



# Business Rules Management and Business Process Management: Turning Policies into Action

## Introduction

The mantra of today's business environment is "build for change", driving many process improvement initiatives. Businesses must realize, however, that the decisions within the business processes are at least as critical in the search for agility, since the decisions change more frequently than the processes. Combining business rules management and business process management provides that agility by allowing the decisions, and their underlying rules, to be changed independently from the processes, often in real-time by business managers.

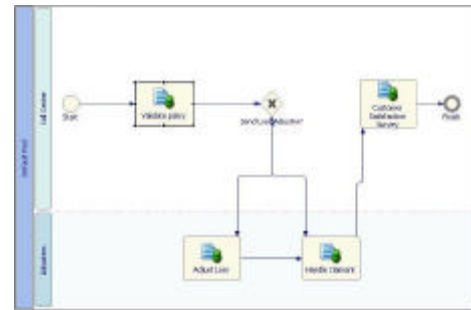
This white paper examines the intersection of business rules management and business process management: what they are, how they interact, and why this is important to the agility, accuracy, cost and compliance of your business processes.

## Business Processes and Business Rules

Enterprise business processes are the end-to-end processes that make your business what it is: the processes that touch your customers, and span functional silos in your organization. A typical example of this is order-to-cash: any process that involves taking instructions or orders from a customer, performing services or manufacturing goods to fill that order, delivering the goods or services, then invoicing and receiving payment. Companies that don't manage their business processes across the enterprise typically find problems not within each functional group, but at the transition points between these silos – where the order passes from sales to fulfillment, for example, or from fulfillment to accounting – since many business applications are focused only on functionality within a department.



Enter business process management (BPM). Analyst definitions state that BPM is first and foremost a management discipline for improving your end-to-end processes: a way of thinking about process management, governance and improvement, independent of any particular technology. Secondly, BPM is the methodologies and tools that help to put this discipline in place: orchestrating automated tasks and decisions where possible, integrating multiple enterprise applications, directing human tasks, and providing in-depth information on the status and health of the business processes. BPM suites can improve business processes by ensuring the timely processing of tasks, escalating processes that experience problems, removing the delays in distributing work, and providing instant feedback on processes to management.



**Process model in a BPM modeling tool**

A BPM suite includes the following components:

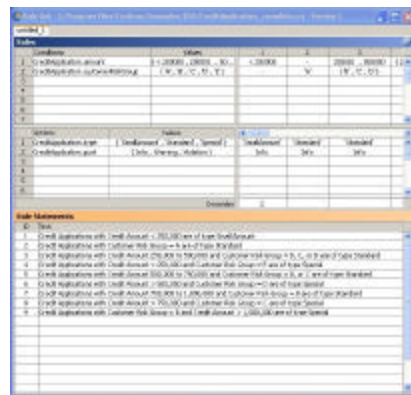
- A process modeling tool.
- A process repository.
- A server-based process execution engine.
- A browser-based workspace for people to participate in a process.
- Monitoring, reporting and analytics.
- Process simulation and optimization.
- System connectivity via web services and adapters.

There are a number of other components that may be part of a BPM suite, or loosely-coupled components from a third-party:

- A business rules authoring, execution and management system.
- Content management.
- Collaboration for unstructured interaction in a process.
- Industry- or application-specific frameworks to reduce customization for complex processes such as case management.



While each of these supplementary components of BPM can increase the value of BPM solutions, business rules arguably have the largest impact on business agility. Business rules often embody the business policies that define an action to be taken at a point in a business process: a decision to be made, or a constraint applied. Some rules are implicit, buried within enterprise applications or well-worn policies and procedures; others are explicit, having been identified and documented as separate corporate assets.



