

## Chapter 2

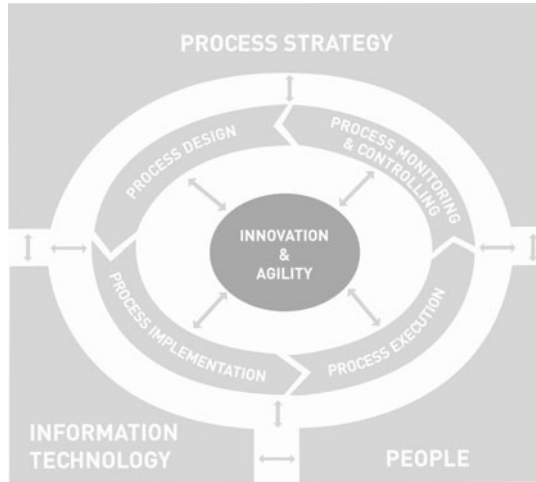
# Innovation: An Important Goal of MPE

Today's business environment is constantly changing – new opportunities and challenges arise every day. Achieving and sustaining high performance has become more and more difficult. New competitors emerge from all around the world, while others disappear. A company becomes a member of many enterprise networks, resulting in more changes and additional competitive situations. Fingar, a well-known BPM expert, introduces “extreme competition” as a result of the following five driving market forces [1].

- Knowledge as business capital: The right kind of knowledge is a key asset for competitive leadership and long-term survival.
- The Internet: It enables new dimensions of efficiencies and efficacies in collaboration, traditional supply chains are undergoing transformations from “value chains of knowledge,” and information can even replace physical goods.
- Jumbo transportation: Although the Internet connects knowledge workers around the world, “extreme logistics” (new, larger airplanes, ships, etc.) integrate the physical side of business activities.
- Three billion new capitalists: Countries such as India and China are no longer just places to conduct offshore work – they have become powerful members of the economic world.
- The new IT: Technology-enabled BPM will be essential for developing competitive advantages.

To master the resulting challenges, innovation – especially business process innovation – has become a core focus area for successful organizations. To ensure long-term survival, an enterprise must make innovation part of day-to-day business. Only then can enterprises attain desired revenue and profit stability, and growth and high performance.

Two major forms of innovation can be distinguished: business model innovation and technology innovation. Both require the change of existing or the development of new business processes. Business process innovation is a major success factor for the next-generation enterprise. Companies need to create an environment that encourages and enables process innovation. Business process management (BPM)



**Fig. 2.1** Focus on deliverables of MPE

has to become the facilitator of innovation initiatives, which is reflected in the MPE approach. Innovation and agility are the main goals of MPE.

MPE also applies the philosophy of “Open BPM.” This concept delivers a business process infrastructure that provides optimal flexibility at the lowest cost level through the use of business and technology standards. Open BPM enables agility, and, in turn, efficient and effective business process innovation [2].

This chapter discusses characteristics of innovation and the necessary agility. It explains the importance of process innovation for all forms of innovation. You will learn how MPE serves as an enabler for business process innovation. Consequently, the main focus of this chapter is the key deliverables of MPE: innovation and agility. This is closely related to aspects of the business process strategy (where goals and innovation objectives are defined), which influences the entire MPE approach in all phases. This chapter’s focus on the MPE deliverables is visualized in Fig. 2.1.

## 2.1 What Has Innovation to Do with Business Processes?

Today, more and more companies are built on the principles of process innovation. Dell, e.g., did not invent the PC. But it did invent new business processes to bring PCs to market, eliminating unnecessary steps in the supply chain, while offering more flexibility and control to the customer. These processes have become Dell’s main differentiator in the competitive marketplace. Process innovation was the basis for starting and growing this company. Amazon.com did not invent the book, but it introduced a now-popular process of buying books online from the comfort of your living room. This is a process innovation based on the Internet with its new technical capabilities. In a further innovation step, they became a broader online retailer. And now they offer their retail platform to other companies so that they can

sell new products online. eBay did not invent the auction, but its online, easy-to-use processes increased the popularity of the auction. This is again a process innovation as the basis for a new business.

Traditional companies are also focusing on process innovation. For example, enterprises in the machinery industries offer more convenient and reliable service processes based on Internet connections to their clients or directly to the delivered equipment. Airlines have simplified the ticketing process to reduce cost and increase, or at least stabilize service levels through online ticketing. This is a process innovation that eventually became the standard, an industry best practice. Banks reduce cost and improve their service levels through online banking.

