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Handbook on Business Process Management 1

Introduction, Methods, and Information Systems

2nd Edition

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Editors

Handbook on Business Process Management 1

Introduction, Methods, and Information Systems

Second Edition

Springer

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to my wonderful wife Christina and our lovely kids Moritz and Marieke

from Jan

to Louise, Noah and Sophie – with love

from Michael

Foreword to the 2nd Edition

The *BPM Handbook* brings the thought leaders around the globe together to present the comprehensive body of knowledge in Business Process Management (BPM). The first edition summarized the work of more than 100 of the world's leading experts in the field in 50 chapters and two volumes. Following the structure of BPM's six well-established core elements—strategic alignment, governance, methods, information systems, people, and culture—the *BPM Handbook* provides a comprehensive view of the management of processes using an enterprise-wide scope. After more than 5,000 hard copies sold and more than 60,000 single chapters downloaded, we are overwhelmed by and grateful for the positive reception of this book by BPM professionals and academics. Today, the BPM handbook ranges among the top 25 % most downloaded eBooks in the Springer eBook Collection.

Since the first edition was published in 2010, BPM has further developed and matured. New technologies provide new process design options. For example, in-memory databases afford new opportunities in the form of real-time and context-aware process execution, monitoring, and mining, and social media plays a vital role in embedding business processes in corporate and wider communities. At the same time, new challenges, such as increased demand in process innovation, process analytics, and process agility, have emerged. These and other organizational developments have expanded the status and the possibilities of BPM and motivated us to conduct a detailed review, update, and extension of the *BPM Handbook*, the second edition.

The structure of this second edition still centers on the six core elements of BPM while incorporating new topics and providing substantial revisions in the areas of theoretical foundations of BPM, practical applications to real-life scenarios, and a number of updates in order to reflect the most current progress in the field.

The new chapters address recent developments, such as in-memory technology and social media, as well as cases that show how BPM can be applied to master the contemporary challenges of process innovation, agility, and sustainability. We learned from our readers that introductory chapters to the six core elements of BPM are useful, as are advanced chapters that build on rigorous BPM research.

Therefore, we added a number of chapters to provide such introductions to the work on process frameworks, process simulation, process value, process culture, and process technologies. In the process, we welcomed a number of BPM experts to our team of authors, including Anna Sidorova, Jerry Luftman, and Hasso Plattner and their respected co-authors.

Some parts of the Handbook remain untouched, such as the contributions from Michael Hammer and Geary A. Rummler, who both passed away in 2008. Their thoughts remain and will always be inspirational for the BPM community.

We are grateful to the many people who worked enthusiastically on making the second edition of the *BPM Handbook* possible. In particular, we thank Christian Sonnenberg, from the Institute of Information Systems of the University of Liechtenstein, who brought order and discipline to the first edition and who has again been instrumental in the editorial process of the second edition. His strong commitment to this Handbook has been a critical factor in its success. We also thank Christian Rauscher from Springer for his strong support of this second edition and all of the authors for the significant time and effort they invested in writing and revising their chapters.

We trust that this consolidated work will find a wide audience and that this updated and extended edition will further contribute to shaping the BPM field as a management discipline.

May 2014 Jan vom Brocke
Vaduz, Liechtenstein/Brisbane, Australia Michael Rosemann

Foreword to the 1st Edition

Business Process Management (BPM) has emerged as a comprehensive consolidation of disciplines sharing the belief that a process-centered approach leads to substantial improvements in both performance and compliance of a system. Apart from productivity gains, BPM has the power to innovate and continuously transform businesses and entire cross-organizational value chains. The paradigm of "process thinking" is by no means an invention of the last two decades but had already been postulated by early economists such as Adam Smith or engineers such as Frederick Taylor.

A wide uptake of the process paradigm began at an early stage in the manufacturing sector, either as a central principle in planning approaches such as MRP II or as a factory layout principle. Yet, it took an amazingly long period of time before the service industries actually recognized the significance of processes as an important organizational variable. The ever increasing pressure in the ultimate journey for corporate excellence and innovation went along with the conception of a "process" as a unit of analysis and increasingly appeared in various disciplines.

