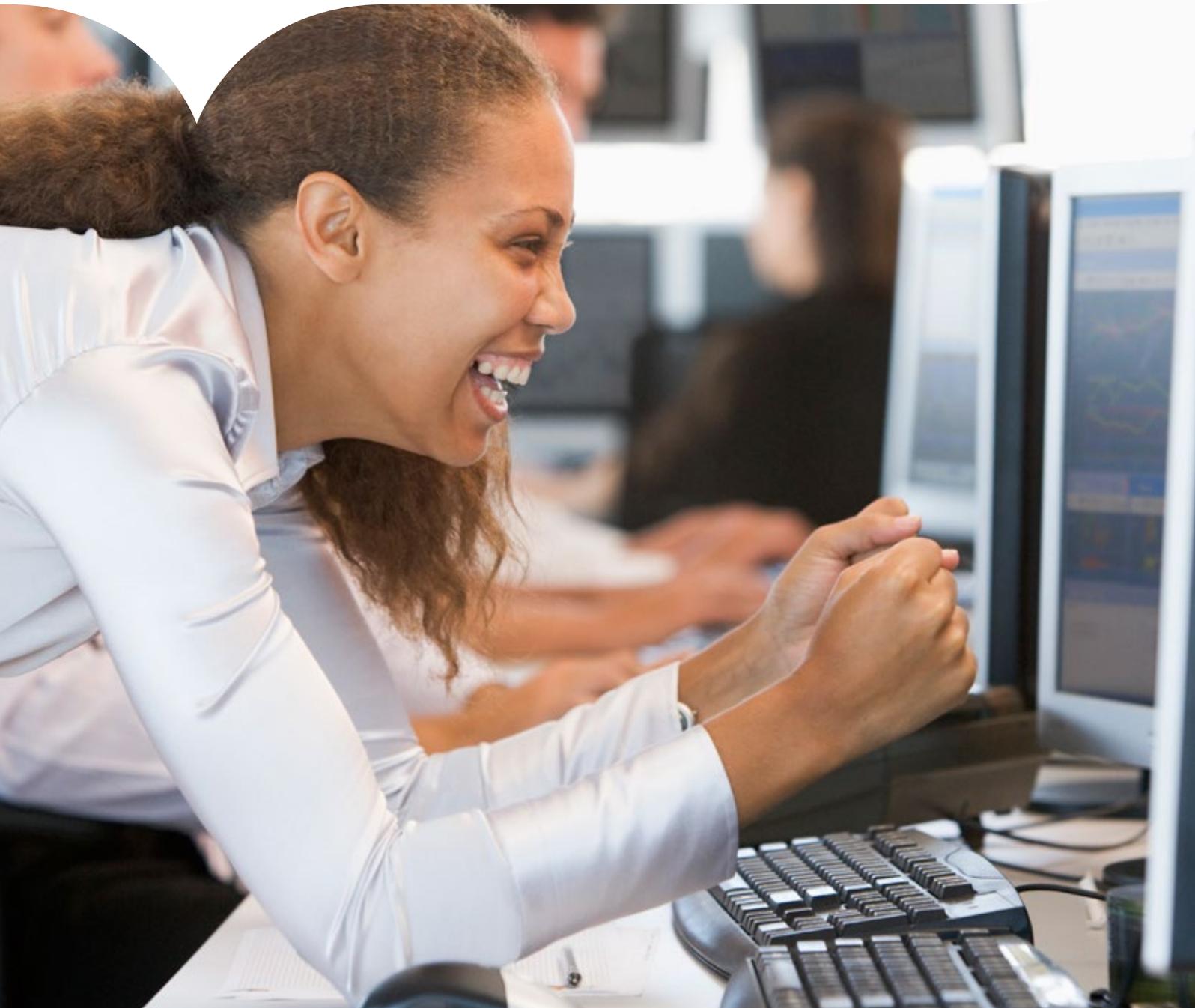


# Leveraging Intelligent Business Process Management to Reinvent Business Operations in Financial Services



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# 1. Introduction

Today's financial institutions face multiple complexities in the business environment—from multi-faceted decision-making, increasing data volumes, and emerging regulatory requirements to rapidly changing customer expectations.

