Process Solutions

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Process Software

In this month's Column, I have been asked to write about "process software." That topic could be taken many ways, but I have chosen to define the concept in the broadest sense. I hope to open your mind to new possibilities by presenting a different way to think about process automation. Additionally, you will receive some guidance in how to break down the options available for automating processes and choose the right tools.

BPTrends has provided plenty of coverage to products that have classified themselves as "business process management system" software. The best of these systems are starting to rival the potential of the other classification of BPMS: the enterprise resource planning (ERP) system. ERP systems and BPMS software comprise the majority of what larger organizations consider "process software." But, is it?

It is best to start any objective analysis of any topic with some basic definitions. "Process software" undoubtedly means different things to different people. If we use the broadest definition, the category must include any software that assists with the control or efficiency of "a process." The definition of a process has been discussed extensively on this site (e.g. Paul Harmon's Advisor of 12/14/2010). By its simplest definition for our purposes: a process converts inputs into outputs.

This opens up a whole range of solutions that we often don't consider as BPM practitioners. For example:

- Manufacturing automation systems
- Automated systems controls (thermostats, electrical grid management, traffic mgt, etc.)
- Task management software
- Decision support tools (business intelligence, mind mapping, etc.)

Seen in this manner, almost all software is "process software." Let's take a look at a simple example we can all relate to. When the automobile was first mass produced, the road system was designed for horses. Intersections were not as hazardous with horses as they were with cars. So, the stop sign was invented. Not software, but definitely a process improvement. As traffic continued to build in busy city centers, stop signs created huge delays. So, the problem was solved with the traffic cop, a person who stood in the middle of the intersection, monitored traffic in real-time, and regulated its flow according to prevailing patterns.

The first attempt at automation was a traffic light that had a single timer. The timer was set based on the typical traffic pattern. Eventually, these lights were enhanced to include multiple timing mechanisms to reflect differing traffic patterns throughout the day. The modern day traffic light has sensors to detect approaching vehicles and is tied into a central traffic management system that can regulate traffic flow over an area encompassing many traffic lights in multiple directions. By any definition, the software that performs this regulation is process software.

Why bring up such a non-business example? Because, it provides a clear example of how a process that once relied on humans has been automated to the point where we don't even see it as a process anymore. Process software takes some or all of a process and makes it disappear. It puts it into a black box that "directs traffic" via rules and control mechanisms.

Armed with this broader definition, how can we approach process automation more holistically?

To my mind, assuming you have cataloged all of your processes, they can each be put into one of three buckets:

1. Processes that can be fully automated (made to disappear)
2. Processes that can be given away (so **you** don't do them anymore)
3. Processes that can be partially automated

Let's take a look at each one of these. Hopefully, this will get your own creative juices flowing and you can start to devise plans to utilize process software to take your processes to the next level.

Fully Automated Processes

The modern traffic system moved humans from executing the process to analyzing, altering and deploying strategies. State-of-the-art communications systems have allowed us to begin to do the same with human interaction. Large ecommerce websites such as Amazon, eBay and Dell process millions of transactions per day without anyone from the company seeing them until products are ready to be picked in the warehouse.

Canon recently announced that by 2015, they will make cameras without the touch of a human hand. They have chosen this path because Japanese manufacturing, once a global powerhouse, has been eroded by cheap foreign labor in China, India and other Asian countries with a lower cost of living. Canon executives claim that workers will be reallocated to jobs that humans can do best. Whether layoffs occur or not, the harsh reality is that the global marketplace necessitates taking whatever measures are necessary to reduce costs while increasing quality. The wellbeing of the remaining employees is at stake.

Giving Away Processes

Outsourcing an entire process may sound easy when you say it. The reality is usually much more difficult. Yes, there are some processes like "clean the office" that are relatively easy to give away. However, most processes have internal suppliers and customers (i.e. other processes) that they connect with. It is critical that inputs and outputs flow correctly between internally executed processes and their externally executed counterparts.