As part of quality management, the critical role of process quality led to a plethora of process analysis techniques that culminated in the rigorous set of Six Sigma methods. In the information technology discipline, the process became an integral part of Enterprise Architectures and conceptual modeling frameworks. Processes became a "first class citizen" in process-aware software solutions and, in particular, in dedicated BPM-systems, formerly known as workflow management systems. Reference models such as ITIL or SCOR postulated the idea of best (process) practices, and the accounting discipline started to consider processes as a controlling object (Activity-Based Costing). Universities are now slowly starting to build Business Process Management courses into their curricula, while positions such as business process analysts or chief process officers are increasingly appearing in organizational charts.

However, while the role of processes has been widely recognized, an all-encompassing discipline promoting the importance of process and providing integrated BPM methodologies has been lacking for a long time. This may be a major reason why process thinking is still not as common as cost awareness, employee focus, or ethical considerations.

BPM is now proposed as the spanning discipline that largely integrates and completes what previous disciplines have achieved. As such, it consolidates how to best manage the (re-)design of individual business processes and how to develop a foundational Business Process Management capability in organizations catering for a variety of purposes and contexts.

The high demand for BPM has encouraged a number of authors to contribute and capture different facets in the form of textbooks. Despite a substantial list of references, the BPM community is still short of a publication that provides a consolidated understanding of the true scope and contents of a comprehensively defined Business Process Management.

It has been our motivation to fill the gap for a point of reference that reflects the holistic nature of BPM without compromising the detail. In order to structure this Handbook, we defined BPM as consisting of six core factors, i.e., Strategic Alignment, Governance, Methods, Information Systems, People, and Culture. These six factors had been derived as part of a multiyear global research study on the essential factors of BPM maturity.

We now present a Handbook that covers these six factors in two volumes comprising more than 1,500 pages from over 100 authors including the world's leading experts in the field. Different approaches of BPM are presented reflecting the diversity of the field. At the same time, we tried to provide some guidance, i.e., by means of the six core elements, to make it easy to open up the various facets of BPM according to individual preferences. We give further comment on that in the "how to read this book" section.

Both volumes together reflect the scope of BPM. Each volume has been organized to have its own focus. The first volume includes the introduction to BPM and concentrates on its Methods and Process-Aware Information Systems. The second volume captures in three sections: Strategic Alignment, Governance, and People, and Culture. Both volumes combine the latest outcomes of high standing BPM research with the practical experiences gained in global BPM projects.

This first volume is clustered in three sections.

1. A set of five introductory chapters provides an overview about the current understanding of the aims, boundaries, and essence of BPM. We are particularly proud that we were able to secure the contributions of the global BPM thought leaders for this critical section.
2. The second section is dedicated to the heavily researched area of BPM Methods covering, in particular, process lifecycle methods such as Six Sigma and the essential role of process modeling in 12 chapters. Further, complementary chapters discuss process simulation, process variant management, and BPM tool selection.
3. The third section covers Process-Aware Information Systems and elaborates in nine chapters on the foundational role of workflow management, the agility that results from service-enabled business processes and the new potential related to the uptake of recommender systems or collaborative networking tools.

We are very grateful to the outstanding, carefully crafted, and responsibly revised contributions of the authors of this Handbook. All contributions have undergone a rigorous review process, involving two independent experts in two to three rounds of review. The unconditional commitment to a high quality Handbook required, unfortunately, in some cases, rejections or substantial revisions. In any case, all authors have been very responsive in the way they addressed the requested changes. We are very much aware of the sum of the work that went into this book and cannot appropriately express our gratitude in the brevity of such a foreword.

While producing this Handbook, the authors' enthusiasm was truly interrupted as we in the community were confronted with and saddened by the tragic loss of two of the most inspirational BPM thought leaders the world has seen. Michael Hammer, founder of the Business Process Reengineering discipline and maybe the most successful promoter of the process paradigm, passed away in September 2008. Shortly after, Geary A. Rummler, a pioneer in terms of the role of business process as part of the corporate search for organizational performance, died in October 2008. We are honored that this Handbook features some of the last inspirations of these two admirable individuals; we also recognize that the BPM community will be a poorer place without them.

A special expression of our gratefulness goes to Karin-Theresia Federl and Christian Sonnenberg, Institute of Information Systems, University Liechtenstein, who brought order and discipline to the myriad of activities that were required as part of the compilation of this Handbook. We hope that this Handbook on Business Process Management will provide a much appreciated, sustainable summary of the state of the art of this truly exciting discipline and that it will have the much desired positive impact for its future development and uptake.

