Test Automation ROI Report

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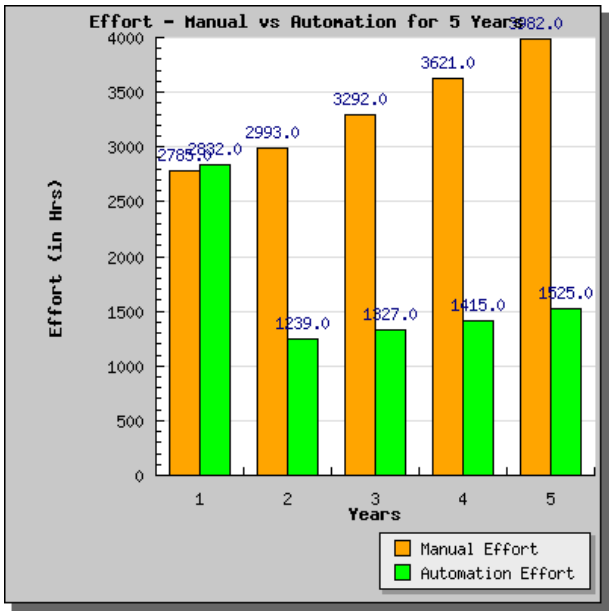
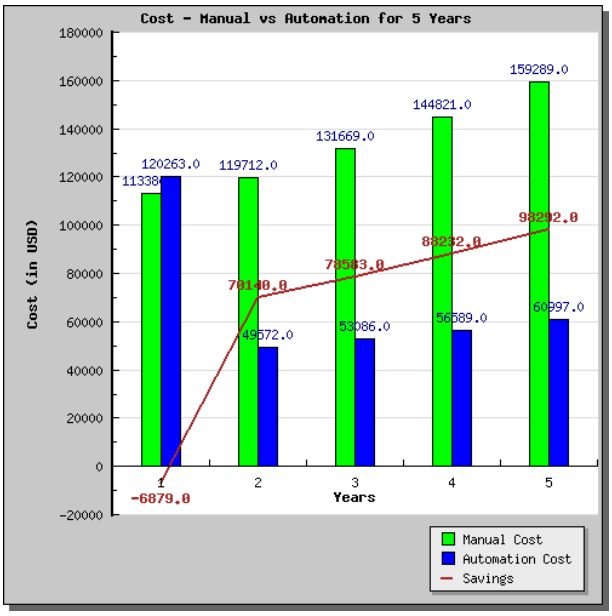
Aspire's ROI calculator is a practical guide to understand the possible Returns on your Test Automation Investment. Before you decide on this strategic investment, it is vital to know the cost and effort savings that Automation can offer.

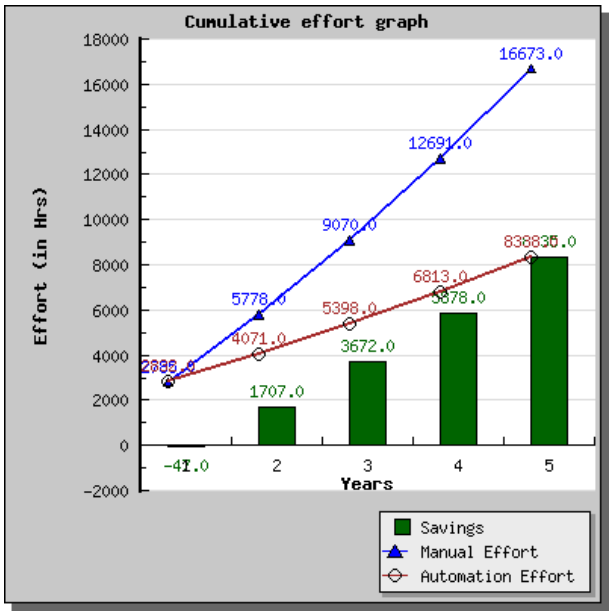
This report will give you a comparative year-on-year analysis of the returns that can be achieved through manual and automated testing.

