

# A Research on BPM Introduction for Process Management

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## Abstract

For some time, industries have responded to external environment changes and companies competitiveness and differentiation methods such as Business Process Reengineering (BPR) and Enterprise Resource Planning (ERP) initiatives have been pushed. These activities were, to strengthen competitiveness, innovation in management and differentiated management for the purpose of continuous improvement in the required process, as a tool poses certain limitation and problems. In order to solve this, companies used process innovation to eliminate process redundancy and inefficiency. And through Information Technology (IT) foundation, pass through the combination and connection of strategies, a continuous outcome creation was possible and progress into the stage of Responsive Process that can build a system that can adapt to environmental changes. Business Process Management (BPM) mainly is an innovative technique for this. This study considers the introduction of business management strategy and related process.

**Keywords:** Business Process Management (BPM), Business Process Reengineering (BPR) , Enterprise Resource Planning (ERP), Process Innovation (PI)

## 1. Introduction

Industries have been able to continuously respond to the fast environmental changes in the business environment in terms of strategies, manpower/organization, process and IT and the importance of latest process has been more definitely understood. In the early 90s, through BPR, many companies working processes were fundamentally reformed increasing their productivity, and gathered much result. However, process development was not continuous. Instead, the continuous process management was over looked there fore continuous process development failed. The result eventually gradually decreased. At the later part of the 90s, automated process such as ERP was formed through indwelling tools. However, ERP froze the development process and process transformation and former process revolution were blocked, but development scope and competition position continuance, the limitation for process transformation flexibility also showed up<sup>1</sup>. These enormous two types of result were

experienced as the BPM is being operated. In here, process is the fundamental vision and strategy objective that form industries, the ultimate goal is business process improvement, and ensure competitive advantage<sup>12</sup> In this study, problems arising from the introduction of the BPM will be deducted and focus on the coming up with a plan to address such problems.

## 2. Theoretical Study

### 2.1 Process Management Technique

Process Management is the various system of operation, management, development based on business process of industry management ability<sup>1-3</sup>. Process Management theory is neither a new trend nor any a sudden show up. A representative example of this is Taylor's Labor productivity in scientific management during the 1920s or the popular company-wide quality control in the 1980s, etc. However, fundamental introduction of process

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management into industries and use of IT (Information Technology) was attempted in the 1990s when Michael Hammer and James Champy<sup>12</sup> rapidly introduced the pursuit of transformation through the BPR (Business Process Reengineering) theory.

### 2.1.1 BPR Technique

BPR fundamentally checks the organization's business processes in order to improve the organization's core output through its expense, quality, service, speed, etc. It is an innovative technique that redesigns from the basics centered from supplier's work process to consumers<sup>4,6</sup>. In other words, BPR is a technique that newly reengineers a Business Process that involves Consumers<sup>5</sup>. BPR standardizes any business process that is not standardized, thereby, unreasonable or inefficient work process will be reengineered and reduce work load and management efficiency will be heightened<sup>7</sup>.

### 2.1.2 ERP Technique

ERP (Enterprise Resource Planning) is the planning and designing of information resources organization in order to be utilized in the enterprise level. And it means the integration of information system of all data and process in the organization<sup>3,5,6</sup>. First of all, to lead a successful pushing of ERP introduction, the first to overcome in its precedence is first, the manager's understanding of ERP. Secondly, is the management strategy's definiteness? Thirdly, the enterprise's pursuit. Fourth, the organization's culture and features on innovation awareness. Fifth, an information system entire reconstruction for the time related work. Sixth, the feeling of uneasiness with the ERP package. And lastly, the knowledge acquirement of the ERP package.

### 2.1.3 PI Technique

PI (Process Innovation) started in the year 1990 with Thomas Davenport's research related on processes and in 1993, the book "Process Innovation" started the use of the coined acronym PI. BPR and PI, though emphasizes sudden change, do not have a big difference between them in terms of concept. PI can be simply understood as process innovation principle, BPR is not only 'Zero based thinking' but also recognizes basic processes. Aside from that, the difference would be the inclusion of a principle of gradual transformation of a series of process development activities<sup>7,8</sup>.