Traditional business process management (BPM) solutions are unable to address these emerging challenges. They lack agility, process visibility, and real-time decision making capabilities. In an ongoing effort to adequately support business process intelligence needs, BPM has evolved into intelligent business process management or iBPM.

iBPM is the topic of this paper, which specifically illustrates capabilities and drivers, and analyzes key challenges to iBPM adoption. The paper also identifies, expressly for the banking and insurance industries, advantages of iBPM and steps needed to achieve its full potential.



# 2. Introduction and Evolution of Intelligent Business Process Management

Today's financial institutions face multiple complexities in the business environment, from multi-faceted decision-making, increasing data volumes, and emerging regulatory requirements to rapidly changing customer expectations.

Traditional business process management (BPM) solutions are unable to address these emerging challenges. They lack agility, process visibility, and real-time decision making capabilities. In an ongoing effort to adequately support business process intelligence needs, BPM has evolved into intelligent business process management or iBPM.

iBPM is a new generation of BPM delivering faster decisions, enhanced visibility, and better insight into operations.

## 2.1. What is iBPM?

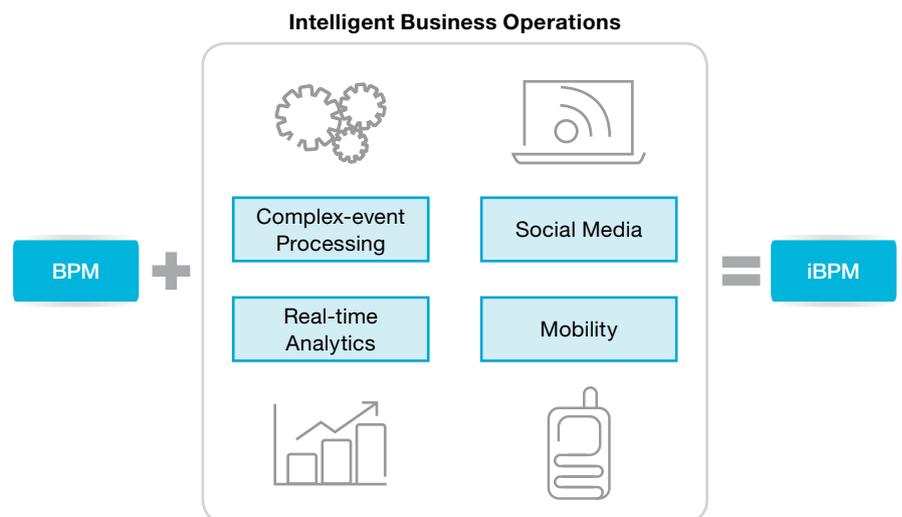
iBPM can be defined in any number of ways.

According to Gartner, the iBPM Suite (iBPMS):

“...expands the traditional BPMS by adding the new functionality needed to support [Intelligent Business Operations] IBO, such as real-time business analytics, deep complex-event processing (CEP), social media to support social behavior and collaboration, and expanded technologies to support growing requirements for mobility<sup>1</sup>.”

It has been Capgemini's experience that iBPM aims to replicate the human decision-making process by integrating complex-event processors, analytics, and social and mobile technologies into BPM processes. Although stand-alone implementations of BPM, complex-event processing, and analytics yields numerous advantages, iBPM leverages the synergies between these areas enabling instant reactions to changing business requirements.

Exhibit 1: Representation of iBPM



Source: Capgemini Analysis, 2013

1 Gartner, Inc.: "Magic Quadrant for Intelligent Business Process Management Suites," Jim Sinur, W. Roy Schulte, Janelle B. Hill, and Teresa Jones, 27 September 2012

The core attributes of iBPM include:

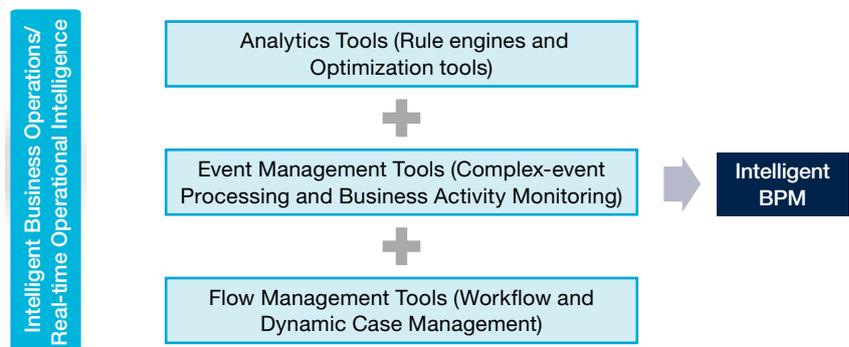
- **Real-time business analytics.** Real-time analytics empowers decision-making and improves process visibility by identifying meaningful correlations in structured or unstructured data.
- **Deep complex-event processing (CEP).** CEP analyzes high volumes of data to monitor unexpected patterns and respond to evolving opportunities and risks.
- **Social media platform.** iBPM uses external context data and social data (such as expert opinion and customer opinion) to anticipate customer demands and determine the next best action.
- **Expanded technologies to support mobility.** Mobile platforms improve process efficiency by providing employees with instant access to business processes for anytime, anywhere delivery.

Intelligent business operations provide enhanced visibility, improved communication, and flexible processes in situations involving vast amount of business data. For example:

- Analytics tools, such as rule engines and optimization, simplify application development and maintenance, leading to better decision making.
- Event management tools, such as business activity monitoring (BAM) and CEP, provide continuous intelligence that enhances visibility.
- Flow management tools, such as workflow and dynamic case management, enhance process efficiency.

iBPM uses these tools to add the power of decision management in BPM.

Exhibit 2: Adding the Power of Decision Management to iBPM



Source: Capgemini Analysis, 2013

## 2.2. Decision-making Capabilities

iBPM facilitates actionable decision-making by embedding real-time operational intelligence into business operations. This decision-making capability has four key characteristics:

- **Context.** Decisions made are within the context of processes, recent interactions, and business data. For example, a loan application is evaluated not just on the applicant's creditworthiness, but also on wider parameters, such as current availability of credit, risk profiles, and projected interest rates.
- **Immediacy.** In order to take timely corrective action, decisions are made at the appropriate moment. For example, insurance policy underwriters expedite resolution times with the help of real-time insurance experience data.
- **Actionable.** Efficient and cost-effective corrective action can be taken based on real-time decision making. For example, banks leverage analytics to focus marketing resources on high-performing promotional activities.
- **Monitoring.** Business activity monitoring (BAM) or event-processing platforms can monitor decisions to report specific events to management and send alerts through e-mail, text messages, or other channels. Business dashboards, for example, would be refreshed frequently to highlight exceptions and other scenarios that need attention.

Decision management services are incorporated into both structured and unstructured processes to provide the most appropriate action for a given context. In this way, iBPM delivers agility and improves business performance.

## 2.3. Two Fundamental Styles of Real-time Operational Intelligence: Analytics Services and Active Analytics

The idea of using real-time operational intelligence in business operations is not new. Its use today, however, is accelerating due to increasing business requirements for informed decisions and enhanced business results.

Analytics services and active analytics implement the concept of continuous intelligence because they offer the ability to enrich process data with relevant business and interaction data.

These two styles of real-time operational intelligence are described below.

### Analytics Services

Analytics services implements a decision management function on the request of an application program, a person, or a physical device. These services are also used in conjunction with workflow tools to make intelligent flow management decisions. Some examples of analytics services include:

- **Intelligent decision automation.** An application program invokes a rule engine to authorize a credit card transaction or to calculate the likelihood that an insurance claim, for example, is fraudulent.
- **Analytics services triggered by a person.** In the case of a complex loan application, the creditworthiness of the applicant is first scored by a rule engine. After the results are generated by the rule engine, human intervention is required to determine whether to accept or reject the loan.
- **Intelligent flow management.** A load balancer limits throughput to 100 transactions per resource per day. When the rule engine detects the increase in throughput above this limit, it requests additional resources.