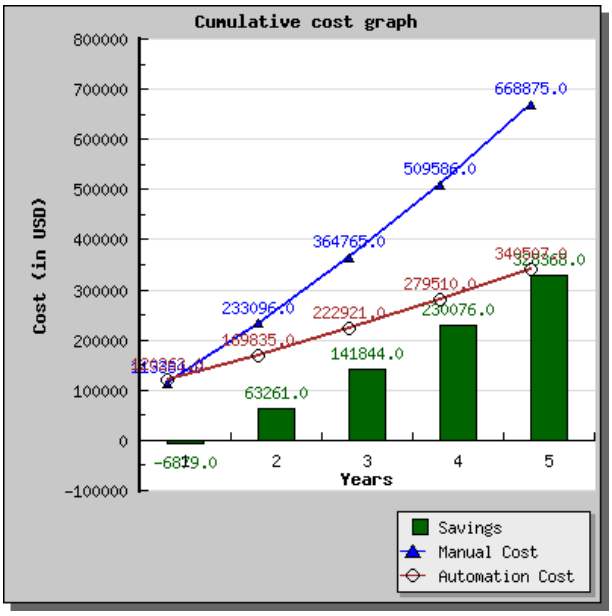
Year on Year ROI Trend for Your Product Automation





Cumulative ROI Trend for Your Product Automation





Test Automation ROI Report

Your Inputs to Compute ROI

Background Information

Product Details	
Type of product	Web Based
Age of your product	5 Yrs
Technology	
Presentation layer	HTML/XML/XXL
Middleware	COM/DCOM
Database	SQL Server
QA Team Size	
Manual testing team size	6
Automation team size (if any)	1
Release Details	
Number of releases planned for the year	4
Test Execution Parameters	
Number of existing regression test cases	500
Number of configurations to be tested	4
Required number of regression test cycles per release	4
Cost Details	
Hourly cost per QA resource	40 USD
QA environment cost	2,000 USD

Test Automation ROI Computation Factors

Test Automation Tool	
Test automation tool cost	5,000 USD
Test Automation Parameters	
% of test cases that can be considered for test automation	70 %
Estimated base time required to build test automation suite	972 Hrs
Less: Usage of reusable components	20 %
Add: Time required to design the automation framework	2 %
Add: Time required to build batch scripts	2 %
Cost Details	
Hourly cost per test automation resource	40 USD

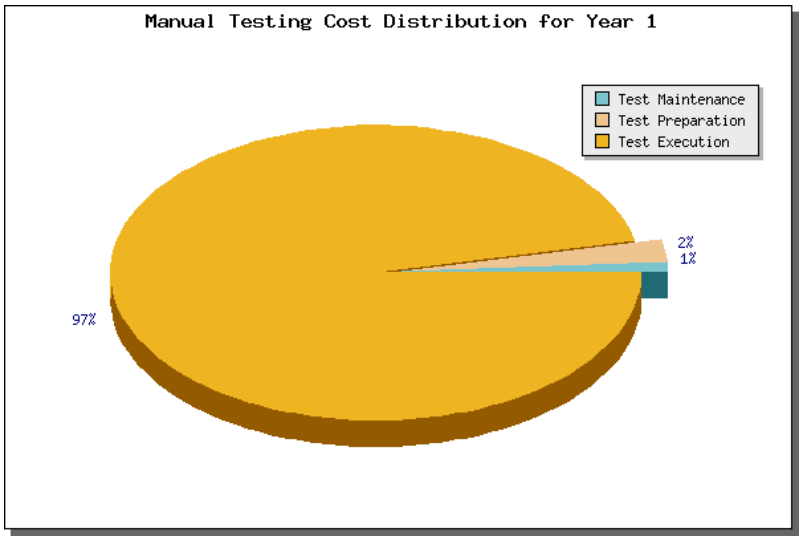
Computation of Your Manual Testing Effort / Cost