June 2010 Jan vom Brocke
Vaduz, Liechtenstein/Brisbane, Australia Michael Rosemann

How to Read this Handbook

This book brings together input from BPM experts worldwide. It incorporates a rich set of viewpoints all leading towards an holistic picture of BPM. Compiling this Handbook, we did not intend to force all authors to go under one unique doctrine. On the contrary, we felt that it is rather the richness of approaches and viewpoints covered that makes this book a unique contribution. While keeping the original nature of each piece, we provide support in navigating through the various chapters.

- *BPM Core Elements:* We identified six core elements of BPM that all authors are using as a framework to position their contribution. You will find an introductory chapter in volume 1 of this Handbook explaining these elements in detail.
- *BPM Cross-References:* We asked each author to thoroughly read corresponding chapters and to include cross-references to related sections of the BPM Handbook. In addition, further cross-references have been included by the editors.
- *BPM Index:* Both volumes have a detailed index. In order to support a maximum of integration in each volume the keywords of the other volume are also incorporated.
- *BPM Who-is-Who:* We added an extended author index to each volume serving as a who-is-who. This section illustrates the individual background of each author that might be helpful in contextualizing the various contributions to the BPM Handbook.

We truly hope that these mechanisms help you in choosing the very the chapters of this BPM Handbook most suitable for your individual interest.

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Part I
Introduction

The past 20 years have brought increasing interest in the domain of Business Process Management (BPM) by an ever-growing community of managers, end users, analysts, consultants, vendors, and academics. This growing interest is visible in a substantial body of knowledge, an expanding scope, and a plethora of methodologies, tools, and techniques. While the demand for BPM increases and BPM capabilities mature, the challenge to provide concise and widely accepted definitions, taxonomies, and overall frameworks for BPM has grown.

Being able to attract the world's leading minds from within the BPM community behind the ambitions of this Handbook has been a great honor for us. This introductory section features the contemporary views of global thought leaders who have shaped the understanding, development, and uptake of BPM.

In the opening chapter Michael Hammer seeks to answer the essential question, "What Is Business Process Management?" Hammer characterizes BPM as the first fundamental set of new ideas on organizational performance since the Industrial Revolution, discussing the origins of BPM, the process management cycle, and its benefits, enablers, and necessary capabilities. All these lead to an extended set of BPM principles and the role of enterprise process models.

In the next chapter, Thomas Davenport correlates BPM with knowledge management to explore the challenges of process design for knowledge-intensive processes. In this context Davenport discusses the creation, distribution, and application of knowledge, contrasts the processes and the practice in knowledge work, and lists process interventions. The chapter raises awareness of the challenges of BPM that emerge once the transactional processes are covered.

Critics often describe BPM as a concept with a limited lifespan, but Paul Harmon argues convincingly in the third chapter that BPM is the culmination of a series of mature concepts sharing a passion for process. Harmon outlines the concepts and outcomes of three important process traditions—quality management, business management, and information technology—and reflects on the thought leaders for each of the three traditions and the "today and tomorrow" of BPM. Harmon's differentiation between the enterprise level and process level is picked up in a number of contributions in this handbook.

One of the earliest contributors to the field of process-based management, Geary Rummler provides thoughts on the structure of work. Co-authored with Alan Ramias, Rummler's chapter focuses on the business layer in an enterprise architecture and discusses the importance of a sound understanding of value creation and a corresponding management system. Rummler and Ramias stress that business (process) architectures cannot stand in isolation but must be linked to other architectural frameworks in order to form a complete value creation architecture.

The fifth chapter, by Michael Rosemann and Jan vom Brocke, introduces the underlying structure for both volumes of the *BPM Handbook*. Six complementary core elements of BPM, which provide a framework for BPM, must be addressed as part of enterprise-wide, effective BPM initiatives. This chapter describes the essence of these factors, which are explored in more detail in the various sections of this handbook.

1. What is Business Process Management?
   by Michael Hammer

2. Process Management for Knowledge Work
   by Thomas Davenport

3. The Scope and Evolution of Business Process Management
   by Paul Harmon

4. A Framework for Defining and Designing the Structure of Work
   by Geary Rummler and Alan Ramias

5. The Six Core Elements of Business Process Management
   by Michael Rosemann and Jan vom Brocke

What is Business Process Management?

