



TARPON HEALTH

MEMBER-GUIDED RESEARCH

AUTOMATION

PROGRAM

RETURN ON

INVESTMENT

PREFACE

More and more organizations are establishing internal automation programs to achieve their operational and financial goals. An automation program is a strategic initiative that systematically automates an organization's workflows through the coordinated use of people, processes, and technology.

This is a guide to building an Automation Roadmap for internal automation programs (not individual automations). It covers the benefits of building an automation program with internal resources, how to build an accurate ROI estimate, and important activities and assumptions.

INTRODUCTION

Knowing how to build an Automation Roadmap is necessary for pursuing and justifying an internal automation program. Automation programs have their own intricacies, such as determining the types of investments needed, calculating returns for each automation initiative, assessing resource scalability, and meeting other organizational requirements. This guide provides a framework for addressing these nuances, constructing a program budget, and setting an achievable ROI target. Importantly, engaging in the ROI calculation process enables organizations to prepare for leadership discussions that determine whether a project will secure or maintain funding.

ROI is a metric used to denote how much profit (i.e., return) has been generated from an investment that's been made. ROI can be either anticipated or actual, depending on when it is calculated. This book will cover anticipated ROI, which is future-oriented and used to determine if an automation program or additional investment is worth pursuing. Actual ROI is used retrospectively to determine how much profit (i.e., return) was produced.

ROI is calculated by taking the anticipated return and subtracting the anticipated costs. That number is the Net Profit that the program is anticipated to generate. Net Profit is then divided by the total cost of the investment. The value is commonly expressed as a percentage, ratio, or dollar value. Tarpon recommends showing ROI annually and cumulatively over a period of three years.

The formula for ROI is typically written as:

ROI = (Net Profit / Cost of Investment) x 100

MAKING THE CASE FOR YOUR PROGRAM

Let's review the non-financial reasons organizations build internal automation programs before turning to the ROI roadmap.

INTERNAL OWNERSHIP

As automation transitions from being a novel idea to an anticipated norm, many organizations are embracing the value and significance of internal ownership. The primary reason for building automation in-house is that maximum ROI cannot be achieved unless the technology is tailored to your specific workflows. In fact, automation may create additional steps and inefficiencies if it doesn't fit neatly within your existing workflows. Many vendors have promised and failed to deliver productized automation for this reason.

Below are additional reasons for building an internal automation program:

- **Process improvement** – Organizations will naturally improve the underlying process when they are building automations. Failing to do so may exacerbate the underlying issue.
- **Control** – Internal expertise provides the ability to fully control your automation roadmap, program dynamics, and ' vendor partnerships.
- **Cost** – Opting for internal programs often proves more cost- effective than relying on external vendors.
- **Customization** – Tailor automation solutions to your organization's unique system configurations and workflows, addressing specific needs that external solutions may not accommodate.
- **User-friendly platforms** – Automation platforms, with their enhanced capabilities, eliminate the need for traditional software engineering expertise, thereby enabling active participation by individuals without such degrees.
- **Employee satisfaction** – Automation allows employees to spend less time on repetitive tasks and focus more on cognitively rewarding work.
- **Professional Growth** – Internal programs empower organizations to upskill employees and transition them into new roles.
- **Innovation** – Having expertise will give your organization a platform to apply cutting edge technologies to your business in a flexible/experimental manner.

ROI MODEL

How do you get leadership on board now that you recognize the benefits of building automation in-house? By illustrating the financial impact, or ROI. Your program will yield strong returns with the right foundation, roles, and tools in place.

There are three main components to ROI:
Investments, Returns, and Projections

INVESTMENTS

Investments can be broken into three main areas: technology, resources, and acceleration services.

First and foremost are technology costs, encompassing the automation platform and associated licenses used for development. If your organization doesn't have one already, you'll have to work with a sales representative to get quotes. Pricing packages vary by vendor, licenses, support levels, and technology add-ons. It's important to anticipate incremental increases year-over-year. For example, the number of licenses will increase to keep pace with the automations you anticipate building. More complex projects might require technology add-ons, such as Document Understanding or Agentic AI, which are commonly an additional expense.

Second, internal resource investments exist for roles such as program managers, developers, and solution architects. While all three roles are necessary, they can be phased in and scaled over time. For instance, organizations might initially allocate a program manager to the automation program on a part-time basis during the first year, gradually increasing their commitment to full capacity. Similarly, you'll need to consider how many developers you'll need to hire to keep pace with the number of automations your program intends to build and maintain.