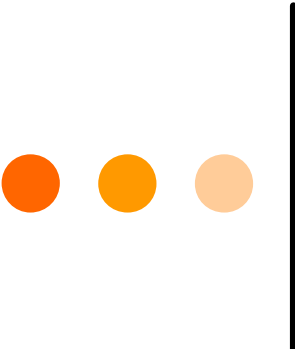
**Rule set in a BRM modeling tool**

Business rules management (BRM), like BPM, is both a discipline for the discovery and management of business rules, and the methodologies and tools used to manage the rules. BRM systems include much more than traditional business rules engines that execute rules and allow for reusability across the enterprise; they also provide much broader rules modeling, monitoring and

administration capabilities. BRM systems typically include the following components:

- A rule authoring (modeling/development) environment.
- A rules repository.
- A server-based rules execution engine.
- Rule-model simulation.
- Monitoring and analysis.
- Management and administration.
- Rule templates as starting points for common scenarios.

The parallel evolution of BPM and BRM is no coincidence. Both practices and technologies are focused on creating explicit models of business that can be directly translated to the execution of those models – known as model-driven architecture – that greatly reduces the time required to develop applications. The value of BPM and BRM solutions strongly correlates with the degree of automation in translating business-friendly models to executable code. Separating out processes and rules from enterprise applications turns them into



explicit assets to be managed, allowing for greater visibility into business operations, greater agility in changing these assets, and reusability across multiple business applications.

## The Missing Link

In spite of this parallel evolution, many organizations consider business rules and business process management to be separate technologies rather than synergistic solutions. Project teams are often tasked with a technology-focused directive to “implement BPM” based on an enterprise-wide technology acquisition, and may be unaware of the benefits of integrating BPM and BRM. Others see only the limited rules functionality that is provided within their BPM suite, and assume that rules are a minor feature of BPM rather than a powerful and independent platform for implementing business decisions.

Historically, BRM has been an IT purchase, selected to implement systems faster and cheaper; BPM is often a business purchase, selected to improve management of business processes. Since the technologies have been selected by different groups for different purposes, they have rarely been considered for close integration.

Business rules can be used to externalize automated decisions from business processes in the same way that they separate decisions from enterprise applications: creating explicit, external decisions that can be reused across business processes and modified independently of the processes. Business rules can also be used to automate complex manual decisions in a process, where the BPM process model may indicate only that a decision must be made at a certain point, but doesn't have the sophisticated decisioning capability to execute it.

Once decisions are externalized from processes, process models change less often: most business agility is based on rule changes, not process changes, especially for high-volume transactional processes. However, since common practice has been to code rules directly in the business processes — making these processes a combination of processes and decision trees — or rely on the people at the process steps to make the decisions, the perceived need is to change processes rather than change rules. The entire BPM industry has focused on building tools that allow for easy modification of process maps by the

business, when integrating business rules for decisioning can greatly reduce the need to modify process maps.



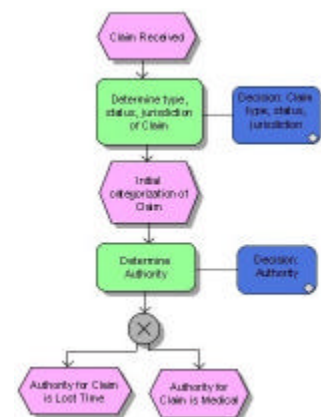
**Manual decisions embedded in a process**

There are two primary methods of integrating BPM and BRM. First, business rules capabilities can be built into the BPM suite. However, many BPM suites only have rudimentary expression engines for creating Boolean expressions to drive routing decisions, and define each decision at the point in the process where it's used, preventing reuse. Aside from no centralization or reusability of rules, there are other problems with this approach. Typically, changes to the rules require that the process definition be modified, then go through a testing and redeployment

cycle: there's no way for a business manager to tweak a parameter in a rule and have it take effect immediately. Even worse, since the rules are written as part of the process definition, they're typically encapsulated in a piece of work at the time that it is created, so if the rules in the process definition change, it doesn't impact work in flight, only new process instances. That's not an issue for straight-through, short-running process, but some processes last for weeks, months or even years – such as disability insurance claims – and require that the current set of business rules be applied when a decisioning step occurs in the process, not an outdated rule from days gone by.