### 2.1.4 BPM Technique

It is a fundamental system that provides visibility of business processes and properly arranges organizations, people and system related to the process, efficiently manages the entire business process, and optimizes the management tools or system<sup>1,3,6</sup>. Automatic integration of business process, business process rationalization through optimization, efficient and through this, heightens to industries' worth<sup>11</sup>. It is a generalized approach for the maximization of business results, visibility, practice, measurement and improvement<sup>9</sup>.

### 2.1.5 Important Principle Differences between BPR and PI

The important principle difference between BPR and PI is not the standardization for process innovation but the capitalization for process management<sup>5</sup>. After standardization 6-Sigma, Lean, Work-Out, etc., after a series of improvement activities, a gradual improvement is pursued, and this improvement result will be reflected in the standard process a suitable process scheme for a long period of time will be organized for the industry<sup>6</sup>.

### 2.1.6 Process Standardization

When the business wanted to start the process management, how the industry's process looked must be known through process visibility<sup>10,11</sup>. Then there is a need for standard version for its management. Process standardization is deciding a standard for each enterprise's processes, The relevance of the various versions of processes are based on certain standards and each department in any industry integrates the similar processes, then the integrated processes are standardized and managed<sup>14</sup>.

## 3. Case Study of Introducing BPM

### 3.1 BPM Introduction Case Study Analysis

Domestically, the ratio of the recent introduction of BPM is increasing and industries with the BPM introduction are analyzed to see most of the processes development and the effective rise of productivity. The representation of BPM introduction result can be seen in the decrease of the delay of process development, elevation of individual productivity, improvement of quality/decrease of defects, decline of operation levels, and decrease of manpower

attendance. The analysis of the BPM introduction in industries is shown on Table 1.

### 3.2 Analysis of BPM Introduction Materiality

Analysis of the case study shows that generally, enterprises introduce BPM with the purpose of strategically using the BPR/PI results and forming the foundation of integrated platforms, and enhance the work effectivity through process automation and the basic management reform. Domestic BPM introduction pattern looks like Figure 1.

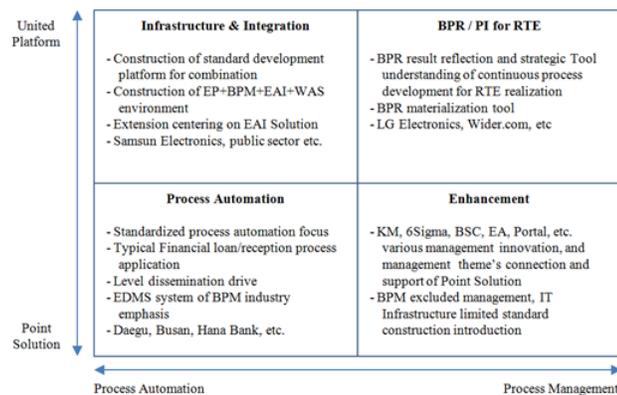


Figure 1. Domestic BPM Introduction Pattern.

### 3.3 Analysis of the Selection Method of BPM Application Users

Analyzing the domestic industries with BPM applications, in order to use BPM, the precedence of a representative related to BPR or PI process must be selected. The subjects are considered from materialization effectivity and suitability to the objective, and by priority, the total

process will be selected. The BPM selection process standard is shown on Table 2.

Table 2. BPM Process Selection Criteria

Level	Selection Criteria	
	Contents	Inspection Details
1 Level	BPM Materiality Effectivity Inspection	Island Process Only Less Frequency of Exclusion Short Length of Process Absence of computerization of work system
2 Level	BPM Objective Inspection	Measurement of Suitability of Working Control Point of View - Process Standardization - Management based on Rule - Time Management Measurement of suitability of management effectivity - Collaboration, - Visibility - Knowledge Usability Measurement of Work Innovation Suitability - Process Objective Management - Issue Discovery and Solution

### 3.4 Analysis of the BPM Introduction Problems

Analysis of the case studies with industries BPM introduction shows that various problems of the study have arisen. Many of them are project execution standardization and reliance on the experience of BPM drive project and solutions to the problems are searched