These significant impacts of business process innovation are shown in Fig. 2.2.

Business process innovation is clearly of the highest importance for every company. But what is it all about? How do “innovation” and “business processes” really fit together? Innovation is defined as the act of “introducing something new.” A useful structure of innovation is proposed by Davila et al. [3]. According to them, innovation has two major directions:

- Business model innovation
- Technology innovation

Business model innovation includes a new or modified value proposition, new business processes (especially in the supply chain), or new target customers and markets. Let us look at a few examples. Levis Strauss & Co. introduced denim jeans.

Because of the company’s new process of putting rivets in pants for strength, jeans were introduced as working clothes for farmers and factory workers. Since the first introduction of the denim jeans, the company’s value proposition has changed and evolved, as denim jeans have become an expensive fashion product. In its PC offerings, Dell’s value proposition was the convenient custom configuration and ordering of products – the supply chain processes eliminated dealer networks and

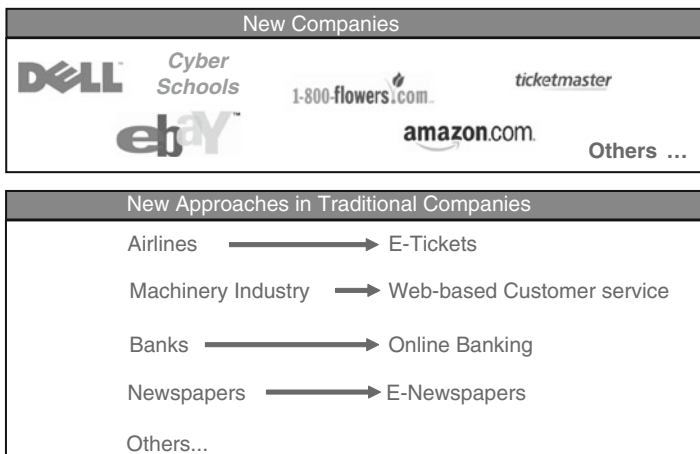


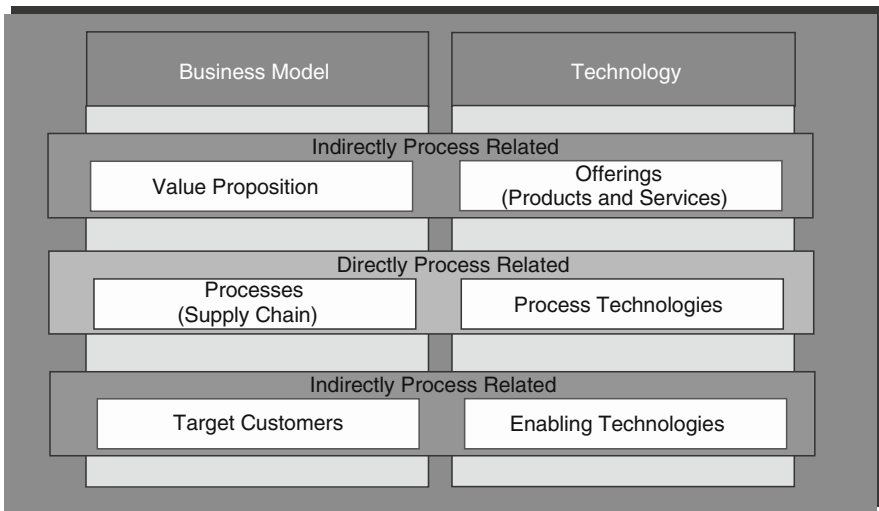
Fig. 2.2 Results of business process innovation

enabled individual configuration by the client, while the target customers remained, more or less, the same as those of competitors. The opening of new markets for existing offerings is another kind of business model innovation. If a company has always sold to US market, but now decides to also deliver products to Europe, this is a form of business model innovation (new market). Sometimes the profit formula is considered as an additional component of the business model; however, it may also be seen as part of other elements (e.g., aspect of the general value proposition).

