BPM SUITES AND THE LONG TAIL OF PROCESS AUTOMATION

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The Internet reduced inventory and distribution costs making selling niche products profitable. Similarly, BPM suites are helping meet niche requirements in areas where historical enterprise software has fallen short, making the automation of all types of processes more affordable and cost-effective.
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Appian Corporation is the first business process management (BPM) company to combine process, knowledge, and analytics capabilities in an comprehensive suite. Extending the value of existing systems, Appian’s award-winning software aligns business strategy and execution, delivering greater control over strategic business processes. Appian’s customers include Fortune 500 companies, government agencies, and non-governmental organizations.

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Introduction

The phrase “The Long Tail” was first coined by Chris Anderson in a 2004 Wired Magazine article. He observed that demand for niche products with low sales volume can, in aggregate, rival and sometimes exceed the demand for a few bestselling products or blockbusters. He noted that demand for these niche products make up the “Long Tail” of an overall product demand curve (see diagram). Anderson argued that traditional stores with limited shelf space must focus on selling mainstream hits or blockbusters because the high costs of inventory and distribution make serving niche goods in the long tail unprofitable. By focusing on products they know will have high demand, the companies maximize profit. However, Anderson’s primary thesis was that the Internet changed all of this. Companies like Amazon.com and Netflix, for instance, recognized that less popular goods (e.g. rare books or documentary videos) can also make money. These online retailers combine infinite shelf space with real-time information about buying trends and, as a result, can profitably serve these niche markets in addition to the blockbusters. Since there are so many more niche goods than blockbusters, the aggregate profit that can be squeezed out of each niche can quickly add up to impressive gains. For example, while the average Blockbuster store carries less than 3,000 DVDs, over a fifth of Netflix rentals are outside its top 3,000 titles. An Amazon employee described the long tail phenomenon by saying “We sold more books today that didn’t sell at all yesterday than we sold today of all the books that did sell yesterday.” And finally, Google figured out how to make money off the “long tail” of search terms, by providing an infrastructure for charging small prices for large numbers of niche advertising key words.
1. The Long Tail of Process Management

The long tail theory can also be applied to process automation and process management. Organizations have thousands of interconnected business processes. This patchwork of process logic includes human tasks as well as computerized activities that access and update enterprise systems and applications. While all of these processes work collectively to support the goals and strategies of the organization, enterprise software has typically been targeted toward high demand processes that are roughly similar across organizations (CRM, ERP, HCM, salesforce automation, etc.). For each process automated in one of these enterprise software applications there are hundreds of highly customized, unique organizational processes that are not adequately addressed by these systems. These processes are often being managed through e-mail, MS Excel, faxes and telephone calls or handled by custom coded software written by external consultants or internal IT organizations. Moreover, sometimes even the processes automated using rigid enterprise software packages are so unique or specific to the organization that they require heavy and expensive customizations that increase project risk and hinder upgrade paths. Given such costs, many organizations have not seen any significant value return on the implementation of these solutions.

Some processes, such as strategic sourcing and procurement, are often so tailored to the specific needs of the particular organization that traditional off-the-shelf procurement packages will not suffice. Others, like human capital management systems and compliance solutions for Sarbanes-Oxley and HIPAA, require agile business logic that can change rapidly as regulatory statutes are reinterpreted by courts or modified by Congress. These processes could benefit from better management and automation if the right software were available at the right price, but historically the cost of developing
custom software to meet these niche, organization-specific, requirements has been too high given the low potential sales volume. Therefore, just as inventory and distribution costs makes selling niche products unprofitable in the world of brick-and-mortar stores, the cost of developing enterprise software solutions for organization-specific business processes is oftentimes cost prohibitive. This is all changing with the emergence of a new class of enterprise software: the Business Process Management Suite (BPMS).