Michael Hammer†

Abstract Googling the term "Business Process Management" in May 2008 yields some 6.4 million hits, the great majority of which (based on sampling) seem to concern the so-called BPM software systems. This is ironic and unfortunate, because in fact IT in general, and such BPM systems in particular, is at most a peripheral aspect of Business Process Management. In fact, Business Process Management (BPM) is a comprehensive system for managing and transforming organizational operations, based on what is arguably the first set of new ideas about organizational performance since the Industrial Revolution.

1 The Origins of BPM

BPM has two primary intellectual antecedents. The first is the work of Shewhart and Deming (Shewhart 1986; Deming 1953) on statistical process control, which led to the modern quality movement and its contemporary avatar, Six Sigma. This work sought to reduce variation in the performance of work by carefully measuring outcomes and using statistical techniques to isolate the "root causes" of performance problems – causes that could then be addressed. Much more important than the details of upper and lower control limits or the myriad of other analytic tools that are part of quality's armamentarium are the conceptual principles that underlie this work: the core assumption that operations are of critical importance and deserve serious attention and management; the use of performance metrics to determine whether work is being performed satisfactorily or not; the focus on hard data rather than opinion to isolate the root causes of performance difficulties; the concept of blaming the process not the people, that performance shortcomings are rooted in objective problems that can be identified and dealt with; and the notion

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of never-ending improvement, that solving one set of problems merely buys an organization a ticket to solve the next round.

The quality approach suffered from two limitations, however. The first was its definition of process as essentially any sequence of work activities. With this perspective, an organization would have hundreds or even thousands of processes, from putting a parts box on a shelf to checking customer credit status, and the machinery of quality improvement could be applied to any and all of these. Focusing on such narrow-bore processes, however, is unlikely to have strategic significance for the enterprise as a whole; on the other hand, it is likely to result in a massive number of small-scale projects that can be difficult to manage in a coherent fashion. Even more seriously, the quality school took as its goal the elimination of variation and the achievement of consistent performance. However, consistent is not a synonym for good. A process can operate consistently, without execution flaws, and still not achieve the level of performance required by customers and the enterprise.

The other primary antecedent of BPM, my own work on Business Process Reengineering (Hammer 1990; Hammer and Champy 1993), had complementary strengths and weaknesses. On the one hand, at least in its early days, reengineering was positioned as an episodic rather than an ongoing effort; it lacked the continuous dimension of quality improvement. It also did not have as disciplined an approach to metrics. On the other hand, it brought two new wrinkles to the process world. The first was its refined definition of process: end-to-end work across an enterprise that creates customer value. Here, putting a box on a shelf would not qualify as a meaningful process; it would merely be a small part of an enterprise process such as order fulfillment or procurement. Addressing large-scale, truly end-to-end processes means focusing on high-leverage aspects of the organization's operations and so leads to far greater results and impacts. In particular, by dealing with processes that cross functional boundaries, reengineering was able to attack the evils of fragmentation: the delays, nonvalue-adding overhead, errors, and complexity that inevitably result when work transcends different organizations that have different priorities, different information sources, and different metrics. The other new theme introduced by reengineering was a focus on process design as opposed to process execution. The design of a process, the way in which its constituent tasks are woven together into a whole, was not of much concern to the founders of the quality school; they made a tacit assumption that process designs were sound, and that performance difficulties resulted from defects in execution. Reengineering recognized that the design of a process in fact created an envelope for its performance, that a process could not perform on a sustained basis better than its design would allow. Should performance requirements exceed what the design was capable of, the old design would have to be discarded and a new one substituted in its place.

2 The Process Management Cycle

Over the last decade, these two approaches to process performance improvement have gradually merged, yielding modern Business Process Management – an integrated system for managing business performance by managing end-to-end