Third are acceleration services, including those provided by the Tarpon community and consulting. These services are valuable investments as they give your organization the expertise and capacity to start building or expanding right away. Such support is often necessary to coach internal resources new to automation and avoid costly mistakes that cripple programs. Last, and most importantly, acceleration services will improve the overall time to value, yielding a positive ROI more rapidly than programs typically accomplish independently.

ROI MODEL CONT.

Below is an example of an automation program investment over a three-year period.

Category	Investment			
	Year 1	Year 2	Year 3	Total
Technology ^(A)	\$300,000	\$350,000	\$400,000	\$1,050,000
Program Manager ^(B)	\$0	\$75,000	\$150,000	\$225,000
Developer 1 ^(C)	\$0	\$31,250	\$125,000	\$156,250
Developer 2 ^(C)	\$0		\$125,000	\$125,000
Solution Architect ^(D)	\$0	\$37,500	\$150,000	\$187,500
Tarpon Services ^(E)	\$850,000	\$850,000	\$400,000	\$2,100,000
Total	\$1,150,000	\$1,343,750	\$1,350,000	\$3,843,750

- A.) Assumes an increase in platform costs each year to accommodate new automation licenses
- B.) Assumes hiring a program manager part-time in year 2 and working full-time in year 3
- C.) Assumes hiring your first developer at the end of year 2 and a second developer in year 3
- D.) Tarpon recommends hiring a solution architect at the end of year 2
- E.) Tarpon's services accelerate time to value

RETURNS

Returns are a summation of individual automations the program will build. They accumulate over time and are categorized into two interconnected types: “Hard” and “Soft.” “Hard” returns/ savings directly impact the organization’s balance sheet, including reductions in Full-Time Equivalent (FTE) positions, write-offs from denied claims, and cost savings from vendor contracts. “Soft” returns/savings, while not explicitly reflected on the balance sheet, are influential to organizational operations bringing benefits such as enhanced labor productivity, the strategic repurposing of FTEs for more value-added tasks, and the avoidance of costly errors.

Returns are directly correlated to the investments that are made. For example, the program won’t be able to scale beyond a set amount of automations in year one without more investment in the development team. Similarly, without a solution architect, the team will have to pull on other resources for automation design, which will slow development. Another important nuance is maintenance which will consume a larger portion of the development team’s time, slowing down the output of new automations that organizations are accustomed to earlier in their journey.

In order to build a reliable model, organizations need to investigate each automation they plan on building. More effort must be put into year one’s calculations, while general estimates can be used for years two and three with the understanding that they will be updated later. Furthermore, investment impacts must be phased in over time. For example, automations anticipated to go live during the second half of the year should have their annual impact discounted by 50% in year one. 100% of the value should be accounted for in year two.

ROI MODEL CONT.

Below is an example of an automation program that returns over a three-year period.

Category	Return (A)			
	Year 1 (B)	Year 2 (C)	Year 3 (D)	Total
Automation 1 - Medicaid Eligibility Checking	\$1,000,000	\$1,000,000	\$1,000,000	\$3,000,000
Automation 2 - Auth Status	\$500,000	\$500,000	\$500,000	\$1,500,000
Automation 3 - Auth Determination	\$900,000	\$1,200,000	\$1,200,000	\$3,300,000
Automation 4 - Auth Submission	\$487,500	\$650,000	\$650,000	\$1,787,500
Automation 5 - Notice of Admission	\$300,000	\$400,000	\$400,000	\$1,100,000
Automation 6 - Paper Referrals Indexing	\$225,000	\$450,000	\$450,000	\$1,125,000
Automation 7 - Referral Statusing	\$250,000	\$500,000	\$500,000	\$1,250,000
Automation 8 - Claim Status	\$550,000	\$1,100,000	\$1,100,000	\$2,750,000
Automation 9 - Eligibility Denials	\$187,500	\$750,000	\$1,000,000	\$1,937,500
Automation 10 - COB Denials	\$93,750	\$375,000	\$500,000	\$968,750
Automation 11 - Authorization Denials		\$1,200,000	\$1,200,000	\$2,400,000
Automation 12 - Medical Record Uploads Denials		\$650,000	\$650,000	\$1,300,000
Automation 13 - Denials Correspondence Indexing		\$975,000	\$1,300,000	\$2,275,000
Automation 14 - Authorization Correspondence Indexing		\$600,000	\$800,000	\$1,400,000
Automation 15 - Charge Reconciliation Reporting		\$375,000	\$500,000	\$875,000
Automation 16 - Insurance Credits		\$225,000	\$450,000	\$675,000
Automation 17 - Self-pay Credits		\$175,000	\$350,000	\$525,000
Automation 18 - Physician Credentialing Billing Edits		\$115,000	\$230,000	\$345,000
Automation 19 - ED Downgrade Appeals		\$245,000	\$980,000	\$1,225,000
Automation 20 - Claim Modifiers		\$75,000	\$300,000	\$375,000
Automation 21 - 30 (E)			\$7,000,000	\$7,000,000
Total	\$4,493,750	\$11,560,000	\$21,060,000	\$37,113,750