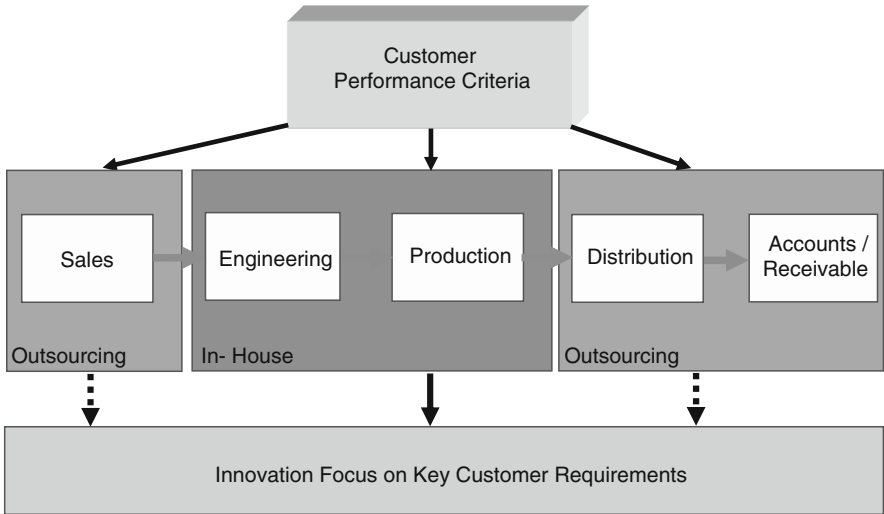
Technology innovation has the following levers: offerings, including products and services; process technologies; and enabling technologies. New product technologies (e.g., the introduction of digital cameras) are some of the most obvious forms of innovation. Process technologies support efficient and effective business processes. ERP systems, e.g., were able to make specific processes more efficient and effective. Supporting technologies improve either product or process technologies. For example, the development of efficient relational databases supported the development of integrated application software, especially the aforementioned ERP systems.

Innovation in the fields of processes and process technologies show the direct link between “process” and “innovation.” But the other forms of innovation also lead to new processes. New value propositions and expansion into new markets require appropriate business processes. A product innovation generally leads to new production or distribution processes. The result is an indirect link between “business processes” and “innovation.” Basically, any form of innovation requires new or modified business processes and needs business process innovation: processes with new structures, more accurate, granular or timely data, new organizational responsibilities, new functions or superior process deliverables.

The levers of innovation are shown in Fig. 2.3. The close relationship between innovation and business processes is reflected in various innovation theories that are



**Fig. 2.3** Levers of innovation and the relation to processes



**Fig. 2.4** Value chain evolution (VCE) theory

applied in practice, such as Christensen’s “Value Chain Evolution” (VCE) theory and his “Resources, Processes, Values” (RPV) theory [4, 5]. Christensen is one of the leading innovation experts. The VCE theory is defined around a company’s value chain, which is the process beginning with marketing and sales and ending with product distribution and accounts receivables. Customer preferences strongly influence an enterprise’s determination of which parts of the value chain process are outsourced and which are executed in-house. The more important the process steps are to the customer, the more likely the enterprise will execute the related process parts in-house. Innovation initiatives are focused on the subprocesses executed in-house, indirectly leading to an innovation focus on key customer requirements. Consequently, business process outsourcing decisions also drive the focus of innovation decisions, especially regarding process innovation. The VCE theory is visualized in Fig. 2.4.

Christensen distinguished between sustaining and disruptive innovation. Sustaining innovation strives to improve existing offerings. In that way, “undershot customers,” or customers for whom the current offerings are insufficient, can be reached. Disruptive innovation targets “overshot clients” or completely new markets. “Overshot clients” are clients who are not interested in the expensive features of the currently offered products. The present offerings are too sophisticated for them. This distinction is visualized in Fig. 2.5.

The RPV theory demonstrates that innovation is significantly influenced through a company’s resources, processes, and values. Resources are transformed through processes from an input to an output. Company values are the basis for setting priorities, thus determining how to use the resources. Successful companies have developed and combined resources, processes, and values to clearly focus on the existing offerings that currently make the organization successful. The result is

