Process automation
Using automation to improve processes and reduce costs

Introduction

Automation is used by many organizations to reduce costs by eliminating or augmenting manual labor. If used properly, it can help organizations reduce costs and improve the overall quality of work. However, too many companies approach automation with little research and end up spending a tremendous amount of time and money managing automation scripts that bring little value to the company. In fact, most organizations that use automation don't fully understand the actual financial impact achieved, if any.

This white paper addresses the most common issues related to automation and describes a proven approach to:

- Identify automation opportunities that will provide the highest return on investment.
- The best approach to automate processes and digital work.
- How to measure the impact of the automation efforts.

For any organization to have a successful automation program, it first needs to have a process in place to identify automation opportunities. This is the most critical step to help ensure the program is a success. This can be achieved by eliminating the standard pitfalls outlined herein:

1. The "squeaky wheel" syndrome.
2. Automate everything.
3. Partial automation is the answer.

The "squeaky wheel" syndrome

You've heard the saying, "The squeaky wheel gets the grease." In business, it typically means that the person who complains the loudest gets the most attention; but it doesn't mean thee attention is warranted or the most necessary priority. Many organizations create processes that allow end users to submit requests for improvements, including automation. While this is a good idea, it should be exercised with caution so that the loudest people don't drown out issues with higher potential value. It is best to establish an automation review board that can prioritize automation opportunities with those that provide the highest value to the organization.

Automate everything

Automating everything is the approach taken by organizations that have had some success with automation and now assume that everything can and should be automated. Automation can improve accuracy by endlessly performing repetitive tasks that are often error-prone when performed by people. However, if it's not carefully planned, it can also make the process much more complicated, actually driving up overall costs, or achieve only marginal improvements while not delivering value that exceeds its overall cost.

Partial automation

Partial automation is a great way to augment human activity, and can actually improve quality. Partial automation can be used to automatically capture data from one application and paste it into the second application. The benefits of this type of automation include reducing errors, improving performance, and providing an audit trail. The downside to partial automation is that it can be not only time-consuming but also costly to design, implement, and support when compared to the actual benefits received. As in the previous example, you should avoid getting trapped by the mentality that says, "All automation is good, so let's find every little piece of mundane work and automate it."

Analysis is the key to automation

A good automation strategy should include an analysis step to make sure you target the correct processes to automate. Before you can decide what to automate, you first need to identify the pool of potential opportunities. There are several ways to accomplish this including:

1. By the number of times a process is executed per day/week/month.
2. By the complexity of the process.
3. By the actual time/cost associated with the human work.

Item 1 is fairly simple to analyze. The number of times each person executes the process multiplied by the number of people. This is also the most common method used by most companies.

Item 2 usually falls into the "squeaky wheel syndrome" category, but can be legitimate, depending on the circumstances. Try to avoid this if possible unless it solves a specific, prioritized problem.

Item 3 is by far the best way to identify automation opportunities, because it goes directly toward the bottom line. If you can identify the cost of doing something, then you can also identify the potential cost savings which helps you determine if the automation opportunity is worth the effort.

Identify opportunities by cost

There are several ways to identify the cost of a process. The most common is to use a stopwatch to time users as they're doing their work. While this approach is very error-prone and not very accurate when used with today's digital workplace, it does give you some idea of how time is being spent. Also, we have found that users being monitored usually fall into one of two categories: either they work more quickly than normal because they want to impress the person watching them, or they work more slowly than normal because they know they will be expected to work at that level at all times.

Another, and more accurate approach, is to automatically capture all work activity in real time from the actual work itself. This method can gather data from all workers simultaneously without any observation bias. The data can then be fed to an analysis tool to find the most costly (time-consuming) processes. There are several tools on the market that capture this type of worker activity. If you evaluate these tools, it's important to find one that specifically focuses on time. Time spent by people performing a work task directly relates to cost, so capturing the time associated with processes and sub-processes is critical to the successful identification of the activities producing the highest value.

Choose a solution that's right for you

As you look at automation solutions, or re-evaluate your existing solution, you should consider the type and complexity of the processes you intend to automate. As mentioned earlier, analysis can help you identify the most costly processes; but it can also help you understand the complexity of each process. This is important to understand because not all automation solutions can handle complex processes.

Automation solutions typically fall into one of the following categories:

- Macros
- Scripts
- Robots

Macros

Macros are typically created using a recorder to capture user activity. Macros aren't "intelligent," so they typically don't handle complex processes with a lot of business logic. They are simple to record, simple to run and are usually cost-effective. However, because they can't handle complex logic, if they are programmed incorrectly or fail to identify their location within an application, they can do the wrong thing and actually cause more work.

Macros have the following advantages and disadvantages:

Advantages

- End users can usually create them.
- Cost-to-benefit ratio is usually very good.

Disadvantages

- End users can usually create them.
- Can't handle complex processes.
- Difficult to handle error conditions.
- Error conditions may result in incorrect processing which requires manual work to resolve.
- Not centralized, scalable, or secure.

Scripts

Scripts are more advanced and more complex than macros and can handle simple to moderately complex processes. They usually require a programmer to create and maintain which adds cost to the solution. Scripts typically run against specific applications in a desktop environment and require either specific application programming interfaces (API) or screen-scraping.

Scripts can be used for partial automation and can automatically identify situations as users are in the process of performing their work. They can usually intercept work from users or prompt users to make decisions. Scripts have the following advantages and disadvantages:

Advantages

- Cost-to-benefit ratio is good.
- Good for partial automation/user augmentation.
- Can handle most moderately complex logic.

Disadvantages

- Requires specific APIs or screen scraping which is error prone.
- Cannot access external data for complex processing.
- If taken too far, cost can outweigh benefits.
- May not be secure.
- Not typically centralized or scalable.

Robots

Robots are intelligent enough to handle very complex processes. The difference between a script and a robot is that a robot can handle anything a human can do as long as the data required to do the work is in an electronic form and is accessible. By contrast, scripts can handle most business logic, but usually don't have access to all of the data necessary to make complex decisions.

Robots also typically run in memory on a server, which allows for more concurrent instances, which translates to more virtual users. Robots have the following advantages and disadvantages:

Advantages

- Cost-to-benefit ratio is best.
- Can handle very complex processes as long as required data is available.
- Can access external data sources.
- Run in memory and are very fast.
- Supports thousands of concurrent processes.
- Centralized, scalable and secure.
- End users cannot create them.

Disadvantages

- Higher cost of entry than macros and scripts.
- Complex processes require more analysis and testing.
- Not suitable for partial automation/augmentation.
- End users cannot create them.

Conclusion

Almost everyone agrees that automating manual processes can reduce costs and improve accuracy and quality for organizations. However, if the approach used to identify and define those processes is not done through a rigorous analysis, you might end up automating the wrong processes and will probably not get the expected return. When it comes to automation, analysis is the key to success!

Also, strongly consider using an automation solution that mimics the actual worker activity. This allows you to reuse the business logic already built into the user interface, and provides a shorter path to develop and deploy the robots that maximize automation value.

About OpenConnect

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