- A.) All values are estimates and are prorated based on the anticipated go-live date
- B.) Year 1 assumes all automations are built using Tarpon resources
- C.) Year 2 assumes that some internal resources will be hired
- D.) Year 3 assumes a hybrid of Tarpon and internal resources are hired to build
- E.) Real values will be assigned when building a year 3 roadmap

ROI MODEL CONT.

PROJECTIONS

With an understanding of the investments and returns associated with an automation program, you can calculate ROI. Tarpon recommends projecting ROI in a dollar value and over a three-year period to illustrate the cumulative impact of the program.

It is not uncommon to see small ROI in year one as the program ramps up. Look for opportunities to stay profitable with consulting, phasing in project management resources, leveraging existing automation platform licenses, and/or training internal employees. Generating a robust pipeline of automations and experienced developers is key to fast returns.

With your projections fully laid out, it's time to review everything with subject matter experts and leadership. This exercise is important for alignment on all aspects of the roadmap. Present the ROI roadmap in the context of your current situation and all the other benefits automation has to offer, such as:

- **Strategic alignment** – Explain how the program aligns with the organization's financial objectives.
- **Scalability** – Illustrate how automation enables the organization to scale operations efficiently without a linear increase in costs. For example, supporting more work (i.e., a new service line or facility) without hiring.
- **Timelines** – Reiterate the timeline and highlight early successes that demonstrate the program's effectiveness.
- **Innovation** – Showcase how automation can be a part of the organization's innovation strategy and will contribute to maintaining a competitive edge, especially against payers and vendors.

Below is an example of an automation program ROI over a three- year period.

Category	Return on Investment (A)			
	Year 1	Year 2	Year 3	Total
Investment	\$1,150,000	\$1,343,750	\$1,350,000	\$3,843,750
Return	\$4,493,750	\$11,560,000	\$21,060,000	\$37,113,750
Cumulative ROI	\$3,343,750	\$10,216,250	\$19,710,000	\$33,270,000

A.) Tarpon recommends looking at ROI over a 3 year period to illustrate how investment and returns scale over time

BUILDING THE AUTOMATION ROADMAP

Building any model requires defensible assumptions and iteration. Below are important activities and assumptions to use when building an ROI roadmap.

ACTIVITIES AND ASSUMPTIONS

- Set organizational goals; examples include:
 - o The number of automations desired in the first and second years.
 - o A financial or budgetary improvement required by the organization.
 - o Operations capacity requirements given staffing shortages, retention challenges, or work volume increases due to an additional facility or service line.
- Estimate the resources required based on the goals.
 - o Stay conservative if your team is new to automation or staffed with part-time resources in the first year.
 - o Solution architecture will help your team build a pipeline of vetted and mapped automations, allowing more time to be spent on development.
 - o Consulting or staffing augmentation will give your team more capacity.
- Generate a pipeline of automation use cases for year one with returns.
 - o Briefly shadow the process with a subject matter expert for feasibility.
 - o Isolate the population that would be included in the automation.
 - o Estimate the returns/savings:
 - A common approach is to multiply the time savings per account by the estimated annual volume being automated.
 - Include “Hard” saving opportunities such as write-offs, vendor savings, etc.
 - o Focus on volume and feasibility; it's unnecessary to outline all the design details at this stage of the process.
- Sequence and align your investments and returns by anticipated go-live date and goals.
- Present and discuss with organizational leadership and build into your organization's budget.

CONCLUSION

Building an automation program is essential for any organization that wants to improve efficiency and its financial position. Illustrating the impact of such a program through an Automation Roadmap is critical to starting or expanding that journey. By following the steps outlined above, organizations can ensure that their automation program is financially sound, rooted in reality, and aligned with the broader organization.

Join the Tarpon Health Community!
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