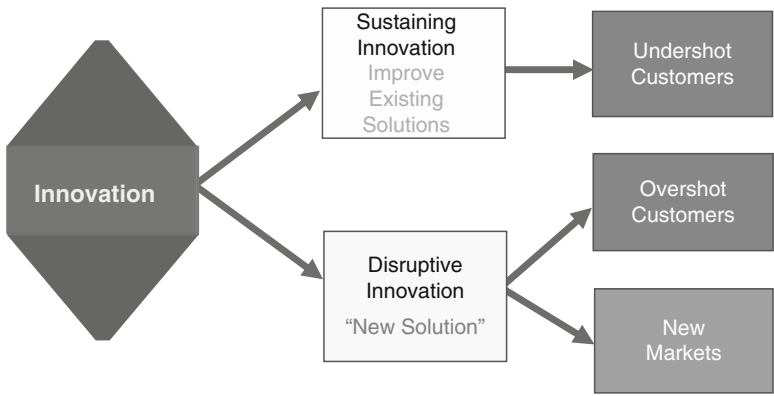


Fig. 2.5 Sustaining and disruptive innovation

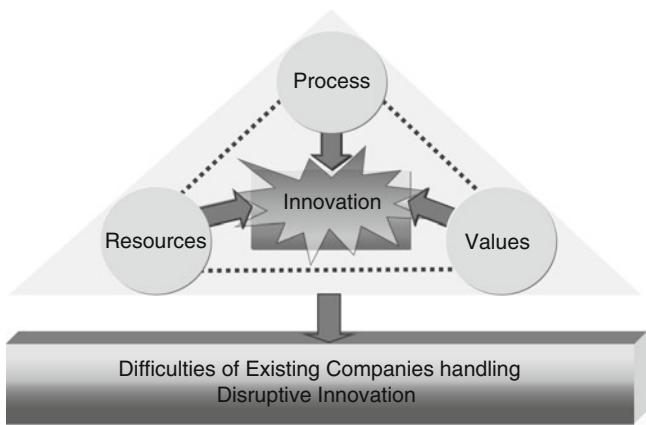


Fig. 2.6 Resources, processes, values (RPV) theory

a sustaining innovation that constantly improves existing offerings. But those companies often lose the agility to do something completely new, something that does not simply sustain their existing products. Therefore, if other enterprises introduce disruptive innovations, focusing on new market segments with new solutions, the existing companies are faced with tough challenges. Their focus on sustaining innovation and their lack of flexibility make it difficult to react to disruptive innovation. Their business processes are generally not agile enough to deal with the wide impacts of disruptive innovation or to produce innovations that are really addressing new markets. In this instance, a BPM approach resulting in agile business processes (enabling process innovation) can become an important factor for long-term survival. The RPV theory is shown in Fig. 2.6.

“Collaboration innovation” is an extension of business process innovation. In this case, inter-enterprise processes are implemented to support “innovative”

collaborations between organizations [6]. For example, ING is a bank that works together with coffee shops. When customers visit an ING location, they feel like they are in a coffeehouse – with some terminals in the back for banking transactions. Therefore, the BPM infrastructure has to support this collaboration between organizations. Processes of different organizations must be integrated to deliver value to the final client. Thus, process innovation is again the underlying principle of that new form of collaboration. We will discuss inter-enterprise processes and their BPM requirements later.

An important and very specific form of process innovation is the innovation of service processes. A service as rendered by a consulting company, financial services company, etc., is also a process. That means the “product” they deliver to the market is a “business process.” Therefore, the innovation of the offering (the service) must be a process innovation – which is consumed directly by the customer. Product innovation in a service company is essentially always process innovation. Therefore, process innovation in such enterprises is even more of a core focus of their activities.

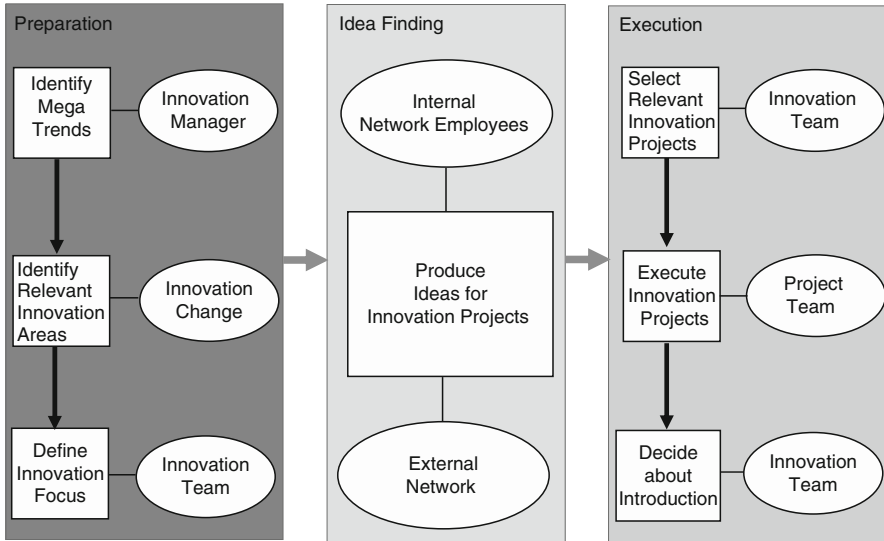
It is now clear that innovation, especially business process innovation, is a topic that every organization should address. But how can this innovation be organized? How can BPM in general and MPE specifically support business process innovation?