BPM Suites are rapidly becoming the preferred next-generation platform for automating processes and building process-centric applications. By lowering the incremental cost of automating new business processes and modifying existing ones, BPM Suites are helping organizations achieve efficiency gains from processes further down the long tail. Their enterprise performance and scalability greatly expand the number and complexity of processes that can be profitably automated within an organization. Once automated, these processes benefit from being well documented in a common language and notation and can be adjusted quickly to meet changing business requirements. Just as Amazon, Netflix, and Google have used the Internet to profitably serve niche markets, organizations can use BPM Suites to drive efficiency gains further down into its core processes.

2. What is a BPM Suite?

Business Process Management (BPM) is a management discipline that helps organizations continuously optimize those operational processes that have the largest impact on corporate performance goals. Business Process Management Suites (BPMS) are software packages that provide an extensible framework for enforcing that discipline by modeling and executing business processes, managing the hand-offs of both human and system tasks, and monitoring/auditing process performance targets with an eye towards continuous improvement of business processes.

BPM Suites provide this flexibility by delivering on three major categories of functionality: Process, Knowledge and Analytics. The process tier enables businesses to manage their processes more flexibly, leading to better, faster results. It does this by providing a scalable, powerful process engine at the center, augmented by process modeling services, event and alerting services, rules and policy services, and integration capabilities using web services and third-party adapters. Combining process with a knowledge tier allows businesses to route documents, discussions and other structured and unstructured content more rapidly throughout the organization. This helps to streamline the communication and distribution of work requiring human collaboration. The knowledge component of a BPM Suite includes document management, content management and portal interface capabilities as well as flexible security and role management for ensuring the accurate delivery of information and tasks to authorized users at the right time. By combining process and knowledge with an analytic tier, BPM Suites give management visibility and control over processes at a high level through reports, and dashboards. Under this tier, BPM Suites provide process analytics (e.g. lag times, completion times, bottlenecks), business activity monitoring (BAM) and even simulation capabilities for performing “what if” scenario modeling. These services help fulfill an organization’s process performance goals through round-trip engineering and continuous process improvement.
3. Using BPM Suites to Drive Efficiency in the Long Tail

An organization’s interconnected patchwork of business procedures contains some internal processes that are highly visible to the managers and executive teams and others that are less visible. Usually, the highly visible processes get the lion’s share of resources to help ensure they are efficient, streamlined, and optimized. Less time and money is typically devoted to ensuring the efficiency of the less visible processes. For every highly visible process, there may be a hundred other processes that could benefit greatly through better management, accountability and visibility.

More frequently BPM Suites are being used instead of traditional rigid software packages for modeling, automating and managing an organization’s core, strategic business processes. New software initiatives use BPM Suites for their flexibility in modifying process logic without development, their low total cost of ownership, and their ability to leverage an organization’s existing assets (both people and systems). Once part of an organization’s infrastructure, BPM Suites provide the additional latent benefit of lowering the incremental cost for automating new processes down the organization’s long tail. This is a major differentiator between a BPM Suite and other forms of enterprise software. With BPM Suites, the hundreds of smaller, less visible processes become candidates for process automation that otherwise would never have gotten the funding or attention to be adequately addressed. These processes can free-ride off of the initial investment in a BPM Suite made in the original, highly visible process.
3.1 Increasing Managers Effectiveness

Effective automation of the process long tail requires more than just the right tool. It requires the right level of internal support from executives and managers. However, in the same way that shelf space is a constraint on a retail store's ability to target niche markets, executives' time is a constraint on their ability to monitor and improve organizational processes. There are too many memos that don’t get read and e-mails that pile up in inboxes. Executives and managers spend too much time collecting data and researching problems rather than analyzing data and making strategic decisions about the goals and positioning of the company. BPM Suites cut down on the time spent retrieving this information by creating automatic audit trails of all process steps, distributing time-based alerts and exceptions, and providing consolidated views of this information through personalized dashboards and real-time process data. This reduces research and information collection time by delivering relevant information directly to the executive's desktop. As a result, they can use the time they are saving to analyze their business problems more effectively, make better decisions, or broaden the scope of their visibility into areas that otherwise would not have made it onto their radar. That is, BPM Suites can help decision-makers broaden their scope and influence, promoting improvement and efficiency deeper down the long tail of organizational processes.

