the Benefits and Costs sections can be used to determine the ROI, NPV, and payback period for the composite organization's investment. Forrester assumes a yearly discount rate of 10% for this analysis.

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

Cash Flow Table (Risk-Adjusted)

	INITIAL	YEAR 1	YEAR 2	YEAR 3	TOTAL	PRESENT VALUE
Total costs	($165,883)	($609,445)	($1,302,100)	($1,413,429)	($3,490,858)	($2,857,970)
Total benefits	$0	$2,737,832	$5,563,919	$7,760,256	$16,062,007	$12,917,614
Net benefits	($165,883)	$2,128,387	$4,261,819	$6,346,826	$12,571,149	$10,059,644
ROI						352%

FORRESTER®

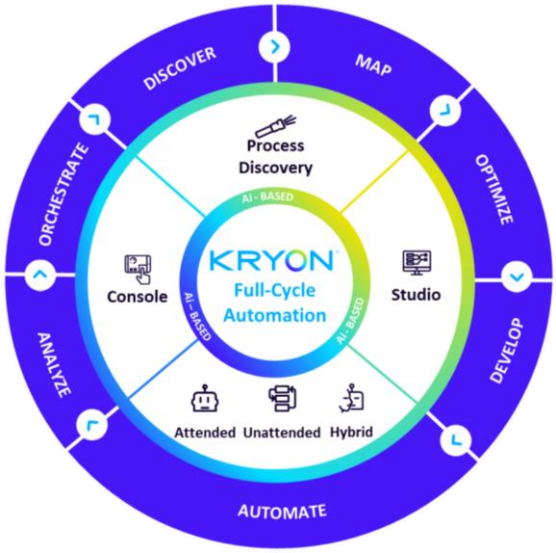
Kryon Full-Cycle Automation: Overview

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

The Kryon Full-Cycle Automation Suite

RPA Going Full-Cycle: 5x Faster RPA implementation

To ensure that every automation journey is a success from start to finish, Kryon designed and built a unique Full-Cycle Automation Suite. The only one of its kind on the market, this total automation solution combines Process Discovery, RPA, and analytics in a single, unified platform.



Discover and Map

Kryon's Full-Cycle Automation revolution starts by identifying which processes are ideal candidates for automation. Powered by patented proprietary AI technology, this tool works unobtrusively behind the scenes to automatically generate a comprehensive picture of manual business processes and their variants, evaluate them and recommend which ones to automate. It then generates workflows instantly.

Optimize and Develop

With just a few quick clicks, these workflows are exported to the Kryon Studio for automation design, optimization, and development. The Kryon Studio is a powerful, user-friendly authoring tool that lets you develop, optimize, and edit automation workflows and have them ready to go within just a few hours.

Automate

After Kryon Process Discovery™ has identified the processes suitable for automation, automation bots begin their work. The Kryon Full-Cycle Automation Suite offers three different types (Attended, Unattended, Hybrid) of unmatched intelligent RPA solutions depending on a business's specific needs.

Analysis and Orchestration

An automation project isn't over just because it's up and running. Kryon's Full-Cycle Automation Suite allows you to continually analyze your project's KPIs after deployment, giving you all the tools necessary to orchestrate its different elements for optimal performance, satisfaction, and wise decision-making.

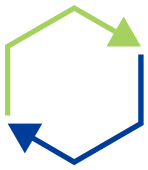
Appendix A: Total Economic Impact

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: Total Economic Impact Of Kryon RPA Vs Kryon Full-Cycle Automation

As both Wyndham and LTCG deployed standard RPA before introducing Process Discovery later on, the interviews provided insights for us to consider the benefits (and costs) associated with Kryon RPA vs the incremental benefits (and costs) of Kryon Full-Cycle Automation.

Over the three-year period, the difference in Total Economic Impact results between Kryon RPA and Kryon Full-Cycle Automation is due to variance in the following variables:

- The number of new process automated (A1) is higher with Kryon Full-Cycle Automation by 75%.
- The total number of processes automated (E1) is higher with Kryon Full-Cycle Automation by 75%.
- Kryon license fees (D1) are higher with Kryon Full-Cycle Automation by 25%.
- The number of developer hours needed to identify and map each process (E3) are reduced by 80% with Kryon Full-Cycle Automation.
- The number of hours needed to develop each automation process (E5) are reduced by 50% with Kryon Full-Cycle Automation.
- The number of hours needed to maintain bots to run each process (E7) are reduced by 50% with Kryon Full-Cycle Automation.

Comparative overview of the Total Economic Impact of Kryon Full-Cycle Automation and Kryon RPA (risk-adjusted estimates):

	FULL-CYCLE AUTOMATION	RPA
Total costs	($2,857,970)	($2,939,375)
Total benefits	$12,917,614	$9,420,592
Net benefits	$10,059,644	$6,481,217
ROI	352%	220%

Appendix C: Supplemental Material

Related Forrester Research

"Myths And Realities Of Digital Worker Analytics," Forrester Research, Inc., April 2, 2020.

"Gauge Your RPA Maturity," Forrester Research, Inc., February 21, 2019.

"Attended-Mode RPA: The Differences You Need To Know," Forrester Research, Inc., July 29, 2019.

Appendix D: Endnotes

[1] Unattended RPA is automation that: replaces a complete human function in a lights-out, batch-oriented manner; creates a virtual workforce; and, generally, associates with back-office activities.
[2] Attended RPA is automation that: interacts in real time with humans who initiate and control robot tasks; often embeds functions within apps; and associates with front-office, agent-led activities.
[3] Source: "Predictions 2019: Automation," Forrester Research Inc., November 6, 2018.