## 2.2 What Is the “Business Process” of Innovation?

How does an enterprise organize innovation? Once again, the answer is BPM: the management of innovation within an enterprise is a business process in and of itself. This process must be defined, implemented, executed, and controlled just like any other business process. It goes through the same process life cycle and can be managed using the MPE approach. The “innovation process” is a key process to be managed by MPE.

An example of one such innovation process is shown in Fig. 2.7. The process develops from the preparation of an innovation initiative, to the “idea finding” activities, and finally to the execution of the innovation idea. The innovation manager identifies relevant mega trends and, on the basis of those, the relevant innovation fields. These innovation fields guide the definition of the company-specific innovation focus. This focus directs the “idea finding,” using internal and external resources. The innovation ideas are evaluated, and the most interesting ones become innovation projects. These projects develop prototypes and business cases on the basis of the innovation idea. Then, the innovation team can decide which innovation ideas will be brought to market, or the ideas that will actually become innovations.

During the idea-finding process, it is the key to anticipate the customers’ future interests and needs. Fingar claims that you should even know these interests and needs before the customers themselves are aware of them [1]. It generally makes



**Fig. 2.7** Example of an innovation process

sense to include external partners in the innovation process to broaden the input. Examples of such partners include the following:

- Key customers
- Important suppliers
- Additional market partners (e.g., banks)
- Research institutions
- Universities

Generally, the subprocess resulting from idea finding is an emergent process, which cannot initially be defined from start to finish. Later, we will discuss how to manage these processes.

In most cases, however, the step from the idea to the innovation itself is the most challenging. Therefore, the management of innovation projects and their evaluation is a key activity in the innovation process. An organization can truly achieve competitive advantage by organizing that activity in a successful, company-specific manner.

Because of the importance of process innovation, the innovation process must support this form of innovation effectively. For many traditional companies, this will require a big shift because they formerly thought of innovation in terms of technology innovation, especially product innovation. This shift can be supported by selecting the appropriate external partners to participate in the innovation process.

Davila, Epstein, and Shelton suggest some rules to support and manage the innovation process [3]:



- Implement strong leadership regarding innovation strategy and portfolio
- Integrate innovation into day-to-day business
- Align amount and type of innovation with the specific business situation
- Manage tension between creativity and daily business requirements (“achieve numbers, etc.”)
- Control the resistance to innovation and change
- Form an innovation network consisting of internal and external members
- Define and manage the appropriate metrics and rewards

When implementing and improving an innovation process, it is of highest importance to accelerate the time until the innovation can be introduced into the market. This reduces innovation cost and increases the probability of high revenue effects [7, 8]. The innovation process is designed to create something new. Consequently, you will discover new facts while executing the processes that may lead to process changes and adjustments. The innovation process is often an emerging process [8], a topic we will discuss in Chap. 9.

Hammer, the renowned BPM thought leader, recognized that operational innovation, or business process innovation, is not easy to achieve. For a successful innovation process, he recommends six key factors [9]:

- Business process focus, from the beginning of an innovation initiative
- Definition of process owners, including a senior executive who can make change happen
- Full-time design team
- Managerial engagement, ensuring the implementation of the innovation
- Building buy-in
- Bias for action

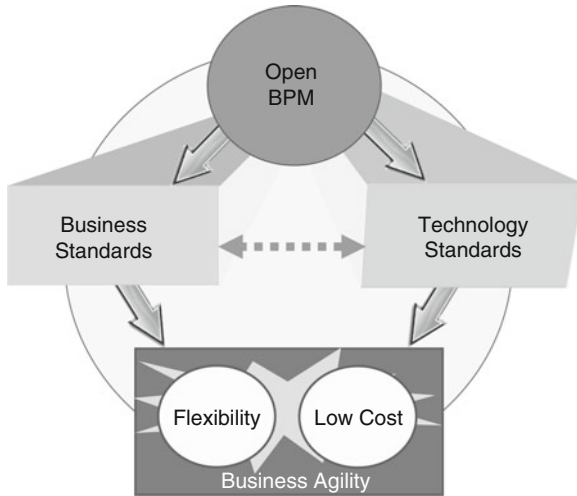
Once a process innovation has been implemented, one must recognize that the interrelation with other processes may require additional change. Therefore, one process innovation initiative may immediately trigger the next process change project.

