

# JBPM in IT Sector for Banking Products

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## Abstract:

JBPM (Java Business Process Management) is an open-source workflow engine written in Java that can execute business processes written in BPMN 2.0. JBPM is a toolkit for building business applications that manage and automate business processes and decisions. BPM tools make the process easier. Many BPM tools are available on the market to take advantage of business process management such as reduced costs, fewer errors, and faster processing times.

Banking is one area where BPM is frequently applied. BPM helps banks automate business processes such as account opening, loan processing, payments, and transactions.

## Keywords:

JBPM, BPM, Business Process, Process Management, Banking Product

## Objective:

Through this paper, we aim to highlight the use of BPM technology in the banking sector and how some of the advantages of BPM tools. Further we will see some banking applications which can be easily managed by JBPM.

## Methodology:

Through this study and research, we highlight some of the milestones of JBPM. This white paper begins with a general introduction to business process concepts, followed by the latest insights and developments in the field, with a particular focus on the use of process management in banking. Content analysis techniques were implemented to evaluate data obtained from various secondary information sources such as journals, web sources, and other scholarly publications. In order to obtain an update on the current state of JBPM in banking sector research, we have used a mix of academic and non-academic literature with the aim of gaining multifaceted perspectives.

## **Introduction:**

In the last ten years, every IT BPM digital innovation has had an effect on the BFSI industry. This cut the service time down by a lot and helped to make the service better. Use robotic process automation to improve the way claims are processed. Use big data and advanced analytics to create risk profiles, learn more about how customers act, and predict fraudulent transactions. This has made it possible for the industry to meet both customer expectations and regulations at the same time. Demands from the market and the government are always changing, so banks need to use business process management (BPM) that lets them respond quickly to changes in regulations, process changes, and customer and market needs. This is made possible by a banking workflow solution that automates the process. Increase the amount of work that bank employees can do and reduce the chance that documents will get lost or wrong information will be given. This makes things more accurate and speeds up a lot of processes, like approval workflows and managing documents.

Banking workflow solutions help banks and other financial institutions make their business processes and banking workflows more efficient and improve their use of technology. This makes costs go up and makes things clearer, but it keeps investments in other systems safe.

## **Our banking workflow solution provides:**

Standardized processes can be used to manage banking workflows and automate approvals. A rules engine for business and tools for keeping track of tasks and SLAs.

In the same way, there is no room for wrong operational decisions in the age of digital banking, where loan payments are as easy as clicking a button and getting to know a customer is as easy as clicking a few buttons. The way banks make operational decisions today can't be based on old ideas. The bank's workflow solution can be used to model all decisions that don't change. But business logic and hard decisions need different answers. As decision automation grows in popularity, banks are looking for solutions that can help them make smart decisions quickly and accurately.

Solution providers offer rule engines that are based on DMN standards as well as banking workflow solutions that work with BPMN standards. It combines and makes modelling and implementation easier to help automate decision-making and make digital processes work from start to finish. Companies are streamlining and automating decision making instead of making their internal workflows better. This lets you focus on customers who, in the digital world, expect a quick response.

## **Workflow and decision automation can make a difference in your bank**

- **Increase Efficiency and Productivity** – Implementing a banking workflow solution cuts down on the number of manual tasks and turns the workplace into a streamlined, digital system that works well. Managers can now look at more loan requests and more complicated situations than they could before.
- **Better Risk Management** – Rule-based decision automation solutions make sure that operations follow the rules and cut down on fraud. With the help of data, better risk and credit policies can be made to reduce losses.

- **Paperless Environment** - When all of the fields on an electronic application are filled out and saved, less paper is used. The integration features of the banking workflow solution help it work with a wide range of other IT applications for intelligent automation. It helps banks automate document processing, verification and validation, compliance checks, and consolidation.
- **Customer Satisfaction** – Who doesn't like it when things move quickly? Automated solutions improve the verification process, making sure that decisions are made quickly and that customers are happy. Automation also gets rid of mistakes made by people, which cuts down on losses and makes people suspicious.
- **Analytics and Fraud Detection** – A data-driven engine collects better and more accurate data. This makes it easier to look at data in real time to stop fraud. It also helps with other things, like managing campaigns, keeping scorecards for stores, etc.
- **Better decision-making** – Rules and algorithms that have already been set up make sure that everything is clear, fair, and more responsive to the needs of local customers.

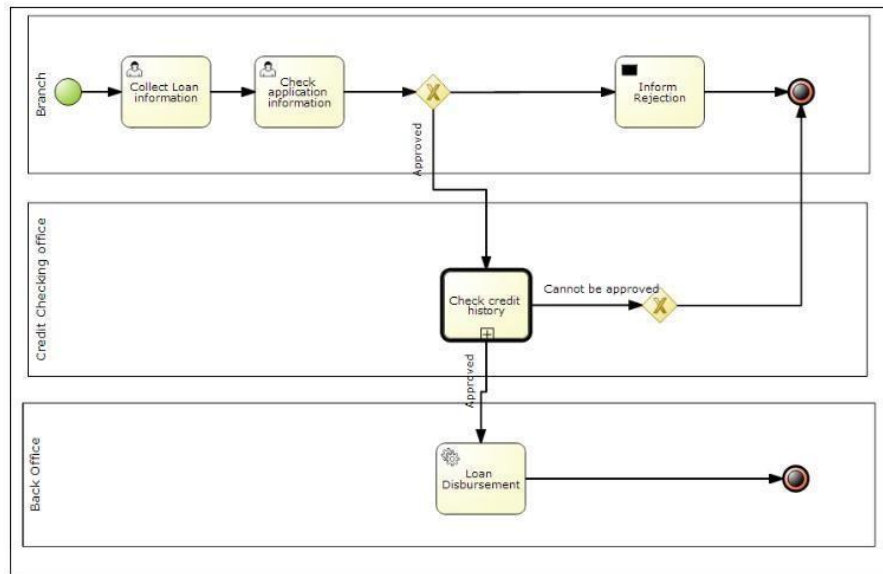
### **Is your banking workflow solution compatible with your current IT landscape?**