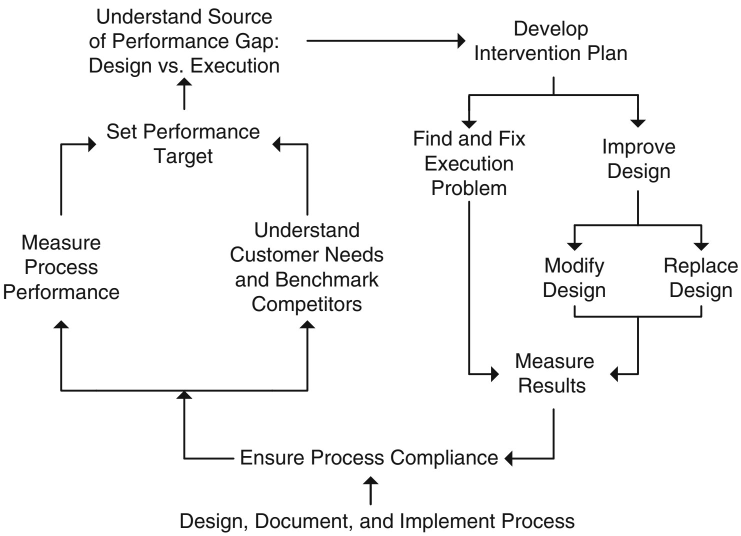
Understand Source of Performance Gap: Design vs. Execution
Develop Intervention Plan
Set Performance Target
Find and Fix Execution Problem
Improve Design
Measure Process Performance
Understand Customer Needs and Benchmark Competitors
Modify Design
Replace Design
Measure Results
Ensure Process Compliance
Design, Document, and Implement Process

Fig. 1 The essential process management cycle

business processes. Figure 1 depicts the essential process management cycle. It begins at the bottom, with the creation of a formal process. This is not a minor, purely formal step. Many organizations find that certain aspects of their operations are characterized by wild variation, because they lack any well-defined end-to-end process whatsoever. This is particularly true of low-volume, creative processes such as product development or customer relationship management. In essence, they treat each situation as a one-off, with heroics and improvisation substituting for the discipline of a well-defined process. Such heroics are of course unreliable and unsustainable.

Once a process is in place, it needs to be managed on an ongoing basis. Its performance, in terms of critical metrics that relate to customer needs and company requirements, needs to be compared to the targets for these metrics. Such targets can be based on customer expectations, competitor benchmarks, enterprise needs, and other sources. If performance does not meet targets, the reason for this shortcoming must be determined. Broadly speaking, processes fail to meet performance requirements either because of faulty *design* or faulty *execution*; which one is the culprit can generally be determined by examining the pattern of performance inadequacy. (Pervasive performance shortcomings generally indicate a design flaw; occasional ones are usually the result of execution difficulties.) If the fault lies in execution, then the particular root cause (such as inadequate training, or insufficient resources, or faulty equipment, or any of a host of other possibilities) must be determined. Doing so is a challenging undertaking, because of the large number of possible root causes; as a rule, however, once the root cause has been found, it is easy to fix. The opposite is true of design problems: they are easy to find (being indicated by consistently inadequate performance) but hard to fix (requiring a wholesale rethinking of the structure of the process). Once the appropriate intervention has been chosen and implemented, the results are assessed, and the entire cycle begins again.

This cycle is derived from Deming's PDCA cycle (Plan Do Check Act) (Deming 1986), with the addition of the attention to process design. Although this picture is quite simple, it represents a revolutionary departure for how enterprises are managed. It is based on the premise that the way to manage an organization's performance is not by trial and error, not by pushing people harder, and not through financial manipulation, but through the deliberate management of the end-to-end business processes through which all customer value is created. Indeed, BPM is a customer-centered approach to organizational management. Customers neither know nor care about the many issues that typically are at the center of most executives' attention: strategies, organizational designs, capital structures, succession plans, and all the rest. Customers care about one thing and one thing only: results. Such results are not acts of God or the consequence of managerial genius; they are the outputs of business processes, of sequences of activities working together. Customers, results, and processes form an iron triangle; an organization cannot be serious about anyone without being equally serious about the other two.

To illustrate the process management cycle in action, consider the claims handling process at an auto insurance company. The old process consisted of the claimant reporting an accident to an agent, who passed it on to a customer service representative at the insurer, who passed it on to a claims manager, who assigned it with a batch of other claims to an adjustor, who then contacted the claimant and scheduled a time to inspect the vehicle. Because of the handoffs in this process, and the associated inevitable misunderstandings, it typically took 7–10 days before the adjustor arrived to see the vehicle. While this was no worse than others in the industry, the insurer's CEO recognized that this represented an opportunity to improve customer satisfaction at a "moment of truth," and insisted that this cycle time be reduced to 9 hours. No amount of productivity improvement in the individual activities would have approached this target, since the total actual work time was very little – the problem was in the process, not in the tasks. Accordingly, the company created a completely new process, in which claimants called a toll-free phone number and were connected directly to an adjustor, who took responsibility for the case and dispatched a teammate driving a mobile claims van in the field to the vehicle; upon arriving, the teammate would not only estimate the amount of damage but try to settle the claim on the spot. This new process was both much more convenient for customers and less expensive for the company, and was key to the company increasing revenue by 130% while increasing headcount by only 5%.