Table 1. BPM Introduction Examples Analysis of Domestic Enterprise

Introduction Examples	Background	Details	Current Situation
LG Electronics	Promoting change in process oriented enterprise Expand to whole LG group	Process automation and performance evaluation center reflects the PI results Executive's powerful Driving & Sponsoring	Start project to 23 pilot process and build 300 process though BPM
Samsung Electronics	Introducing BPM as a component of the standard development platform for convergence	The introduction of standard development platform and integration- Portal, BPM, EAI, WAS/ Web Services	Spread on other area after pre-emptive build product development and customer area on Value Chain
Taihan Electronics	The rigidity of ERP Switch users and customer oriented system	Establish continuous monitoring system and efficiency of the procurement process	Expanding areas of strong cooperation with subcontractors and suppliers

every time any occurs, thereby depending on the overall execution in industries. In this study, different industries with BPM introduction have been put together for analysis and the main problems are deduced on Table 3.

## 4. BPM Introduction Plan Research

### 4.1 BPM Introduction Success Point

Analysis of the industries with BPM introduction shows that common core success points were discovered in certain levels. First of all, BPM introduction is decided upon, select the target process, then prepare the level on which BPM method will be applied. After that, pass the visualization/materialization level and select the Pilot process, then go to the BPM introduction success inspection level. To achieve the industries' strategic objective, continuously drive the use of BPM, and through the spread the process in the entire levels, the BPM objectives can be achieved. Table 4 summarizes the BPM introduction success points in each level.

Analysis of the BPM case studies show that there are five kinds of core criteria that secures the success of the introduction. First, adhere not to technical but to the business viewpoint. Second, there is a need for strong management hierarchy reliance and support. Third, there is a need for BPM consultants and professionals. Fourth, lead the change of the organization. Lastly, it is seen that a very important core criteria for success is an active management is important to proliferation after the construction.

### 4.2 Solution Plans for BPM Introduction Problems

It was analyzed upon putting together the problems arising from the case studies and that there are four kinds of sources. First, BPM definition and value is not clearly transmitted. In the beginning, the workflow foundation vendor and EAI vendor are disputing hence the increase of fatigue. The BPMS technical is being emphasized. Lastly, there is a misunderstanding on the BPM introduction core value during the Pilot level. Aside from these, there are more other problems arising in the BPM case. Through the analysis of the domestic enterprises with the BPM, problems and countermeasures are listed on Table 5.

## 5. Conclusion

In this study, problems arising industries from the introduction of BPM for process management have been anticipated, and the countermeasures for such problems are being introduced. As a result of the analysis of BPM introduction related literature and domestic case studies, there are seven kinds of things to be executed for the attainment of the maximization of BPM construction effect. First, in regular PI methodologies, development of standard processes the limit of inefficient target processes there is insufficient effect and ineffective elements that include the selection of financial risk after process has been selected, then establish a countermeasure to minimize its occurrence after the production of a substantial fixed effect, select the target process. Second, to countermeasure the risk of financial problems, process

**Table 3.** Problems Occurring on the introduction of BPM

Problem	Contents
Standardization and materialization	Not considering Field idea(Bottom-Up)and careless Top-Down method of Process Standardization, through materialization drive the PI drive team disregards the recommended Guide Line and business and proceeds with organization levels Process standardization
Simple Effectivity Improvement	Industry elevates Speed to Motto, BPM drive resulted to financial leak. Collaboration, the biggest problem in the industry, professional diagnosis of organization R&R, no analysis method.
Non continuing single PI activity	Only join the collaboration on PI period, through project organization management, activity is not continuous and regular PI Drive realization is insufficient.
Complexity of various business and organization	Even though various departments and organizations are present in one company, the characteristics of the cooperation do not consider the Process plan cooperation.
Business Rules that didn't consider BPM	Though business process is automated though BPM in the End-to-End point, the Speed upgrade is not achieved.
System Hole	System Hole is process management and connection problems of the system function, or business flow is ineffective due to insufficient connection, or Risk through problems arising in various areas of "Organization-Process-System-Rule."