### Active Analytics

Unlike analytics services, active analytics needs to respond proactively to business events. When active analytics tools, such as BAM or CEP, detect a threat or opportunity, it automatically alerts a person, application program, device, or agent to carry out follow-up activities. In this way, event-driven analytics saves time, cost, and human effort by releasing employees from having to track numerous routine and daily operational events.

Real-time intelligence based on active analytics is a gradually emerging phenomenon. BAM dashboards that continuously update one or more metrics are most commonly used. Active analytics that assimilate information from multiple sources and applications are gaining popularity.

Some examples of active analytics are outlined below.

- **Event-driven intelligent decision automation.** An algorithmic trading system that buys or sells stock without human intervention.
- **Monitoring for decision support purposes.** A BAM system continuously monitors customer activities (such as ATM networks, customer service centers, and web-based transaction systems) to provide alerts on roadblocks in business processes. For example, when BAM detects that a credit card is swiped in India, and then again, across the globe within a few hours, it sends a fraud alert to the relevant credit card official.
- **Advanced intelligent business operations.** Lending institutions charge monthly premiums to the borrower, based on the recalibrated value of collateral.

iBPM provides enhanced customer experience, increased employee productivity, and improved compliance for operational efficiency and effectiveness.

## 2.4. Benefits

By improving decision-making capabilities across all industries, iBPM can provide numerous benefits. Specifically, banks and insurers can strategically leverage this new technology to comply with regulatory requirements and add flexibility to IT systems. The following exhibit illustrates the benefits of iBPM in various transformational areas.

Exhibit 3: Benefits of iBPM

Transformation Area	iBPM Usage	Benefit
Marketing	<ul style="list-style-type: none"> <li>Assess the effectiveness of advertising campaigns, based on customer feedback and propose changes in frequency and timing of the advertisement</li> </ul>	<ul style="list-style-type: none"> <li>Enhance customer acquisition rate</li> <li>Improve campaign effectiveness</li> </ul>
Sales	<ul style="list-style-type: none"> <li>Capitalize on cross-sell opportunities by creating personalized services and targeted offers with a 360-degree view of customer information</li> </ul>	<ul style="list-style-type: none"> <li>Offer suitable products and services based on customer's profile</li> <li>Improve product acceptance rates</li> </ul>
Technology Strategy	<ul style="list-style-type: none"> <li>Detect customer problems before they occur and take proactive steps to prevent a negative customer experience by using real-time data analytics</li> </ul>	<ul style="list-style-type: none"> <li>Reduce response time</li> <li>Improve customer loyalty</li> </ul>
Product Development	<ul style="list-style-type: none"> <li>Modify product design and specifications according to early user feedback</li> </ul>	<ul style="list-style-type: none"> <li>Lower product development costs</li> <li>Optimize product acceptance</li> </ul>
Customer Service	<ul style="list-style-type: none"> <li>Utilize interactive voice response to route complex customer inquiries to the most suitable executive instead of next available executive</li> </ul>	<ul style="list-style-type: none"> <li>Maximize both customer value and experience</li> <li>Improve customer retention strategy</li> </ul>
Financial Risk	<ul style="list-style-type: none"> <li>Evaluate potential impact of upcoming threat or opportunity in real time and devise contingency plan accordingly</li> </ul>	<ul style="list-style-type: none"> <li>Improve compliance</li> <li>Optimize organizational risk</li> </ul>

Source: Capgemini Analysis, 2013

## 2.5. Challenges

The two primary inhibitors to growth in the iBPM market are the lack of awareness of its business value articulation and high cost. Key challenges financial institutions would likely face during iBPM adoption include:

- **Lack of organizational readiness.** Most financial institutions have a top-down organizational structure. This limits the decision-making capability of front-line employees to continuously optimize business processes.  
For successful implementation, it is important to obtain management sponsorship from the beginning, and subsequently involve both business and IT.
- **Justification/awareness of iBPM business value articulation.** A major inhibitor to establishing intelligent business operations is the lack of understanding of how iBPM can deliver business value. This challenge should diminish once the iBPM adoption gains momentum and validates its importance in relation to business strategy and success.
- **Integration of silo systems.** One major challenge financial institutions face is the existence of transaction data across multiple disparate systems. As a result, decision-making protocols are restricted to silos instead of pollinating across business processes. Businesses need to align these multiple systems in order to convert decisions into corrective actions.
- **Cost/return on investment (ROI).** Although iBPM affords great potential for benefits realization, its high implementation cost can lead to slow adoption across financial institutions.