The alternative is to separate rules management and process management platforms, which has a number of benefits:

- A full-featured business rules platform has much greater capabilities than the rules functionality within most BPM suites, including more sophisticated rule design functions, rule harvesting from enterprise applications, business-friendly metaphor for rule modeling, comprehensive logical analysis and testing, versioning, and model-driven data integration.
- A separate BRM suite can share rules between processes and with applications across the enterprise:



**Automated decisions external to a process**



complex rules such as credit scoring or risk assessment can be defined in the BRM, then invoked from the BPM suite as well as a CRM or other applications.

- Process instances don't access a decision until it's required, thereby applying the most up-to-date rules that support the current business policies if that is desired, or optionally what was in play at the time that the work was created.
- Business managers and analysts can update specific rule parameters in real-time to fine-tune decisions for current conditions, which also impacts in-flight processes.

## Better Together

Shifting from its early focus on improving efficiency and achieving compliance, the main driver for BPM has become business agility. Business rules provide agility to business processes by allowing business users to fine-tune decision parameters in real-time, and decision logic to be modified without changing and retesting the business processes.

Business [process] agility is critical to maintaining a competitive edge. If you can't change your business process to meet new regulations or customer requirements, to accommodate a merger, or to keep up with your competitors' new offering, then you're going to fall behind. Business rules support greater process agility, and can be applied in a variety of patterns and places.

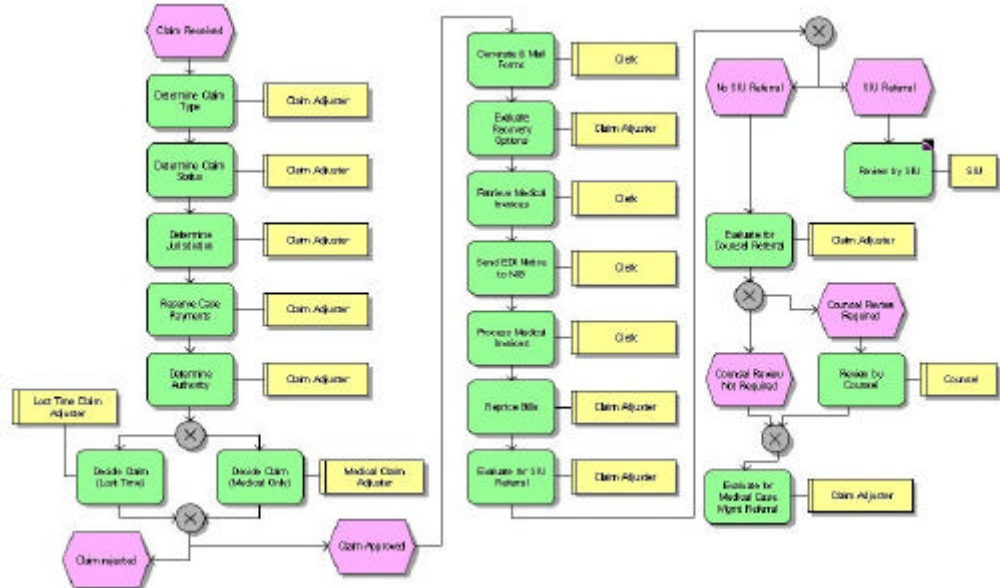
Some of the decision types within business processes include:

- Deciding which path that a piece of work will take when there's more than one possible route out of a process step
- Deciding how work is assigned to individuals based on skills, workload, security and other factors
- Setting parameters based on other conditions, which in turn might impact routing or assignment of work
- Scoring an applicant or application for an account or policy
- Calculating discounts, orders, loan rates and terms
- Transforming data between formats
- Verifying input data for format and against other data



In many cases, processes can be made sufficiently agile just by being able to change the rules, not the process model: the flow looks the same, but there's more work flowing down a particular route due to a rule change. Processes can also be accelerated and streamlined by automating complex manual decisions with BRM: advanced rule modeling environments allow these decisions to be automated.

