IT Process Automation

How to Measure

ROI

A guide for calculating your return on investment from an IT process automation project
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Introduction
The first question that comes up when considering IT process automation is - "is it worth it"? This short guide will help you answer that question with simple steps and calculations.

The content of this book is based on the knowledge we have gained from real-world results at our many customers. You will find basic calculation formulas for each of the topics, yet these are provided as guidelines, and admittedly are not detailed. Calculating return on investment (ROI) metrics requires detailed analysis that takes into account parameters unique to your organization.

We will be glad to assist you with a free ROI consultation.

Thanks,

Gabby Nizri
Ayehu Software
Planning Your Return on Investment (ROI) Strategy
When you have to automate…

automate! Don't talk!

You may be personally convinced about the value of IT automation for your organization. To make it a reality though, you often have to convince decision makers too. So while the customer quote above calls for action, good planning will ensure your focus is on automating the right areas.

Your return on investment (ROI) analysis should demonstrate the ability to achieve short-term results (quick wins). At the same time, it should also address the longer-term, strategic benefits of automation.

**Identify Quick Wins**

To show quick ROI, you should start by automating small projects that can be implemented quickly and successfully. Try identifying 4-5 ‘low hanging fruit’ - processes that are visible and can deliver large returns. Success will breed more success; it will let you move to the next stage, expand automation to other IT areas and gain cross-organizational support in the long term.

Your best candidates will usually be repetitive manual processes that are time consuming and frustrating, such as those described in the ‘Task Automation’ chapter of this guide. Assess the effort required to automate such
processes in terms of integration points and implementation time.

**Identify Areas for Expansion**

In addition to immediate wins, you want to think ahead and do some long-term planning. With IT automation, your ROI builds over time, so you want to identify all areas for sustained growth. Which areas can automation grow into in your organization? Where can it add value?

Some areas to be considered are:

- Deployment & provisioning
- Configuration management
- Performance and capacity management
- Incident and problem management
- Compliance and regulation
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Calculating ROI

Task Automation
We now deploy 7 new web apps and services on a daily basis, as opposed to 2-3 apps per day previously.

Automating IT tasks immediately increases the productivity of your IT staff, speeds-up delivery and improves SLA’s. Instead of spending time configuring computers, freeing up server disk space, resetting passwords for Active Directory users, restarting services, etc., IT personnel are freed to focus on more important and higher-value work.

Note that savings from IT process automation are incremental. So while automating a 20-minute task may seem insignificant, your perspective changes when you realize the task is performed ten times a day and there are hundreds of those tasks on a weekly basis!
Calculating Task Automation Savings

The basic formula below will let you assign a monetary value to the freed-up time of IT personnel. This formula should be applied to each task you plan to automate so that you can add up the annual savings per task.

\[
\text{Yearly Savings} = \text{Time} \times \text{Frequency} \times \text{Cost} \times 12 \times \text{Months}
\]

Assuming you spend 4.5 hours weekly on server maintenance. This is 18 monthly hours, at an average cost of $75 per hour, for a total of $1350 per month. On a yearly basis, this amounts to $16,200.

Note: Even after a task is automated, it will always require some human attention in the form of confirmation or at times intervention (for more critical cases). You should reduce the savings by 10% if you want to be conservative.

Customer Use Cases

<table>
<thead>
<tr>
<th>Use Case</th>
<th>Task Automation Savings</th>
</tr>
</thead>
<tbody>
<tr>
<td>Perform daily system maintenance, backups, and system health checks</td>
<td>Freed-up 430 monthly hours of IT manual work</td>
</tr>
<tr>
<td>Provision web applications to live production servers</td>
<td>Doubled number of applications provisioned on daily basis</td>
</tr>
<tr>
<td>Monitor results of nightly batch process and take necessary actions</td>
<td>Eliminated 35 monthly hours of an IT person – dedicated to a single task</td>
</tr>
</tbody>
</table>
Calculating ROI

Downtime Reduction
A conservative estimate from Gartner sets the hourly cost of downtime for computer networks at $42,000.

The cost of system downtime will obviously vary between companies, based on business, industry, SLAs, etc.

Downtime costs depend on two primary factors: *productivity losses* and *business losses*. But how can IT automation help you reduce downtime, and how can you quantify your savings?