**Table 4.** BPM Introduction Level Success Points

Level	Success Point	Contents
BPM Planning and Definition	BPM Scope and Defining	Set-up an objective that can directly contribute to business strategy improvement for BPM.
	Clear Goals	Strengthen Organization members accept changes and process attitude and actions by strong sponsorship from the management level.
	Enhance Innovation Culture and Leadership	In order for strong Drive and cooperation collaboration, management hierarchy and cooperative work with BPM drive organization formation.
Process Visibility/ Materialization	Organized for promotion of rational organization	Architecture planning and process models by an expert guide.
	Definite Process Visibility	Review of member's active support and review.
Pilot Process Construction	Process Change Management System Introduction	Professional track and reflecting a continued process of tool use change.
	Selection of architectures and solutions suitable for application environment	Applying by ownership and management policy development and application.
	Enhance Legacy System merging prevention and technique	Choices of BPMS architectures and solutions from experts understanding and fair selection methodology
Performance Evaluation and Expansion/ Elevation	Prepare fundamental system maintenance workforce and close cooperation systems.	Prepare derived process linked to performance standards, corporate strategy and provide reasonable compensation system in performance measurement system construction.
	Prepare Continuous process improvement of performance management system	Required standard and advanced testing for the establishment of adequate preparation for consolidation and systems.
	Prepare guidelines for effective widespread deployment	Based on Strategic criteria, select step by step expand business process.
	Continuous process improvement of operating system settlement	Process improvement organization culture, system establishment.

**Table 5.** Counter Measures For Main BPM Problems

Problem	Awareness	Countermeasure
Standardization and Materialization	General Top-Down method PI point of view system construction process is not enough focused on the cooperation activities and continuous management is almost impossible	Process improvement view and substantive application work in cooperation and carry out an inclusive system for standard process
Development of Simple Effective Standpoint	Requires Cross-Organization and End-to-End Process Financial/Effective Diagnosis and Improvement	Instead of simultaneously realizing maximizing work efficiency and financial risk prevention, real meaning of speed management system phase construction is needed
Non-continuous Single PI Activity	BPM phase PI drive is risk based/systematic business innovation activity reflect the reality industry to establish a process review for the system board	Process Owner/Work Innovation Owner/IT Owner, etc. Organization culture, suitable permanent PI drive, organization R&R establishment is necessary.
Various Departments Complication of Organization Relief	Requires analysis of the common process of industry level and mapping of the organization and industry related standard in the entire company process	Business unit specialized process plan and application is needed during low level Process planning,
BPM Business Rule Non-considering BPM	Presence of limit to the work process single standardization with complexity/variety business with structure speed management performance	Business rule that is not automated but a simple process automation through process phase automation stereotyping and typical work, this is realized through BPM and the complicated process speed and correctness can be enhanced.
System Hole	The possible occurrence of financial risk and work flow in effectivity from insufficiency or absence of connection and system function or process management	Remove the basic source of system whole occurrence, improve the business process problems and increase the work effectivity.

observance for BPM Workflow, Monitoring, Alert, Business Rule, etc., work monitoring/delay prevention, expense prevention must be established and establish a regulation program before and after. Third, simple process standardization through BPM construction, the effect can be insufficient and to enhance its effect, through analyzing the System hole process in the Activity level, organization, system, Rule/Policy in concreteness, the PI and ERP and related Legacy system's integrated development can be accompanied. Fourth, for the BPM construction, a To-be process planning, standardized process definition irregularity and occurrence of exceptions a coping process must be understood and process planning reflection or Guideline must be provided. Fifth, ensure the sponsorship of the management hierarchy, and the meaning must be invested in the business side. Sixth, it is desirable that extended points direction must be selected in order to start from Pilot Project and gradually progress. Through the analysis of the expected outputs, the BPM application process must be cautiously selected and lastly, a continuous process development must be supposed for the entire enterprise.

BPM introduction is the enterprise's strategic objective, vision and special characteristic will be reflected and this will be introduced after enterprise understanding and BPMS solution understanding is sufficient. Most of the case studies introduce the literature and BPM introduction success analysis. However, in this study, the emergence of problems like the thorough investigation and sequential approach is not present, and it was learned that anyone can experience failure and this can be viewed as a difficult business.

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