

White Paper



Continuous Improvement Loop for BPM Optimization

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Abstract

Focusing on business process performance management to realize the full value of business processes implementations has become an organizational imperative. A successful Business Process Management (BPM) implementation is one wherein customers have the ability to transform business goals with the help of concrete improvement metrics for their business processes to yield better return on investment.

With the true distributed nature of the today's business processes, customers are struggling to gain a holistic view of processes making it difficult to identify problem areas and implement improvements. More often than not, process automation using a BPMS product is misinterpreted as BPM without a focus on end-to-end process visibility. Thus IT organizations must look at Business Process Performance (process visibility, control and continuous improvement) from a holistic perspective. Infosys provides a pragmatic approach to addressing these gaps and help customers in a successful BPM implementation.

This paper provides a basic approach towards managing business process performance in an illustrative manner with a high-level solution framework for business process control and continuous improvement.

Introduction

With market demands increasing and margins decreasing, businesses need a facilitator to help them maximize organizational performance. Businesses must optimize resources and streamline processes to gain agility and efficiency and reduce costs and risks in a dynamic environment. Therefore, they are increasingly relying on Business Process Management (BPM) to attain real-time visibility into business processes to manage their life cycle.

However, over the years, BPM implementation has become synonymous with process automation without having an end-to-end process view. This limits the capability of a BPM solution such that intended results may not be fully realized. It is important that organizations focus on process visibility, control and continuous improvement as key aspects for a successful BPM system.

Today, in several organizations, a good part of any end-to-end business process is encapsulated in Enterprise Resource Planning (ERP) systems, business applications and certain bespoke applications. However, the key challenges to be considered regarding BPM are:

- How can a business utilize existing investments while adopting BPM to manage business processes?
- How can an organization ensure visibility into end-to-end business process performance to drive continuous improvement such as better management of resource allocation?
- How can a business decide which process lag to automate using the BPM system toolset?

The next few sections in this paper seek to address these questions by outlining the need for process visibility, control and continuous improvement and how to attain the same in organizations.

Need for Process Visibility, Control and Continuous Improvement

Several factors must be considered to ensure process visibility, control and continuous improvement. These include:

- **Identifying bottlenecks** - The first step towards business process performance improvement is to identify the critical bottlenecks and inefficiencies involved in present processes and define an improvement strategy for them. In such a manner, process improvement can help deliver business value.
- **Increase Operational Efficiency** - Once the key performance bottlenecks and inefficiencies are identified, appropriate corrective measures can be implemented to eliminate these bottlenecks through effective management of key process parameters.
- **Business process outsourcing** - With today's processes having a global footprint, it is important to keep a fine balance between standardization and localization ratio for agility and outsourcing of business processes. Thus, businesses must first categorize processes for agility versus standardization to identify areas with potential for outsourcing.
- **Assessing process performance metrics** - Process performance metrics (like revenue, time to market, etc.) must be determined early in any implementation and then managed through a continuous monitoring and feedback mechanism. This enables the organization to continuously realize business value from such processes.
- **Developing a process governance model** - A proper governance model unites key stakeholders with a concrete role-responsibility definition. This enables financial and process performance governance and assists the organization to achieve set business performance goals.

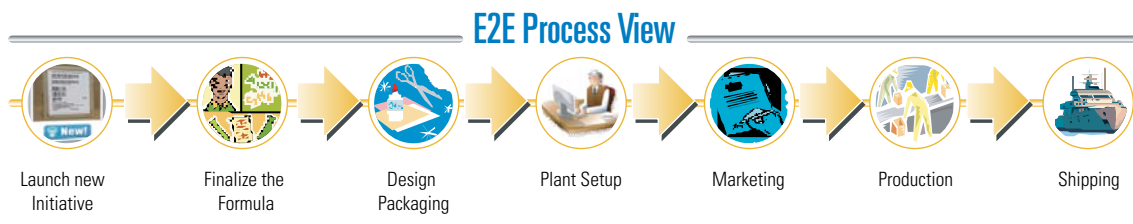


Figure 1 - A customer's viewpoint of an end-to-end business process life cycle for a new product

A Real World Scenario

Let us consider a business process case study to elaborate on how processes reside in a typical organization by examining the process life cycle for a new product launch in a consumer product organization.