A common example is "delivering product." Prior to delivering product, it must be picked and packed. In many cases an invoicing process is triggered just prior to shipping. Typically, shipments must be planned and scheduled prior to all the other preparations. When your own trucks are involved, it's easy to tell the driver to wait when something goes wrong. Try telling that to a person who gets paid to haul the most stuff in the least amount of time. Drivers are real good at creating stress.

Whether you're using an ERP system or a warehouse management system (WMS), process automation tools enable you to give away integrated processes. Without them, you will likely be worse off for the effort. When you can't give away a whole process, sometimes you can give away a piece of it.

Partially Automating Processes

This is easily the most common situation. Cost and technological limitations often prevent the wholesale automation of a process. This is also the category in which there is the largest number of options. In fact, there are so many options that they really need to be broken down into categories.

- **Transactional Control Software** – these are tools such as ERP systems, WMS software and client billing software
- **Activity Management Software** – customer relationship management (CRM), scheduling, and task managers all fall into this category
- **Knowledge Management Software** – this category contains products such as web based content management systems (CMS), Microsoft's SharePoint and file sharing solutions like DropBox or other cloud storage services
- **Collaboration Software** – this category is a mixed bag. Email falls into this category as do the various chat tools (e.g. gTalk, AIM, FaceTime), web based forums (which provide threaded discussions) and conferencing systems (e.g. GoToMeeting, WebEx)

There are many tools available that provide two or more of these categories of process automation support. When you dissect most processes, you discover that they contain most, if not all, of these components, but not so for the tools. For example, most BPMS and ERP systems are strong in the transactional control and activity management category, but have little or no knowledge management or collaboration capabilities. Whereas mind mapping software such as XMind and MindGenius are great at knowledge management and collaboration, but have no transactional capabilities and little or no activity management.

Yet, all of these tools help us partially automate our processes. It is unlikely that any company will find one tool to handle all of their process needs. As BPMS solutions evolve, they will include abilities in all areas of process management. It may be possible to use one tool to build all of the process management capabilities you need.

The question you will need to ask yourself is whether your firm is up to the task of designing a solution for all of your partial process automation needs. When some of the process automation tasks are easily resolved with ready-made tools that are easy to configure, the promise of "no coding" may be of little solace. My company, UnaPage, designs a simplified workflow tool. We receive a continuous stream of suggestions to make the product better by supporting more capabilities. While it's nice to add new features, we know that if we're not careful, we will eventually have all the complexity of the many excellent BPMS software products already in the marketplace. For the types of processes we can partially automate, our solution works fine and is easy to configure.

You could build a CRM system with a BPMS solution, but with so many excellent products like Salesforce.com, Zoho, Microsoft CRM, and Pivotal, where's the value in the effort? I am not arguing against BPMS software. There are certain processes for which there is no better way to automate. For sophisticated workflows for which there is no COTS (canned off the shelf) solution, they may be the only choice. Maybe your company sells high ticket items so you need an extensive credit approval process. The COTS software for this is designed for financial institutions that do a lot of this and it is very expensive. BPMS software might be just the right choice. Furthermore, its flexibility will make it reusable for other processes.

In Summary

It's easy to fall into the trap of thinking that "process software" is something that is labeled as such. Ultimately, any software provides some sort of process support. The process of writing a book once required pen and paper. The word processor changed all that and the editing process got a whole lot easier. We take certain process automation tools for granted, but that doesn't negate what they are.

The question isn't "what is process software?" Rather, what is the *best* software for the job. That is a much more challenging question to answer. First, you need to determine whether you will fully automate, outsource, or partially automate it. Next, you need to determine whether the software tools you already own are up to the task. If they are, sometimes "the devil you know" is better than something new. But, if you must acquire new tools, focus on minimizing implementation disruptions. That is not to say you should compromise your requirements to excess. Some compromise might just be worth it. Too often, those of us who have been involved in large scale implementations see them fail. They fail for a wide range of reasons, but the longer the timeframe and the more people involved, the more the opportunities for failure will present themselves.

With so many options, it is worthwhile to consider the problem broadly so as to encompass as many options as possible. The greater the cost and implementation effort, the more likely you are to live with your choice for a while – regardless of its efficacy. Best of luck with your choices.

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