**How IT Automation Helps Reduce Downtime**

- **Preventive maintenance.** Scheduled processes that run regularly such as cleaning up server hard drives, updating critical patches, checking backup logs to maintain your systems’ health, etc.

- **Auto remediation.** Automatically trigger workflow processes to handle critical events by performing corrective actions that restore service back to normal as fast as possible.

- **Automate complex tasks.** Automated processes to monitor mission critical application across systems and networks and perform maintenance, preventive actions, etc.
Calculating Downtime Savings

To calculate downtime savings requires using a two-step process. First, you calculate the yearly costs of a service or system outage – before any automaton.

\[
\text{Hourly loss of revenues (USD)} \times \text{Average duration of system downtime (hours)} \times \text{Outages Number Per year} = \text{Yearly downtime costs}
\]

- **Hourly loss.** Estimate the cost for an hour of downtime of your critical systems (your business people should be able to come up with these numbers). Remember to include both loss of revenues and loss of productivity.

- **Average duration.** Try to estimate the average duration of a system downtime event, based on previous incident history (your ticketing system should have this documented).

- **Outages.** Estimate the average number of outages per year.

\[
\text{Yearly downtime costs} \times \text{Reduced outages (\%)} = \text{Yearly savings}
\]

A conservative number is between 10-15%. So if the yearly cost of outages is \(~$250K\), then automation would save you $25K-$32K per year.
Calculating ROI

Mean Time to Resolution (MTTR)
Slash MTTR by Automating Troubleshooting and Critical Incident Response.

MTTR measures how long, on average, it takes to restore a system to its operational state after a failure. It is commonly argued that 60% of MTTR is spent in diagnosis—finding the root-cause of a problem.

However, a large chunk of system failures do not require extensive investigation, and can be identified and resolved with pre-defined actions.

How IT Automation Helps Reduce MTTR

- **Alert capturing.** Process workflows can be triggered automatically upon detection of system alerts.

- **Troubleshooting.** Automated diagnosis processes can reduce the time to identify the problem and react.

- **Notifications & escalation.** Notifications can be automatically sent to relevant personnel. If no response is received, an escalation process can be triggered.

- **Remote action.** The owner of a problem can initiate pre-configured workflow processes that automatically remediate a problem – even remotely.
Calculating MTTR Savings
To calculate MTTR savings requires using a two-step process. You begin by finding the total yearly cost of incidents, using the simple formula below.

\[
\text{Incidents} \times \text{Time} \times \text{Cost} \times 12 = \text{Yearly Cost of Incidents}
\]

- **Incidents.** The number of incidents per month. Since incidents differ in their severity & priority, you can use this formula each time for different incident priority (P1/P2/P3). Each will have its own resolution time and associated cost.

- **Time.** The total time it took to handle a single incident (P1/P2/P3) by L1/L2 team.

- **Cost.** The cost of support personnel that spent time remediating the problem. You may need to take into account several cost levels (L1/L2) of support personnel. For instance, a P1 incident may be handled by both L1 and L2 teams, in which case your calculation should multiply each Level with its respective costs.
Next, your yearly savings are calculated by using an estimated percentage of reduction in resolution time that automation delivers.

A conservative number is between 50% - 70%. So if the yearly cost of incidents is ~$350K, then automation would save you $175K-$245K per year.

### Customer Use Cases

<table>
<thead>
<tr>
<th>Use Case</th>
<th>Task Automation Savings</th>
</tr>
</thead>
<tbody>
<tr>
<td>Time required to recover from frequent failures of web portal serving</td>
<td>MTTR reduced by 90%</td>
</tr>
<tr>
<td>field agents</td>
<td></td>
</tr>
<tr>
<td>Response time to critical IT failures during weekends and off-duty</td>
<td>Response time cut from 15 minutes to seconds in critical</td>
</tr>
<tr>
<td>hours</td>
<td>system.</td>
</tr>
<tr>
<td>Troubleshooting network and system failures across distributed</td>
<td>Total time to resolution reduced by 30%</td>
</tr>
<tr>
<td>environments</td>
<td></td>
</tr>
<tr>
<td>Escalation procedures of a network system supporting 6,000 people</td>
<td>Over 20% reduction from problem identification till total</td>
</tr>
<tr>
<td>across 6 countries</td>
<td>resolution</td>
</tr>
</tbody>
</table>
IT Process Automation

Soft ROI
Some of IT automation’s most compelling benefits cannot be assigned a dollar value.