Typically, launching a new product is a long process spanning 60 to 90 days and -involves the following steps:

- **Launch an initiative for the product** - An initiative can contain a single product or a group of products. It is triggered by an initiative manager who creates the charter and outlines its activities. S/he defines specific service-level agreements and allocates resources to each activity.
- **Finalize the formula** - Once the initiative is launched, the R&D department develops formula details for the new product based on the parameters defined within the charter. The final working formula for the product is stored in the formula database.
- **Package design** - After finalizing product formulation, the materials department begins designing the package for the product. Third-party designers may be involved in smaller tasks such as artwork, graphics, etc.
- **Plant setup** - The final product formula and package design must be manufactured. This requires configuring the manufacturing plant to begin production. This typically includes setting up the plant for the new formula, the new product (the same formula can have multiple products associated with it) and the packaging material. Raw materials are procured to begin full-scale production after which the initiative manager confirms the milestone completion.
- **Marketing** - Here the business manager begins the marketing campaign for the new product by announcing it to consumers and partners, while simultaneously authorizing the manufacturing plant to begin production.
- **Production and shipping** - Production houses begin large-scale production in plants and assemblies. The final products are shipped to the delivery centers for distribution to the retail stores, thereby marking the end of the 'New Product Launch' process life cycle.

In the above illustration, the biggest customer issue is lack of visibility into process performance. The entire process is spread across multiple departments/ systems making it tedious to monitor the process and ensure smooth progress of the launch. Further, the business is unable to identify problem areas and adopt process improvement initiatives. As a result, the overall process performance efficiency decreases, leading to delays, directly impacting the business.

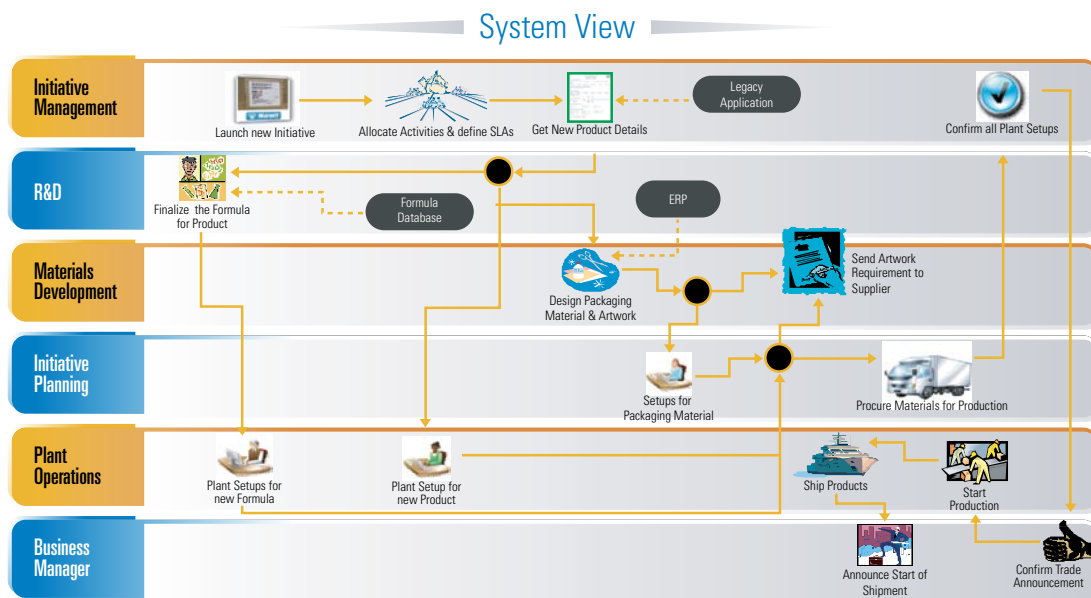


Figure 2 - A customer's viewpoint of system view of business process life cycle for a new product

Achieving Process Visibility, Control and Continuous Improvement

Managing, monitoring and analyzing business processes end-to-end has become an imperative for organizations as they seek to optimize resources and drive revenue. The implementation of an end-to-end business process and system can be illustrated as: For seamless BPM, organizations must fulfill certain requirements, as outlined below:

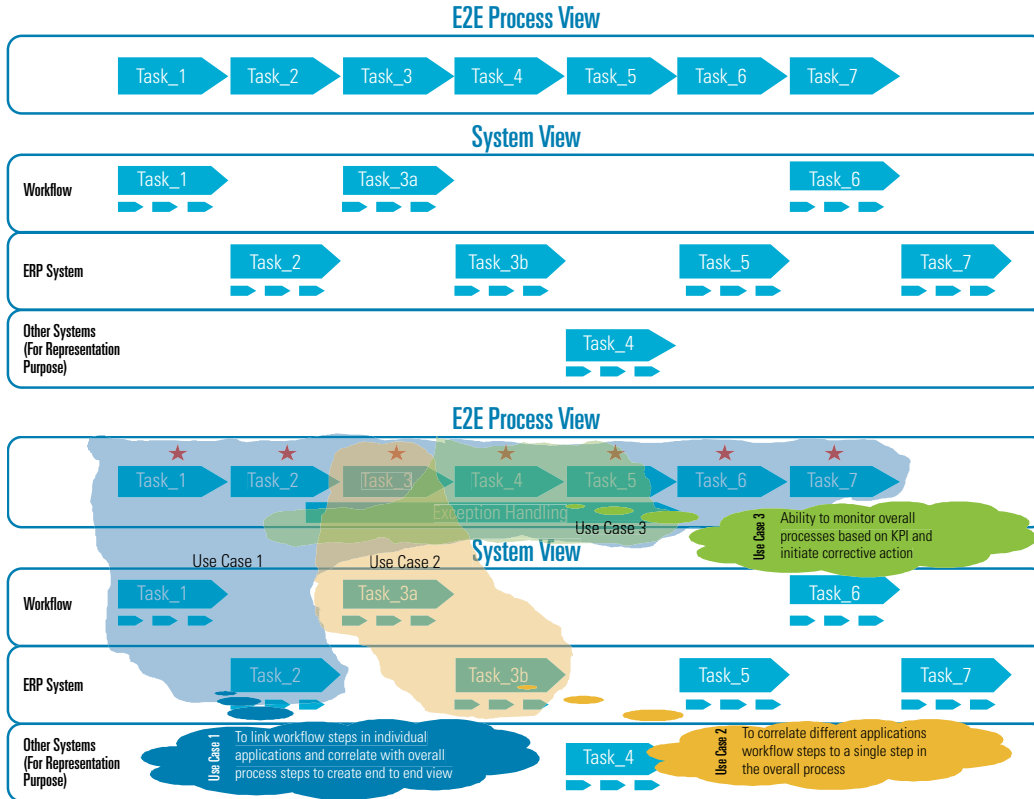


Figure 3 - Implementation diagram of an end-to-end business process and system view

Need for an end-to-end process view

Organizations require an end-to-end process view since it is critical for operational efficiency and increased business value. Processes often reside as static models and do not enable a comprehensive runtime view. Over the years, enterprise software systems have scaled up to incorporate business process and workflow management components on top of the core Enterprise Resource Planning (ERP) solutions. As a result, one complete process may become fragmented with part of the workflow in one system (ERP) and another in another application. In such cases, the end-to-end process view must not be lost.

Businesses can model the end-to-end process using the following strategies:

- **Management of key performance indicators (KPI)** - Businesses must identify and monitor key indicators of overall process performance and business value at various stages. These need to be analyzed and reset/ tuned to enable process improvements.
- **Notification to handle proactive monitoring and exception scenario** - Key service-level agreements must be attained by any process for business assurance. Companies need to visualize failures and exception scenarios and build a notification mechanism to pro-actively notify users.
- **Exception handling with respect to the overall process** - Once the exception scenarios have been identified, a framework can be designed to appropriately handle those exceptions. Exceptions that recover automatically can utilize programmed exception handlers. In all other cases, key stakeholders can be notified for intervention.

Need for better process integration

Typically, business processes are fragmented, spanning business lines/ units/ departments. Only a part of the process/sub-process is fulfilled within each of these individual units/departments (as depicted in Figure 2). Thus, business process owner get a segmented view of the process being implemented in different sets of applications - including ERP - and managed by different departments. Organizations must ensure visibility into each of these process touch points to understand the big picture.

As organizations link processes across different systems, they must identify the end of each application-specific process so as to initiate the completion of the overall process.

Organizations require an event/notification framework involving these touch points to maintain sequential processing. Some aspects that need to be looked at to link processes across systems (like ERP, Workflow systems and other enterprise systems) include notifying the completion of the process to subsequent application components. This notification must carry the 'How, When, What' information about the completing process step. In an enterprise, there may be multiple such notifications and it is important to sequence them in the right order to keep the process execution order intact. Further, if there are notifications from process completion in two or many applications, they can be correlated to a single step in the overall process.