3.2 Encouraging a Process-Centric Culture

In addition to providing executives and managers more time to make better decisions, BPM Suites encourage organizations to create more effective process-centric incentive structures by providing the tools and resources for organizations to become process-centric. BPM Suites use intuitive, web-based interfaces to distribute process creation and management capabilities to a larger audience. Building applications on BPM Suites, in which the logic is flexibly encoded in process diagrams rather than hard-coded in programming language logic, ensure that more people are capable of adjusting and adapting these processes to changing business environments. While an organization typically starts with only a handful of process designers who work closely with the IT department, BPM Suites provide the tools to make all employees accountable for promoting ideas that drive efficiency all the way down the organization’s long tail.

BPM suites empower the end-user to drive change while providing the security to impose the appropriate restrictions. In particular, once sufficient development, test and production environments are made available, there will be a push to distribute these process capabilities to a wider audience. In the same way that web logging technology (e.g. blogs) enables ordinary business users to become collaborative providers of content on the web, distributed process design capabilities will enable general users to participate in the evolution and continuous improvement of business processes. BPM Suites merge the ideas of process participants and process editors, allowing organizations to provide more control to employees at the extremities of the organization to make and implement the tactical decisions necessary to improve the efficiency of processes they are involved in.

Today, the decisions about how to modify processes in order to work smarter are made by a handful of managers and executives. Taking the time to fully understand the processes in the long tail is a time-consuming hassle that often gets shoved to the backburner by overworked managers. Empowering and encouraging the day-to-day worker to make process adjustments is a paradigm shift for many organizations stuck on centralized decision-making. An organization cannot adapt quickly without tapping into the collective knowledge and innovation of its employees. BPM Suites deliver the performance numbers, accountability and process agility to turn all employees into proponents of process efficiency. Using a BPM Suite’s ability to create and publish new policies and procedures in real-time, process managers are no longer dependent on IT in order to adapt their processes to changing environments.
3.3 Reducing Incremental Cost of Process Automation

In addition to providing executives and managers more process visibility as well as encouraging a culture of process ownership and continuous improvement, BPM Suites have other tangible benefits. Another important benefit is the total return on investment (ROI) that BPM Suites provide. BPM Suites lower the incremental cost of future process automation initiatives. Because a large percentage of the cost of a suite is fixed, additional marginal value can be had at a very low marginal cost.

BPM Suites are not yet ubiquitous in organizations. Therefore, deployments must still have an initial return that includes the cost of the BPM Suite framework. The initial purchase of a BPM Suite is usually accompanied by an additional expenditure associated with deploying a process template to implement a solution to a specific business problem. Very often, the return on investment (ROI) for automating this first application can pay for the entire BPM Suite framework. Then, every subsequent time the BPM Suite framework is used to automate new processes down the long tail, the overall return on the initial investment to the organization increases and adds to the BPM Suite’s overall value proposition.

Previously, the long tail of organizational business processes remained manual and poorly managed because the software for each niche process was either too hard to write or too expensive to create and customize profitably. BPM Suites provide a robust, flexible infrastructure where the incremental cost to automate additional processes is very low when compared to the total cost of ownership for typical, rigid enterprise software packages. By lowering this incremental cost, BPM Suites are making it economically viable to automate processes further down the long tail.

In particular, BPM Suites are lowering the incremental cost of additional process automation in the following ways:

Adaptability
Requirements in most organizational processes are not usually fixed, stable feature sets. Oftentimes, they are collaborative, human-oriented processes whose requirements flow and evolve over time. BPM Suites support the agile adaptation of process logic through the ability to encapsulate process flow and decision logic in process diagrams that can then be edited and modified in real-time. Policies and flow logic within specific running process instances can be adjusted in order to handle the inevitable “one-off” exceptions. By providing tools that allow applications built on BPM Suites to adapt quickly to changing business requirements, process owners become empowered to take ownership for the continued improvement of the process and ensure it is evolving properly. This makes BPM Suites much better suited to the automation of the process requirements in the long tail than other fixed, rigid applications like ERP and CRM. With BPM Suites, more process design and automation can be done in-house with existing resources without hiring expensive, specialized consultants or contractors.