However, this was the beginning, not the end, for the process. Just having a good design does not guarantee continued good results, because problems are inevitable in the real world. Computers break, people do not absorb their training, data gets corrupted, and so on and so forth, and as a result a process does not achieve the performance of which it is capable. The company used process management to monitor the performance of the process and recognize and correct such performance problems. It also stayed alert to opportunities to modify the process design to make it perform even better. At one point, the company realized that the process as designed was not necessarily sending the most appropriate adjustor to the scene of the accident but just the next available one; a change to the design was made to address this. Of late, the company's management has gone further. They recognized flaws in the process design – for instance, that it required adjustors to make damage estimates "at midnight in the rain". Accordingly, they have come up with an even newer process, in which the claimant brings the damaged car to a company facility and picks up a loaner car; the adjustor estimates the damage at this facility and then arranges for the repair to be done by a garage. When the car is fixed, the claimant comes back and exchanges the loaner for his own car. This is much easier for the customer, and much more accurate and less costly for the company.

3 The Payoffs of Process Management

Through process management, an enterprise can create high-performance processes, which operate with much lower costs, faster speeds, greater accuracy, reduced assets, and enhanced flexibility. By focusing on and designing end-to-end processes that transcend organizational boundaries, companies can drive out the nonvalue-adding overhead that accumulates at these boundaries. Through process management, an enterprise can assure that its processes deliver on their promise and operate consistently at the level of which they are capable. Through process management, an enterprise can determine when a process no longer meets its needs and those of its customers and so needs to be replaced.

These operational benefits of consistency, cost, speed, quality, and service translate into lower operating costs and improved customer satisfaction, which in turn drive improved enterprise performance. Process management also offers a variety of strategic benefits. For one, process management enables companies to respond better to periods of rapid change (such as ours). Conventional organizations often do not even recognize that change is happening until it is reflected in financial performance, by which time it is too late; even should they recognize that change has occurred, they have no mechanism for responding to it in a disciplined fashion. Under a process management regime, by contrast, change is reflected in the decline of operational performance metrics, which are noted by the process management system; the design of the process is then the tool through which the organization can respond to this change. Process management also provides an umbrella for a wide range of other performance improvement initiatives, from globalization and merger integration to ERP implementation and e-business. Too many enterprises treat each of these phenomena as independent, which leads to a proliferation of uncoordinated and conflicting change initiatives. In fact, they are all either mechanisms for supporting high-performance processes or goals that can be achieved through them. Linking all of a company's improvement efforts under the common umbrella of process management, and managing them in an integrated fashion, leverages a wide range of tools and deploys the right tool to the right problem.

Thousands of organizations, large and small, private and public, are reaping extraordinary benefits by managing their end-to-end business processes. A handful of recent examples:

- A consumer goods manufacturer redesigned its product deployment process, by means of which it manufactures goods and delivers them to its distribution centers; inventory was reduced by 25% while out-of-stock situations declined by 50%.
- A computer maker created a new product development process, which reduced time to market by 75%, reduced development costs by 45%, and increased customer satisfaction with new products by 25%.
- A capital goods manufacturer increased by 500% the accuracy of the availability dates on new products that it gave customers and reduced its supply chain costs by up to 50%.
- A health insurer created a new process for engaging with its customers and reduced costs by hundreds of millions of dollars while improving customer satisfaction.

Something to note in these and many other cases is the simultaneous achievement of apparently incompatible goals: reducing inventory, say, while also reducing out-of-stocks. Traditional organizations view these as conflicting goals and trade one off against another; process-managed organizations recognize that they can be improved by creating a new process design.

4 The Enablers of Process

Despite its elegance and power, many organizations have experienced difficulties implementing processes and process management. For instance, an electronics company designed a new product development process that was based on cross-functional product teams, but they were unable to successfully install it and get it operating. The reason, as they put it, is that “you can’t overlay high performance processes on a functional organization”. Traditional organizations and their systems are unfriendly to processes, and unless these are realigned to support processes, the effort will fail.

There are five critical enablers for a high-performance process; without them, a process will be unable to operate on a sustained basis (Hammer 2007).