Many banks still run and maintain both applications that were made in-house and applications that were made in the past. They offer solutions for core banking or help with entering customer data by hand. When choosing an OEM for solutions, he needs to think about the IT applications he already uses to make sure they work well together and don't get in the way of workflow.

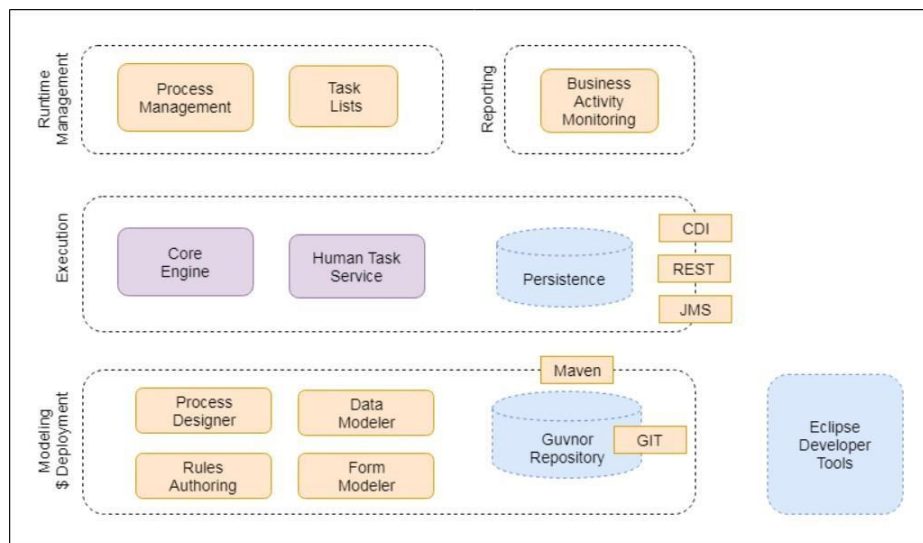
Flowcharts can be used to model your business goals and describe the steps that need to be taken to reach those goals and in what order. This makes business logic much more visible and flexible and gives it a high-level, domain-specific representation that is easier for business users to understand and keep track of. The main part of JBPM is a light, expandable, and The latest BPMN 2.0 specification is used to run business processes on a workflow engine written in pure Java. It can be used as a service or built into your application. It can also run in any Java environment.

JBPM supports adaptive and dynamic processes that need to be flexible to model real-world situations that are too complicated for rigid processes to describe easily. Give the end user control back by letting them decide which parts of the process to run, how to change the process on the fly, etc.

JBPM is more than just a process engine that can run on its own. Business processes, business rules, and complex event handling can be used to model complex business logic. You can use JBPM and Drools projects together to create an integration environment that combines these two paradigms. This lets you model your business logic as a mix of processes, rules, and events. The diagram below shows how the loan application system is put together.



## JBPM Components:



This figure gives an overview of the different components of the JBPM Project:

## Core Engine

The core of your project is the Core Engine, which lets you run your business processes in a flexible way. A lightweight workflow engine that runs business processes. It is written in Java.

## Human Task Service

The Human Task Service is a key part of Business Process Management. Provides a humantask lifecycle when a business process needs tasks to be done that involve interactions between human actors.

## **Persistence**

This is runtime persistence, which keeps track of the state of all instances of a process and logs all audit information that happens while the process is running

## **REST/JMS**

It connects our application to the core engine through the Java API and also connects remotely through the REST and JMS APIs.

## **Process Designer**

Provides a web-based environment where business users can design and test business processes. It has a graphical editor that lets you view and change business processes by dragging and dropping. It can also simulate how a process works.

## **Data Modeler**

Allows users who aren't tech-savvy to view, edit, and create business data models. The Data Modeler tool lets you create both logical and physical models of your data without having to write any code.

## **Form Modeler**

It lets you make, print, and change forms that are used in business processes or while doing tasks. This modelling tool lets you make forms even if you don't know how to code or how to use template markup. Gives non-technical users a WYSIWYG environment for making forms.

## **Rule Authoring**

You can combine business processes by setting different kinds of business rules. These business rules are decision tables, guided rules, etc.

## **Guvnor Repositories**

In Guvnor repositories, all kinds of business assets are kept and taken care of.

## **Process Management**

A web-based management console can be used to control how things work. It has things like the ability to manage process instances. H. Start and stop processes, check instances that are already running, manage and run human task lists, and make reports.

## **Eclipse Developer Tools**

A set of plugins for the Eclipse IDE that let you integrate your business processes into your development environment. It lets you drag-and-drop options to make business processes, test and fix processes, and more.

**Conclusion:**

JBPM's main goal is to keep track of all the needs for business flow and management information.

It is open source, flexible, and easy to use and understand. It can be used to manage business processes and workflow. Workflow Engine and Graphic Designer are built on Eclipse or any other workbench. JBPM has been used a lot in banking, finance, health care, government, and universities, among other places that need to manage processes.

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