Your ROI analysis must have a hard dollar value attached to it, or it will have no value. Still, IT automation delivers a range of soft benefits that, although difficult to measure, are no less important. While you will probably not base your purchase decision on soft benefits, they should definitely be factored into consideration.

**Soft Benefits**

- **Knowledge management.** Automating processes and procedures forces you to think about and document extremely valuable organizational knowledge that usually only resides in peoples’ heads.

- **Training.** The average time to train a Level1 support person before he/she becomes productive is about 3 months. Automation and knowledge management reduce this dramatically.

- **Consistency and auditability.** With automation you establish repeatable IT processes. Processes can be improved over time and do not depend on individuals being present. For auditing purposes, every automated action taken is recorded and documented.
- **Human errors.** Automated processes reduce manual work, so that errors, particularly in long, multi-step procedures, are eliminated.

- **Compliance and regulation.** Automation helps you comply with regulations such as SOX, PCI, and others. It also accelerates the implementation of best practice frameworks like ITIL and ITSM.
Total ROI & Takeaways
Putting it All Together – Total Gains

To summarize all savings, add up your totals from each of the three major categories.

The data below is just an example of savings over three years and may differ significantly between organizations.

<table>
<thead>
<tr>
<th>ROI Parameter</th>
<th>Year 1</th>
<th>Year 2</th>
<th>Year 3</th>
<th>Total - 3 Years</th>
</tr>
</thead>
<tbody>
<tr>
<td>Task Automation</td>
<td>$110,915</td>
<td>$99,823</td>
<td>$99,823</td>
<td>$310,561</td>
</tr>
<tr>
<td>Downtime Reduction</td>
<td>$33,396</td>
<td>$38,405</td>
<td>$38,405</td>
<td>$110,206</td>
</tr>
<tr>
<td>MTTR</td>
<td>$43,204</td>
<td>$43,204</td>
<td>$43,204</td>
<td>$129,613</td>
</tr>
<tr>
<td><strong>Total:</strong></td>
<td><strong>$187,515</strong></td>
<td><strong>$181,433</strong></td>
<td><strong>$181,433</strong></td>
<td><strong>$550,380</strong></td>
</tr>
</tbody>
</table>

Bottom line, this is what your decision makers want to see before undertaking an automation project. Of course there are many reasons why you should automate, but without these numbers, ROI is hard to prove.
The Cost Side
For your ROI to be complete, you obviously need to consider costs. Again, this will depend on your environment size and needs, as well as the solution implemented. However, here are the main items to include in your spreadsheet:

- Software license fees or monthly SaaS costs
- Hardware costs
- Professional services costs to cover initial implementation, kickoff, and any additional help needed
- 3rd party software (if needed)
- Training of IT staff
- Workflow design, testing and integration

ROI over Time
Once you have assembled yearly costs & benefits figures, you can estimate your ROI from IT automation over time. Unless your circumstances are unique, the ROI of an IT process automation solution should not exceed one year.
Takeaways

This guide was intended to provide you with an overview and guidelines on how to approach an ROI analysis of IT process automation.

To summarize, here are the main steps we recommended in this eBook:

- **Plan your overall ROI analysis strategy.** Include some quick wins and ‘easy-to-automate’ processes that can pave the way to success. Also, look at your longer-term automation strategy and areas where you can expand.

- **Identify quantifiable automation gains.** Review the current practices within three areas in your organization – task automation, MTTR, and service downtime. Identify problematic areas related to failures and response time to events, as well as ongoing tasks that can be automated.

- **List soft benefits.** The ones that are specifically important and valuable to your organization, such as retaining organizational knowledge, reducing L1 churn, call-out time reduction, and many others.
GET A FREE ROI ASSESSMENT

Let us help you conduct an ROI analysis on your IT processes. Leverage our knowhow to save you time!

Our free consultation will help you assess and quantify your IT process automation ROI, without any commitment.

Sign up for free ROI consultation