# 3. Reinventing Financial Operations with iBPM

Higher expectations, in this environment of evolving technologies, are driving businesses—particularly banking and insurance—to make iBPM processes a top priority.

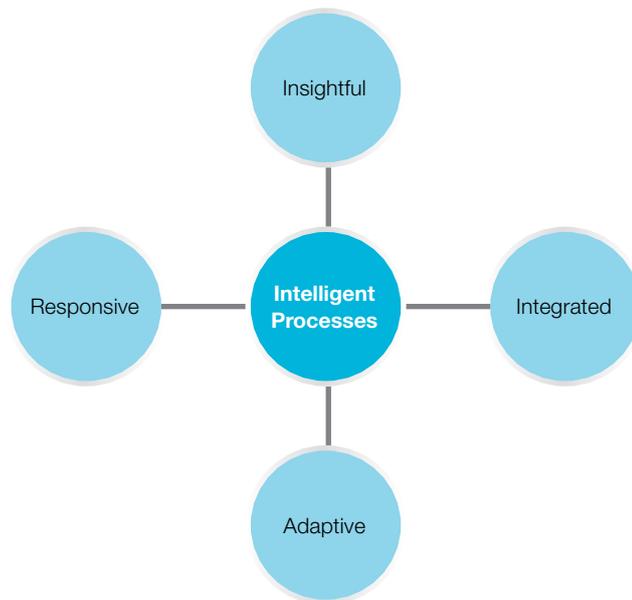
Emerging technologies, such as social media, mobile, and big data have changed the way businesses generate revenue. The power of these new technologies and platforms is further invigorating business process transformation. As customer expectations evolve, financial institutions seek to integrate these technologies directly into business processes to realize their true potential.

## 3.1. Characteristics of iBPM

- **Insightful:** captures insights from interactions across channels and uses this information to create a personalized customer experience.
- **Integrated:** provides a seamless consistent cross- channel interaction by integrating back-office capabilities and information. This easy access to information facilitates a unified customer experience across channels.
- **Responsive:** can increase the business value of customer interaction through faster response. Businesses can accelerate query-handling time through faster availability of relevant information.
- **Adaptive:** continuously improves through feedback and adapts to changing business environments.

Financial institutions need to capitalize on the efficient, flexible, and visually adjustable processes iBPM offers.

Exhibit 4: Characteristics of Intelligent Business Processes



Source: Capgemini Analysis, 2013

### 3.2. Drivers of Intelligent Business Processes

Because iBPM solutions provide both system and human intelligence it helps businesses become more streamlined and agile. For financial institutions, in particular, iBPM solutions can address the growing need to become more responsive to external events. The following represent major drivers behind this increased need for intelligent business processes.

- **Mobile.** Proliferation of mobile apps and the evolving *bring your own device* (BYOD) trend are changing the way users interact with each other and with businesses.

Mobile technologies can improve the efficiency of customer service by providing anytime-anywhere connectivity to the workforce.

- **Social.** Social media has introduced new ways of communication and collaboration.

By providing instant access to relevant information and communication among colleagues, improved integration of social media platforms can improve employee productivity.

Moreover, social media platforms can be leveraged to improve up-sell and cross-sell opportunities, based on the customer's profile.

- **Big Data.** Financial institutions can tap the power of big data to identify and analyze correlations in complex data. Based on this analysis, businesses can make better decisions, predict future events, assess risk, and optimize operational efficiencies.

