Introduction

Overview

For decades, we have been hearing about the "fast pace" of technology, the "rapidly changing technology environment," and the need for companies to be on the "cutting edge" in order to remain competitive or even relevant. Different methodologies have come and gone, some like Six Sigma remaining popular and effective and others like the Capability Maturity Model (and its short-lived successor, the Capability Maturity Model Integrated) falling by the wayside after a respectable run.

All of these have served, or continue to serve, a purpose. These models have been adopted successfully by many organizations. But process improvement is an ongoing initiative. What can be done next in terms of current processes, here and now, that will increase efficiency, benefit customers, and improve profitability? One option is Robotic Process Automation (RPA).

Cristina-Claudia Osman, writing in *Informatica Economica*, described RPA as follows:

> *The emerging of new digital tools supports organizations to improve their business processes by increasing efficiency and agility, or reducing errors and costs. Robotic Process Automation (RPA) tools are designed to perform manual and repetitive tasks of human employees using trained robots. This is different than other traditional software because the robots communicate with other information systems by means of front-end. RPA helps companies to reduce employees' workload and errors, but also to save costs.*

To summarize, RPA means taking repetitive, manual processes and creating a "Bot" (robot) to perform them, thus freeing up the time of personnel who were doing these tasks to focus on more important issues, issues that often require human insight and decision-making, not just following routine and repetitive actions. These more complex tasks involving cognitive thought are often more directly customer facing. Additionally, automating processes reduces human error and costly rework. It can also improve morale by enabling employees to work on tasks that require thought, rather than simply repeating rote actions.

■ **Pause and Consider**   Automating certain processes enables people to focus on more complex processes and tasks and those that require decision-making and/or creativity. A Bot will do exactly what it is programmed to do, and that is most often jobs that don't require thought. Consider how this will help to gain buy-in for a new RPA initiative.

Benefits

The benefits of RPA are clear. As Timothy Driscoll, writing in *Strategic Finance*, said:

> *Designed properly, software robots can operate 24/7 at a lower cost than humans while delivering higher-quality and scalable output. This set of benefits can make an appealing value-creating business case. RPA initiatives are likely to target processes that are labor- and transaction-intensive, where people are performing recurring tasks that can be redesigned as rules-based activities performed by robots or software tools. The benefits of RPA initiatives may include, but aren't limited to, the key measures in Table[1].*

Efficiency/Cost Metrics	Effectiveness/Quality Metrics	Risk/Compliance Metrics
% Headcount/cost reduction	% Accuracy improvement	% Operating risk improvement
% Productivity increase	% Cycle-time reduction	
% Daily throughput increase	% Client-satisfaction increase	% Increase in automated controls

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[1] https://sfmagazine.com/post-entry/march-2018-value-through-robotic-process-automation/.

As shown, RPA can achieve benefits that the management of any organization would welcome. We will now discuss briefly how these can be applied. Detail on how to achieve these and additional benefits is contained in subsequent chapters.

Practical Applications

In order to achieve these and additional benefits, RPA can be applied to a wide variety of processes. There are four key characteristics to look for when determining if a process can easily be automated:

1. Is it repetitive?

    -   Do the same actions need to be performed over and over, for different clients, employees, etc.? For example, if an invoice is created manually, a clerk must obtain the name of the item or service purchased and the cost of that item or service; they must find the name, address, and account number of the purchaser and insert all the information onto an invoice template. They then place it in an envelope and send it to the mailroom for postage.

2. Would the cost of automating the process exceed the cost of continuing to do it manually?

    -   While a manual process may be very repetitive, it may cost more to automate it than to continue doing it manually. On the surface, such a process would not be a good candidate for automation.

3. Is automation required for competitive value?

    -   Saving money is not the only motivation for automating a process. Perhaps the cost of automating a process will exceed the dollar savings, but it should be automated to maintain a competitive advantage.

4. Would automating a process better enable the organization to fulfill government regulations?

    -   Most industries adhere to various kinds of government regulations. Automating processes to ensure that required work is done and reports are issued on time can be highly beneficial.