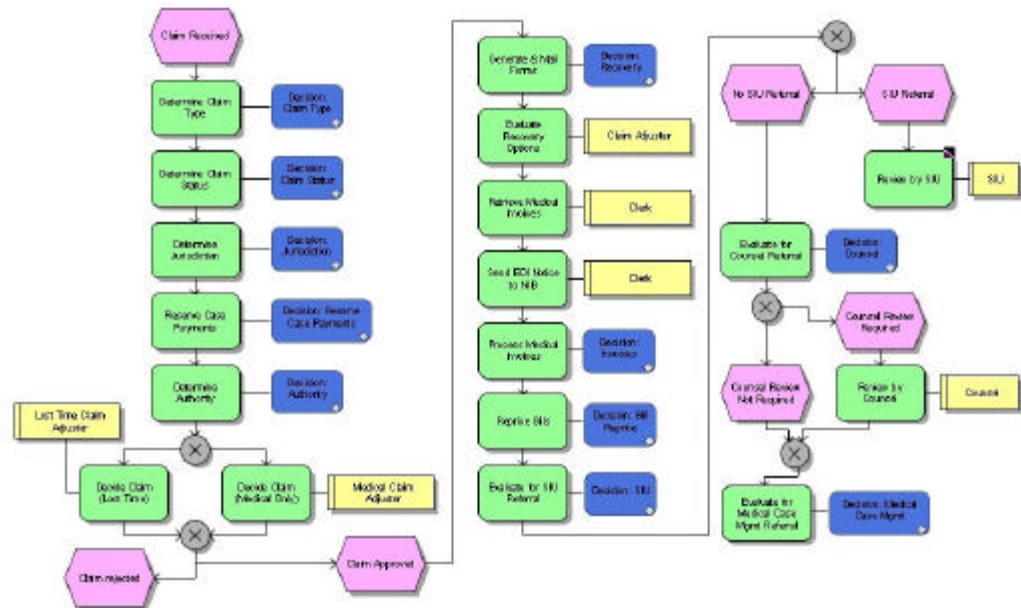
Consider the case of the claims department in a workers' compensation organization. Their claims adjudication process included a large number of complex decisions, most of which were not automated but performed manually by the process participants (denoted in yellow):



**Original claims process**

Not only was this inefficient, but frequent changes to policies and practices made it impossible to keep the staff training up to date, resulting in a high level of errors. This led to unnecessary loss on claims, and made compliance reporting difficult.

When business rules technology was applied to this process, 20 of the 27 decisions were automated in the BRMS (denoted in blue):



**Claims process with most decisions automated**

This not only removed most decision-making from the individual workers, where it was prone to error, but externalized the decisions into a BRM system where they could be easily modified to meet changing policies without having to change the business process itself.

The result: a reduction in claims loss of 15.5%. Considering that claims loss can be as much as 80% of an insurer's expense, this was a significant improvement. Furthermore, automation of most of the process decisions reduced the end-to-end cycle time and the individual effort required to process a claim.

It's critical to embody more intelligence in today's business decision-making and have consistent, automated decisioning built into business processes in order to remain agile and competitive. By extracting the decisions from legacy applications, static enterprise applications and human-centric processes, and managing them within a shared business rules management system, operational decisions can be applied consistently — and modified easily for processes in flight — across the enterprise.



## Conclusion

There are many manual business decisions buried within your business processes and applications, ranging from simple work routing to complex scoring or strategy evaluation. These decisions – based on market conditions, legislation, policies and other factors – change much more frequently than the processes themselves, and the ability for business owners or domain experts to be fully empowered to change those decisions independent of the processes is the key to business process agility.

Combining business rules management and business process management gives you that agility, and much more:

- Externalize the decisions from the processes, allowing the decisions and their underlying rules to be changed in real-time in response to changing conditions.
- Reduce errors by automating decisions that do not require human decision-making.
- Reduce processing costs by eliminating non-value-added manual steps from the process.
- Reduce training requirements for staff by eliminating the need for them to interpret policies and apply manual decisions.
- Improve policy enforcement and compliance by automating and providing traceability and transparency for compliance-related decisions.

Business rules management and business process management together give you the ability to build for change, an imperative in today's fast-moving business environment.

## About the Author

Sandy Kemsley is an independent analyst and systems architect specializing in business process management. She works with both end-user organizations and vendors across North America, and writes the popular “Column 2” blog at [www.column2.com](http://www.column2.com). She also creates and delivers BPM and related training courses.

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