Process design. This is the most fundamental aspect of a process: the specification of what tasks are to be performed, by whom, when, in what locations, under what circumstances, to what degree of precision, with what information, and the like. The design is the specification of the process; without a design, there is only uncoordinated individual activity and organizational chaos.

Process metrics. Most enterprises use functional performance metrics, which create misalignment, suboptimization, and confusion. Processes need end-to-end metrics that are derived from customer needs and enterprise goals. Targets need to be set in terms of these metrics and performance monitored against them. A balanced set of process metrics (such as cost, speed, and quality) must be deployed, so that improvements in one area do not mask declines in another.

Process performers. People who work in processes need a different set of skills and behaviors from those who work in conventional functions and departments. They need an understanding of the overall process and its goals, the ability to work in teams, and the capacity to manage themselves. Without these characteristics, they will be unable to realize the potential of end-to-end work.

Process infrastructure. Performers need to be supported by IT and HR systems if they are to discharge process responsibilities. Functionally fragmented information systems do not support integrated processes, and conventional HR systems (training, compensation, and career, etc.) reinforce fragmented job perspectives. Integrated systems (such as ERP systems and results-based compensation systems) are needed for integrated processes.

Process owner. In a conventional organization, no one is responsible for an end-to-end process, and so no one will be in a position to manage it on an end-to-end basis (i.e., carry out the process management cycle). An organization serious about its processes must have process owners: senior managers with authority and responsibility for a process across the organization as a whole. They are the ones who perform the work illustrated in Fig. 1.

Having some but not all of these enablers for a process is of little or no value. For instance, a well-designed process targeted at the right metrics will not succeed if performers are not capable of carrying it out or if the systems do not support them in doing so. Implementing a process in effect means putting in place these five enablers. Without them, a process may be able to operate successfully for a short term but will certainly fail in the long run.

5 BPM Capability for Process

The experiences of hundreds of companies show that not all are equally able to install these enablers and so succeed with processes and process management. Some do so effectively, while others do not. The root cause of this discrepancy lies in whether or not an enterprise possesses four critical capabilities that are prerequisites to its summoning the resources, determination, and skills needed to succeed with processes (Hammer 2007).

Leadership. The absolute sine qua non for effective deployment of process management is engaged, knowledgeable, and passionate senior executive leadership of the effort. Introducing processes means introducing enormous change – realigning systems, authority, modes of operation, and more. There is no change that most organizations have experienced that can compare to the disruption that the transition to process brings. Unless a very senior executive makes it his or her personal mission, process will run aground on the shoals of inertia and resistance. Moreover, only a topmost executive can authorize the significant resources and changes that process implementation requires. Without such leadership, the effort is doomed; with it, all other problems can be overcome.

Culture. A Chief Operating Officer once remarked to me, "When one of my people says he doesn't like process, he really means that he doesn't want to share power". Process, with its focus on customers, outcomes, and transcending boundaries is anathema to those who are focused on defending their narrow bit of turf. Process demands that people at all levels of the organization put the customer first, be comfortable working in teams, accept personal responsibility for outcomes, and be willing to accept change. Unless the organization's culture values these principles, processes will just roll off people's backs. If the enterprise culture is not aligned with these values, leadership must change the culture so that it does.

Governance. Moving to process management, and institutionalizing it over the long run, requires a set of governance mechanisms that assign appropriate responsibilities and ensure that processes integrate with one another (and do not turn into a new generation of horizontal silos). In addition to process owners, enterprises need a process office (headed by a Chief Process Officer) that plans and oversees the program as a whole and coordinates process efforts, as well as a Process Council. This is a body consisting of the process owners, the executive leader, and other senior managers, which serves as a strategic oversight body, setting direction and priorities, addressing cross-process issues, and translating enterprise concerns into process issues. These mechanisms need to be put in place to manage the transition to process, but continue on as the essential management superstructure for a process-managed enterprise.

Expertise. Implementing and managing processes is a complex and high stakes endeavor, not for the inexperienced or the amateur. Companies need cadres of people with deep expertise in process design and implementation, metrics, change management, program management, process improvement, and other relevant techniques. These people must have formal methodologies to follow and must be sustained with appropriate career paths and management support. While not an insuperable barrier, many organizations fail to develop and institutionalize this capability, and then unsurprisingly find themselves unable to carry out their ambitious programs.