Need for an overall ownership for Business Process KPIs

The KPIs must be defined and driven by business groups who have an end-to-end understanding of the business process and the different departments and systems involved. It is only then that the indicators can be monitored and measured to realize business benefits.

Moreover, the ability to generate a dashboard that reports on KPIs at real time is a key requirement from a business performance visibility and assurance point of view. The reporting needs to be in the form of easily readable visual charts that the business community can grasp at first glance. At the same time, the reports must be easily configurable to generate information for various categories of users - from high-level dashboard reporting for the top management to the more detailed, transaction-level reporting for business analysts and application owners.

Need for going beyond process automation

Any organization aiming to improve processes needs to look beyond the realm of mere process automation.

A BPM solution needs to optimize processes dynamically at run-time to take care of bottlenecks/inefficiencies. To enable this, there needs to be a mechanism so that the process can adapt to inefficiencies/ bottlenecks automatically. The operation must be based on certain predefined conditions or rules and implement corrective actions like re-organizing, outsourcing, resource optimization (like role-shifting, etc.). These initiatives must have an end-to-end process view rather than a narrow departmental focus.

In the event of human intervention, the notification framework can be leveraged to notify the appropriate stakeholders for the necessary action to be initiated to remove the bottleneck. In such scenarios, what becomes critical is the system's ability to provide the user a way of optimizing the process at run-time for optimal performance.

Solution for Realizing Process Visibility, Control and Continuous Improvement

This section gives a high-level view of a BPM solution, which includes the basic aspects of:

- Capturing the business process events
- Analyzing and correlating these in the process context to extract the appropriate metrics
- Reporting/notifying the metrics to the business user in a comprehensible format

A typical solution constitutes of the following major components:

Event Generation and Consumption

- **Event Generation** - This helps identify the point of notification from application and tapping into application-specific events for propagation. It provides a common event model for consistent interpretation of events from the various enterprise source systems, with a messaging environment to propagate events for analysis and correlation.

- **Event Processing** - This component interprets the captured events. It connects to the messaging layer, consumes the published events, and analyzes them based on certain predefined rules. Based on the rules, correlation takes place on key attributes within a single event or across multiple events and provides the ability to configure correlation rules. A notification event is generated flagging the completion of the event analysis and correlation.

Process Modelling and Monitoring

- **Process Modeling** - Process modeling involves representing the sequence of events and activities performed by various business participants. It involves carrying out the process description and is followed by identifying user roles and defining the detailed workflow steps involved as part of this process flow. Interfacing with the various enterprise applications and systems is defined during this phase.
- **End-to-End Process Monitoring and Notification** - The monitoring solution is key in tracking the performance of the process being implemented. Monitoring requirements need to be identified as part of the process modeling phase. Process monitoring presents a view on the current state of the individual process instance and provides the ability to define KPIs for each step for analysis and notification. The monitoring solution sends an alert if KPIs are missed at an individual process or process group level.
- **Process Simulation** - Simulation is an abstraction of the view of the real process based on certain process-based assumptions. This step helps test the business process under different scenarios and generate reports on inconsistencies/bottlenecks in the process, with improvement recommendations. Helping refine the process, this phase provides users the ability to set process parameters to establish break points, thresholds etc., to carry out the simulation.
- **Process Improvements** - The solution provides the ability to implement improvements at various levels based on the simulation analysis and recommendations (including process automation).
- **Process Automation** - A process improvement technique, most process automation involves implementation of a Business Process Management System (BPMS) package, which has the ability to implement human-centric, system-centric and document-centric workflows. In addition, it provides the ability to define and configure dynamic business rules.