Manual Testing Effort Parameters

Total test cases available	500
Scope of test suite growth per release	10 %
Maintenance time	10 %

Manual Testing Effort and Cost Computation for Year 1 (a snapshot)

First Year	Effort	Cost
Test execution per regression cycle	168 Hrs	6,720 USD
Test execution per release	672 Hrs	26,880 USD
Test execution per year	2,688 Hrs	107,520 USD
Test maintenance per year	28 Hrs	1,104 USD



Manual Testing Effort and Cost Computation for 5 years

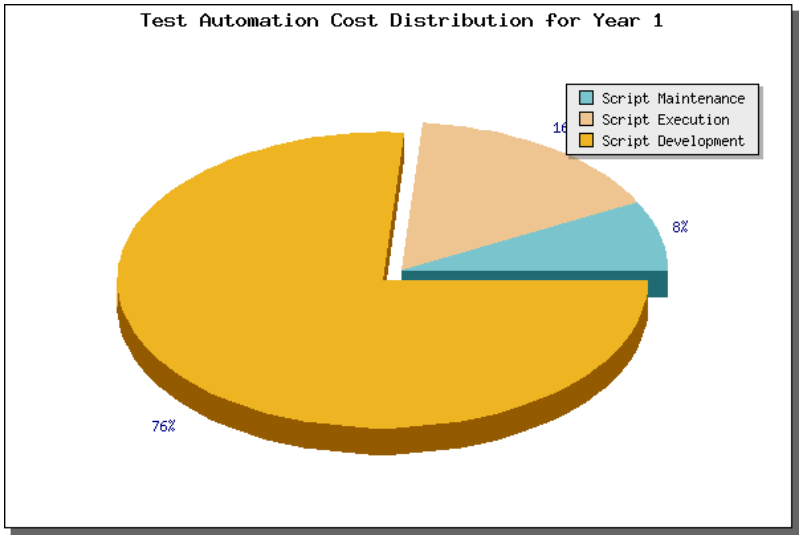
Description	Year 1	Year 2	Year 3	Year 4	Year 5
Test Execution effort per regression cycle (in Hrs)	168	185	203	224	246
Test Execution cost per regression cycle (in USD)	6,720	7,392	8,131	8,944	9,839
Test Execution effort per release (in Hrs)	672	739	813	894	984
Test Execution cost per release (in USD)	26,880	29,568	32,525	35,777	39,355
Test Execution effort per year (in Hrs)	2,688	2,957	3,252	3,578	3,936
Test execution cost per year (in USD)	107,520	118,272	130,099	143,109	157,420
Regression test suite maintenance effort per year (in Hrs)	28	30	33	36	39
Regression test suite maintenance cost per year (in USD)	1,104	1,200	1,306	1,422	1,550
Total Manual Testing Effort (in Hrs) *	**2,785**	**2,993**	**3,292**	**3,621**	**3,982**
Total Manual Testing Cost (in USD) *	**113,384**	**119,712**	**131,669**	**144,821**	**159,289**

** The Total effort and cost computed over the five years are inclusive of the effort and cost spent on Test Preparation, Test Environment , Test Execution and Test maintenance*

Computation of Your Automation Testing Effort / Cost

Automated Testing Effort and Cost Computation for Year 1 (a snapshot)

Effort required for test automation suite development (in Hrs)		972 Hrs
Less: Usage of reusable components (in Hrs)		194 Hrs
Add: Time required to design automation framework (in Hrs)		19 Hrs
Add: Time required to build batch scripts (in Hrs)		19 Hrs
Total hours required for automation suite development		**817 Hrs**
QA environment cost (in USD)		2,000 USD
Automation test suite development cost (in USD)		**32,663 USD**
	Effort	**Cost**
Automation script execution per regression cycle	11 Hrs	431 USD
Automation script execution per release	43 Hrs	1,725 USD
Automation script execution per year	172 Hrs	6,899 USD
Automation script maintenance per year	82 Hrs	3,266 USD