#### Exhibit 5: Drivers for Intelligent Business Processes

 <p><b>Mobile</b></p>	 <p><b>Social</b></p>	 <p><b>Big Data</b></p>
<p>Mobile technology can empower the workforce by providing instant access to business processes for anytime, anywhere delivery</p>	<p>Businesses can leverage the potential of social media and turn insight into actions, thereby improving worker productivity</p>	<p>Businesses can harness big data's power to drive operational efficiency, improve decision-making, and design personalized products or services</p>

Source: Capgemini Analysis, 2013

As these technologies evolve, it will be up to financial institutions to harness their value by aligning these technologies to their strategic goals and integrating them into their business processes.

Financial institutions increase client satisfaction by infusing intelligent processes into their day-to-day operations.

### 3.3. iBPM in Banking and Insurance Operations

Changing customer requirements, increasing regulatory requirements and powerful new technologies are exerting significant pressure on financial institutions to transform their key processes. Infusing intelligent processes into their day-to-day business operations can help accelerate growth and innovation.

#### Banking Operations

- **Account Opening**

- Provide a seamless customer on-boarding experience through consolidated banking services
- Customize advertisements/offers, based on a single view of each customer's individual information
- Improve customer service by reducing, from several days to just a few minutes, the time it takes to open a new account

- **Loan Origination**

- Faster new customer on-boarding for greater customer satisfaction
- Re-engineer loan origination, servicing, and collection processes to create a single flow for all loan processing centers
- Invoke a rule engine to decide an applicant's creditworthiness for most loan cases. Applicant receives immediate response if the loan application meets standard criteria. Only complex loan applications are reviewed by an underwriter.

- **Risk Management**

- Enhance security through near real-time risk assessment
- Confirm the legitimacy of financial transactions before authorizing them
- Identify and respond to potential threats before they impact the business and customers

#### Insurance Operations

- **Claims Processing**

- Provide quicker and easier claims reporting
- Improve combined ratio and reduced cycle times for higher frequency claims
- Provide consistent customer service across channels throughout claims process
- Calculate individual risk segments using advanced analytics

- **First Notice of Loss (FNOL) Process**

- Reduce the time for quote generation from several days to a few minutes
- Identify fraudulent claims by using predictive analytics
- Improve customer experience and loyalty through faster claims processing

## 4. Roadmap for iBPM Excellence

Financial institutions need agility, actionable items, and risk mitigation to achieve the optimum potential of iBPM.

Financial institutions need agility, actionable items, and risk mitigation to develop an effective implementation roadmap to achieve iBPM excellence. They also need to consider the current maturity level of their business operations processes to prepare for the journey.

To be agile, organizational processes must be visible and continuously monitored to ensure compliance with shifting market needs.

Implementation might work something like this:

- Decision management services are incorporated into the workflow to recognize repetitive patterns and immediately change these patterns into a business rule, without any need to change the entire process.
- Health insurance premiums depend on both statistical data (life history, age, health, etc.) and social data (driving habits, sports preferences, etc.). An individual, for example, who expresses passion for fast street racing, for example, is likely to pay a higher insurance premium because there is a greater probability of becoming involved in accidents.

Financial institutions can transform customer interactions through communication channels, such as social media and collaborative workplaces into next best action for a given context.

- iBPM identifies current and potential customer expectations, based on unstructured and structured data from social media.
- Social insights enable early identification of the root causes of problems, and rapid responses to specific issues or opportunities.

Financial institutions can optimize operational risk and respond quickly to fraudulent activity in the following ways:

- Based on advanced analytics, iBPM helps identify potential business risks so that timely corrective action can be implemented.
- In the case of a secured loan, for example, iBPM helps to mitigate risk by keeping track of asset valuation in real-time. The loan officer will receive an alert as soon as the value of the asset falls below the loan amount.

## 5. Conclusion



In the highly competitive financial markets, differentiation through iBPM is a highly effective and inevitable way to provide real-time visibility into business operations by helping to optimize performance and agility. In this environment, iBPM has emerged as an effective answer to the deficiencies of conventional BPM.

By implementing iBPM, financial institutions can identify the best course of action, based on evaluation of a multitude of scenarios. Bankers and insurers, in particular, can achieve myriad other qualitative and quantitative benefits by leveraging iBPM.

To accelerate business innovation, financial institutions would be prudent to move forward in today's ultra-competitive and technologically evolving business environment and implement iBPM.

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