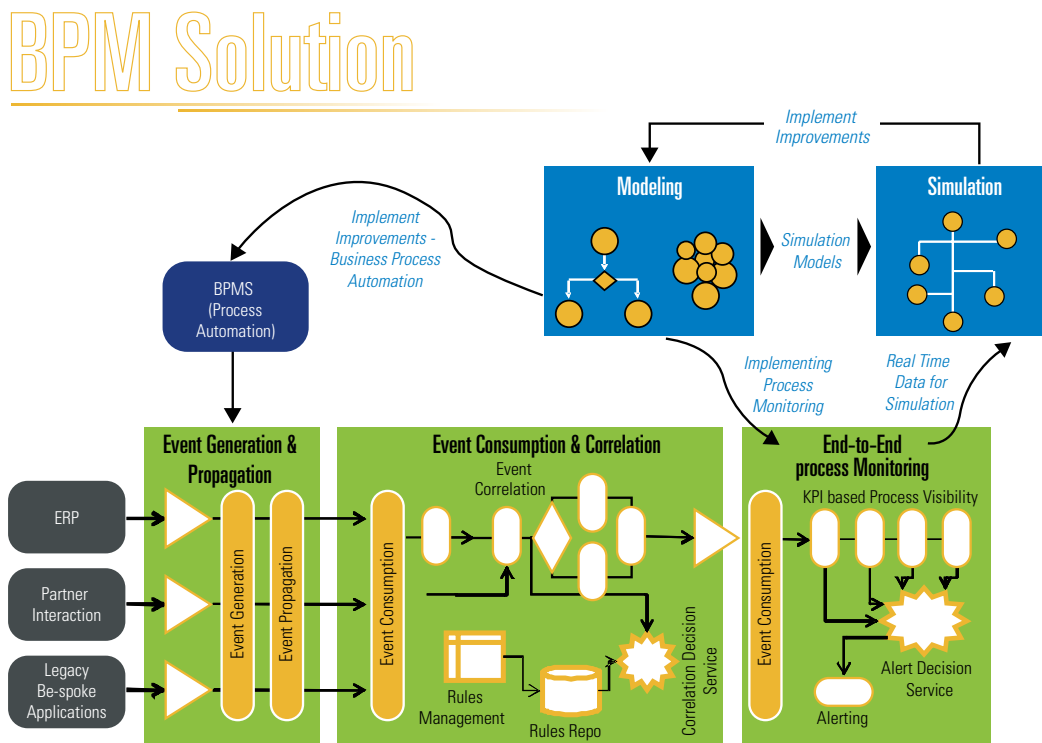


Figure 4 - A high-level view of a BPM solution

Conclusion

Organizations looking to leverage BPM implementations to enhance business value will not realize all potential benefits unless they focus on developing a framework for the efficient management of business process performance that allows continuous evaluation and improvement.

The art of efficient management of business process performance boils down to the structured cycle shown in Figure 5.

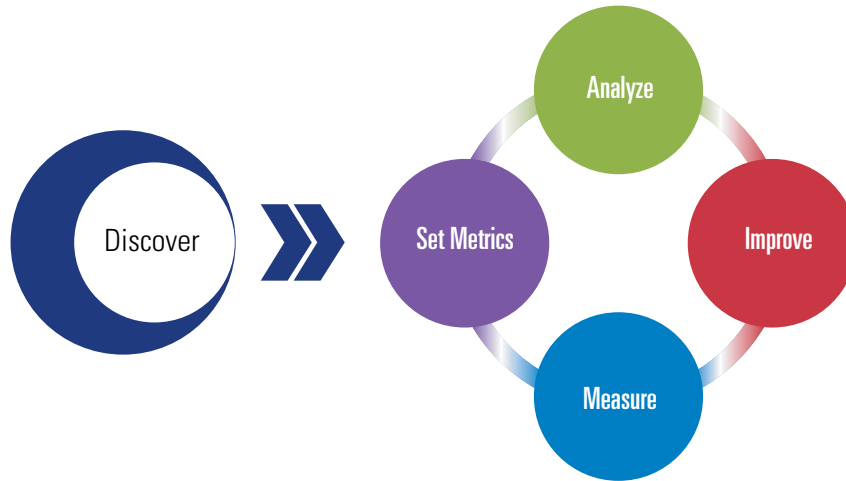


Figure 5 - Cycle for efficient management of business process performance

An organization must:

1. **DISCOVER** Know and understand processes so to Discover which of them enhance the organization's true business value.
2. **SET METRICS** Understand the performance targets and set the KPIs or Metrics for process performance.
3. **ANALYZE** Identify improvements with respect to the overall process performance by Analyzing the process.
4. **IMPROVE** Implement process Improvement initiatives based on the analysis from a holistic perspective.
5. **MEASURE** Measure the process performance.

Once a process is discovered, the steps from 'Setting the Metrics' to 'Measure' are a continuous improvement cycle to achieve optimal performance out of a business process.

This is where Infosys - with its comprehensive solution framework on Process Visibility, Control and Continuous Improvement outlined in this paper - can help customers jumpstart this journey of implementing the base framework to manage their existing business processes performance.

About the Authors

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