Extensibility
BPM Suites are built on a service-oriented architecture that promotes reuse and is inherently extensible. They provide an extensible set of activities - nodes, rules and subprocesses - that can be incorporated into process diagrams. Once a policy rule or activity node is created for one process diagram, it is immediately accessible to other processes with similar requirements. Therefore, as an organization begins extending the BPM Suite adding functionality to support automating a specific process, it is in effect adding to a repository of reusable logic that can then be leveraged in other models and in other processes. The more processes that are automated, the larger the repository of potentially reusable components.
becomes. Moreover, BPM Suites work with extensible applications like Eclipse (IDE) and Firefox (Web Browser) to ensure that even more complex custom integrations are less costly and reach farther into the long tail.

**Leveraging Existing Assets**

Automating processes that involve legacy applications can often be expensive. While typical stove-piped enterprise applications don’t usually provide integration support, BPM Suites provide adapter-based integration and system nodes that simplify these integration problems. COBOL applications and older legacy applications sometimes mean that automating processes in the long tail can be more expensive and incrementally not worth it. However, when those old processes and systems finally fail and must be replaced, the incremental savings of having purchased a BPM Suite that specializes in the development of next-generation applications starts to kick in. Some of those old processes will be replaced with commercial-off-the-shelf (COTS) point solutions geared towards that particular process problem. For others, the low incremental cost of designing these processes in a BPM Suite will allow them to benefit from automation where purchasing a new software package would have been cost prohibitive. BPM Suites, therefore, help process automation push down the organizational long tail.

**Standards-based**

BPM Suites provide a common language for modeling and storing business processes. A common terminology and process notation leads to simpler and more precise communication of complex ideas. This is necessary to promote a process-centric organization in which fresh ideas and innovation help inform and drive process change. Standards like Business Process Modeling Notation (BPMN), the clear leader in process notation, increase the ability for business users to quickly share process knowledge. It provides a common language for creating dialog around process inefficiencies and potential process improvements and reduces confusion over terms like activities, rules, events and flow logic. Providing a common language for sharing process definitions between functions and business units helps reduce the cost of understanding and addressing problems quickly and adequately.

**Conclusion**

Applying Chris Anderson’s concepts to process management, we see that many organizational processes are not adequately addressed using traditional, rigid enterprise applications. Automating highly customized processes using standard off-the-shelf packages or internal custom development can be cost prohibitive. By contrast, BPM Suites are lowering the incremental cost of automating new business processes and modifying existing ones. Just as online retailers like Amazon and Netflix have created competitive advantage by serving the long tail of product demand, organizations can create competitive advantage by using BPM Suites to drive efficiency further down the long tail of their business processes.

Employing a combination of Process, Knowledge and Analytics capabilities, BPM Suites allow users to leverage organizations’ existing resources in order to quickly and flexibly model, automate, and manage strategic business processes. Other internal processes can then free-ride off of the initial investment in a BPM Suite, lowering the incremental cost of process automation and increasing the efficiency gains.

As an infrastructure for building next-generation agile applications, BPM Suites benefit organizations in many ways. By automatically tracking, auditing, and reporting on all process-related data, BPM Suites give managers and executives more
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time to make better, well-informed decisions about how to drive efficiency gains in their organizations. Additionally, BPM Suites encourage a process-centric culture in which process owners are empowered and accountable for continually improving the processes they manage. BPM also gives general users the power and control to make tactical decisions and minor process adjustments to help improve the business processes they participate in. Tapping into the ingenuity and knowledge base of its employees, BPM Suites allow organizations to define best practices that can quickly adapt to changing business conditions without relying on IT to make real-time changes.