In looking at any process automation potential, a "Yes" to question 1 is required in order to continue investigation. The repetitive nature of the process is key for automation. And while the cost of automation may exceed the financial benefits accrued by it, this does not eliminate the process from consideration for automation, since there may be competitive or regulatory benefits that go beyond immediate financial considerations.

Structure of the Book

How do you apply the principles to achieve the desired benefits? This book is structured to enable the novice to RPA to successfully implement an RPA program within their company. The first two chapters describe the groundwork required to implement RPA successfully. The remaining chapters describe the activities in specific phases of RPA implementation and how to monitor to ensure success.

Chapter 1. Overview. Introduction to RPA, what it is, how it is growing throughout IT organizations, and how it can benefit your organization.

Chapter 2. Initial Preparation. What is required to introduce a successful RPA program in any organization, larger or small? What are the key components that must be in place before you begin? How do you identify "early adopters" who will be key to your success? What are the hidden land mines, and how can you avoid them?

Chapter 3. Operating Model – Governance, Sponsorship, and Framework. How much structure is needed? How flexible should that structure be? What gates should exist in order to assure that approval for a project remains valid, even if circumstances change? Who are the key stakeholders who will be responsible for the RPA program? Why is cancelling a project in a later phase not a "failure"?

Chapter 4. Opportunity Identification. How do you solicit opportunities for automation? How do you best introduce the idea of automating repetitive manual processes? What forms will help you to best identify opportunities? Who (what roles) must be involved at this stage?

Chapter 5. Opportunity Assessment. Once you have identified some possible candidates for automation, how do you assess them? What should you look for? What documentation is required? What do you present to the Governance Committee? How do you handle ambivalence ("this might be a good opportunity if…")? Who (what roles) must be involved at this stage?

Chapter 6. Solution Design. Once approved, how do you design the solution? Who is involved? What documentation is required?

Chapter 7. Solution Deployment, Maintenance, and Retirement. Once designed, what is required pre-deployment? What steps must be taken to ensure the best possible chance for success? What documentation is required? Who (what roles) must be involved at this stage?

Chapter 8. Organizational Structure. What is the best structure for your new RPA program? You will need to know what currently exists in your organization. We detail the three most common structures: centralized, decentralized, and hub and spoke.

Chapter 9. Development Methodologies and Framework. Different organizations use different methodologies, such as a traditional Waterfall methodology, Agile, or a hybrid. Whatever methodology your organization uses, we describe the commonalities and how to best assure RPA success, regardless of the methodology.

Chapter 10. Planning for the Future. As technologies change, how will you adapt? Also, as processes change, what alterations may be required for existing Bots? How can you build in the ability to change, even when the future is unknown? This chapter provides the necessary guidance to assure that your new RPA program will continue to provide benefits far into the future.

Chapter 11. Challenges and Pitfalls. You will encounter many challenges as you implement an RPA program. We have detailed some of them in early chapters, but in this chapter, we will summarize them. What is the risk of half-hearted executive buy-in? How will you deal with line workers who feel their jobs may be jeopardized by automation (and how will you handle that situation if that is a real threat)? How do you work with a COE (Center of Excellence) most effectively, and on whom do those responsibilities fall if there is no COE in your organization?

Chapter 12. Summary. In this concluding chapter, we focus on some of the key highlights of advantages and why RPA may be ideal for your organization. We also briefly note some of the cautions to be aware of as you begin to introduce RPA.

Appendix. The Appendix contains all the documentation you need, as described within this book. This includes, but is not limited to, a request form (the basic starting point – eventually, this will be completed by the requestor, but initially, you will complete it with the requestor, since they will be unfamiliar with it), a risk assessment table, a feasibility assessment table, requirements documents (functional and nonfunctional) templates, and many others. These, of course, can and should be adapted to your particular needs, but they provide you with an important starting point. Often it is best, at first, to use them as they currently exist. Your ongoing experience with RPA will lead you to adapt them for greater effectiveness in your particular organization.

While this book will be an ongoing reference for any RPA initiative, it is recommended that it be read start to finish initially. This way, the person new to RPA will have an excellent overview and know where to look within the book for more detailed information when questions arise.

We wish you much success as you start your RPA journey!