Organizations without these four capabilities will be unable to make process management work, and must undertake urgent efforts to put them in place. Developing leadership is the most challenging of these; it typically requires the intervention of a catalyst, a passionate advocate of process with the ear of a potential leader, who must patiently familiarize the candidate with the concepts of process and their payoffs. Reshaping culture is not, despite myths to the contrary, impossible, but it does take time and energy. The other two are less difficult, but are often overlooked.

6 The Principles of Process Management

It can be helpful to summarize the concepts of process management in terms of a handful of axiomatic principles, some obvious, some not, that together express its key themes.

All work is process work. Sometimes the assumption is made that the concepts of process and process management only apply to highly structured, transactional work, such as order fulfillment, procurement, customer service, and the like. Nothing could be further from the truth. The virtues of process also adhere to developmental processes, which center on highly creative tasks, such as product development, demand creation, and so on. Process should not be misinterpreted as a synonym for routinization or automation, reducing creative work to simplistic procedures. Process means positioning individual work activities – routine or creative – in the larger context of the other activities with which it combines to create results. Both transactional and development processes are what is known as *core* processes – processes that create value for external customers and so are essential to the business. Organizations also have *enabling* (or support) processes, which create value for internal customers; these include hire to retire, information systems development, and financial reporting. Such processes have customers and create value for them (as must any process, by definition), but those customers are internal. The third category is *governing* processes, the management processes by means of which the company is run (such as strategic planning, risk management, and performance management). (Process management is itself a governing process!) All processes need to be managed as such and so benefit from the power of process management.

Any process is better than no process. Absent a well-defined process design, chaos reigns. Individual heroics, capriciousness, and improvisation rule the day – and results are inconsistent and unsustainable. A well-defined process will at the least deliver predictable, repeatable results, and can serve as the staging ground for improvement.

A good process is better than a bad process. This statement is not as tautological as it seems. It expresses the criticality of process design, that the caliber of a process design is a critical determinant of its performance, and that some processes are better designed than others. If a company is burdened with a bad process design, it needs to replace it with a better one.

One process version is better than many. Standardizing processes across all parts of an enterprise presents a single face to customers and suppliers, yields profound economies in support services such as training and IT systems, allows the redeployment of people from one business unit to another, and yields a host of other benefits. These payoffs must be balanced against the intrinsically different needs of different units and their customers, but our bias should be in favor of standardization.

Even a good process must be performed effectively. A good process design is a necessary but insufficient prerequisite for high performance; it needs to be combined with carefully managed execution, so that the capabilities of the design are realized in practice.

Even a good process can be made better. The process owner needs to stay constantly vigilant, looking for opportunities to make modifications to the process design in order to further enhance its performance.

Every good process eventually becomes a bad process. No process stays effective forever in the face of change. Customer needs change, technologies change, competition changes, and what used to be a high level of performance becomes a poor one – and it is time to replace the formerly good process with a new one.

7 The EPM as a Management Tool and BPMS

The foundation of process management is the Enterprise Process Model (EPM). This is a graphical representation of the enterprise's processes (core, enabling, and governing), showing their interconnections and inputs and outputs. Figure 1 is an example of such an EPM, from a large distributor of industrial products. An effective EPM should be simple and clear, fitting on one page, and typically including no more than 5–10 core processes. Such a high-level representation is then decomposed to provide additional detail, breaking each top-level process into a number of subprocesses, which are further decomposed into activities. There is as yet no standard (nor even near-standard) notation or architecture for process representation or for how many levels of detail are appropriate.

The EPM does more than just provide a vocabulary for a process program. It offers something few companies have, a coherent and comprehensible description of the company's operations. It is remarkable to note that conventional representations of an enterprise – the organization chart, the P&L and the balance sheet, the mission and value statements, the product catalog and customer list – say nothing about the actual work of the company and what people do on a regular basis. The EPM provides such an operational perspective on the enterprise and as such should be used as the basis for managing those operations.

In particular, the EPM offers a way of dealing with the projects and programs that constantly changing times raise, since ultimately every business issue must be translated into its impacts on and implications for operating processes. The following is a representative set of such issues that companies have recently needed to address:

- A risk management group has identified areas of high risk to the company. The processes that impact these risks need to be identified and redesigned in ways to help mitigate them.
- A new company has been acquired and there is a need to perform comparisons between the processes of the acquiring company and those of the acquired one, to help produce a roadmap for integrating the two companies by moving from the old processes to the new ones (Fig. 2).