Automation Testing Effort and Cost Computation for 5 years

Description	Year 1	Year 2	Year 3	Year 4	Year 5
Effort required for test automation suite development (in Hrs)	972	97	107	118	129
Less: Usage of reusable components (in Hrs)	194	22	32	47	71
Add: Time required to design automation framework (in Hrs) **	19	0	0	0	0
Add: Time required to build batch scripts (in Hrs) **	19	0	0	0	0
Total hours required for automation suite development	**817**	**75**	**75**	**71**	**58**
Test script execution effort per regression cycle (in Hrs)	11	12	13	14	14
Test script execution cost per regression cycle (in USD)	431	471	510	547	578
Test script execution effort per release (in Hrs)	43	47	51	55	58
Test script execution cost per release (in USD)	1,725	1,883	2,041	2,190	2,313
Test script execution effort per year (in Hrs)	172	188	204	219	231
Test script execution cost per year (in USD)	6,899	7,531	8,163	8,759	9,251
Automation regression suite maintenance effort per year (in Hrs)	82	89	72	52	55
Automation regression suite maintenance cost per year (in USD)	3,266	3,566	2,899	2,074	2,190
Automation development & execution effort (in Hrs)	989	263	279	290	290
Automation development & execution cost (in USD)	39,562	10,525	11,157	11,583	11,580
Total Automation Testing Effort (in Hrs)*	**2,832**	**1,239**	**1,327**	**1,415**	**1,525**
Total Automation Testing Cost (in USD)*	**120,263**	**49,572**	**53,086**	**56,589**	**60,997**

Test Automation ROI Report

*** The enhancements of the framework and batch runs over the years are included in the maintenance cost as they cannot be measured explicitly.*

** The Total effort and cost computed over the five years are inclusive of the effort and cost spent on Test Scripts Preparation, Test Environment , Test Execution and Test maintenance*

Computation of ROI for Your Product Automation

Description	Year 1	Year 2	Year 3	Year 4	Year 5
Total Manual Testing Cost (in USD)*	113,384	233,096	364,765	509,586	668,875
Total Test Automation Cost (in USD)*	120,263	169,835	222,921	279,510	340,507
Savings (in USD)	-6,879	63,261	141,844	230,076	328,368

* *Cumulative cost*

Findings from your inputs

Your savings in 5 years	328,368 USD
% of Savings in 5 years (ROI)	96 %
Breakeven period	2 Year

As you can see in the above table, Automation may not give you its benefits immediately. Approximately 816.59 Hrs will be required to transition your QA efforts from Manual to Automation. Manual QA will have to continue its effort in ensuring quality till the automated execution begins. This means, though you invest in the first year, you will be able to see the cost benefits tentatively start only in the 2nd year. This explains the additional cost of 6,879 USD required in the first year.

After the breakeven of the investment in Automation during the 2nd year you will be getting a positive ROI of 63,261 USD, 141,844 USD, 230,076 USD and 328,368 USD over the years. This is because of reduced test execution effort and cost. These returns can be still maximised by having disciplined set of processes during the transition phase.

Is ROI the deciding factor?

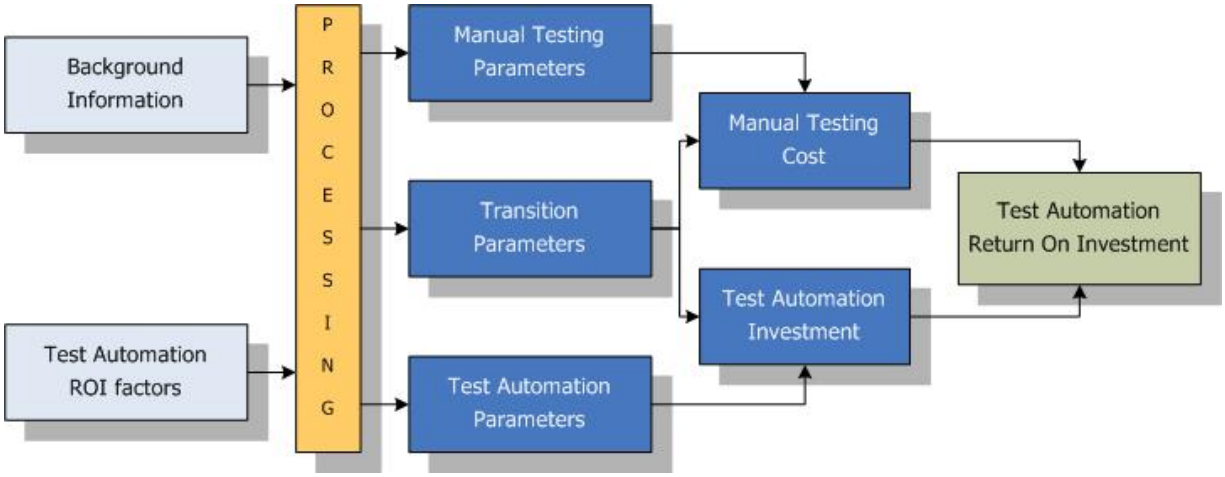
Aspire's Test Automation return on investment (ROI) analysis can only determine a high level approximation of effort and cost. Calculating ROI is the first step towards your decision on automation. This ROI calculator might not give you the accurate cost involved and the corresponding ROI, but will help you to understand the benefits of automation. It is always good to understand and analyze the need for automation, analyze the product test requirements and the existing regression test suite, identify the right test automation tool and then estimate the timeframe required to design and automate the entire testing.

Some additional benefits of test automation:

1. Matured testing process
2. Maximized test coverage which will assure the quality of the deliverables consistently
3. Elimination of the risk of over sight of quality in repeated tests
4. Faster Execution of the tests in multiple environments
5. More focus on new features
6. Enhanced product quality

How does this ROI Calculator work?

It analyzes the effort and cost involved in Automation, based on the background information that you provided as input.



Based on these values, the calculator uses Aspire's standard thumb rules (basic heuristic data accumulated through many experience in test automation) for deriving both manual and test automation testing parameters that are the basis for all the calculations.

Manual Testing Cost

With the background information that your 5 year old product has 500 test cases, the calculator computes the effort and cost to develop test cases, test execution, maintenance (of testing your product manually every year). Various other deciding parameters like thumbrules for test case preparation and execution productivity, scope for test suite growth and maintenance effort are also considered in calculating the ROI for 5 consecutive years.

Automation Testing ROI

The transition from manual to automated testing has a significant impact on the Test Automation ROI. It is an established fact that Automation involves higher upfront costs, but the optimal usage of this initial cost is very crucial in deciding the returns. The transition process must be a step by step process and has to be done by experts. The first step towards automation is to scope the automation requirements, analyze the technical feasibility for automation and identify an appropriate tool for automation. This will help you to estimate the required effort and cost for test automation investment. When the estimation is being done, it vital to consider the effort for designing test automation framework which will help you to create reusable components through out the automation and thus helps in reducing the script development time.

About Aspire Systems

Aspire Systems is an Outsourced Product Development firm committed to helping our customers build software products better and faster. We work with some of the worlds most innovative Independent Software Vendors and software-enabled businesses, ranging from start-ups to established industry leaders, transforming the way software is built.

We provide our Test Automation services to ISVs and help them to reap the benefits of automation by consulting to identify the right test automation tool and recommend the test automation strategy. Being a product engineering services firm, we have an edge with the current technology trends & development methodologies and this exposure helps us to consult and automate effectively. We have helped our customers with testing strategies, building regression suites and tool selections.

For further enquiries or to avail our services please write to us at:
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