The innovation process can be centralized in an organization or carried out in decentralized units. The more effective approach has to be defined on the basis of a company’s specific strategy. This is especially true for organizations working in a global business environment, an important topic [10]. The topic will be discussed on a general level in Chap. 10.

How can an enterprise provide an environment to support this innovation? How can MPE facilitate the innovation process?

## 2.3 How Does MPE Support Innovation?

MPE provides a business infrastructure with the flexibility necessary to facilitate innovation, especially business process innovation. It sets the parameters so that an organization is able to react to change efficiently and effectively. Process innovation is simply a special driver of such change.



**Fig. 2.8** Concept of open business process management

As previously mentioned, MPE applies the notion of “open BPM,” which is the consequent use of business and technology standards around the process life cycle, resulting in an infrastructure that provides optimal process flexibility at the lowest cost level. The use of standards to support process management allows business process changes (e.g., regarding the design of a process) with minimal effort because the information about the change can be seamlessly transferred to all phases of the process life cycle (e.g., to ensure the necessary IT support and execution of the new process). The resulting flexibility is the key enabler for business process innovation. The concept of open BPM is shown in Fig. 2.8.

Some BPM software and solution vendors and other organizations choose a “closed” approach to BPM, or use proprietary solutions that do not support standards. This reduces the flexibility to change because of missing integration between the phases of a process life cycle, especially between design, implementation, and execution. Therefore, a closed approach would not facilitate innovation. The concept of MPE cannot be implemented, based on closed concepts – it requires a strategy of open standards.

To achieve the greatest possible number of benefits, the philosophy of open BPM must be applied to each phase of MPE. On the one hand, all phases of MPE must be organized from a business point of view, requiring adherence to the “process of MPE.” On the other hand, the required methods and software support must be provided, as explained earlier. The use of open standards for all business and IT aspects of this business process life cycle management is necessary for organizations to reap the full benefits of Open BPM.

Business standards that can be applied to guide the process design include architecture standards like the SCOR framework developed by the Supply Chain Council, the ARIS Architecture developed by Scheer, or the Zachman Framework

[11, 12]. Processes can be described using modeling standards, such as event-driven process chains (EPC) [13].

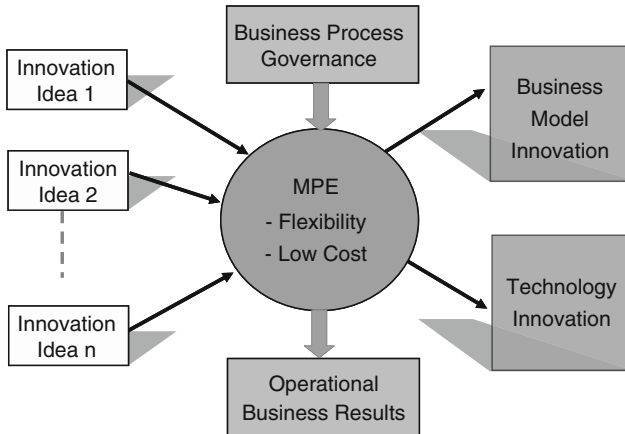
The execution of processes in an open environment is best supported by SOA [14, 15], a highly flexible next-generation process automation that will be later discussed in more detail. The process-design information describing the business situation can be transferred into technically oriented standards, such as the Business Process Execution Language (BPEL) [16]. The BPEL (or similar standard-based) process models are loaded into the technical middleware of SOA, which is then configured based on the process information. The application software components, or the “services,” are utilized according to process needs. This leads to truly process-oriented application software – with very flexible configuration capabilities, so that changes in process design can be reflected very quickly. These technology standards directly deliver the agility necessary to drive process innovation. These IT-related aspects will be discussed further later on.

The main activities of people change management are information, communication, and training. These activities can be supported by the same process models, provided that a consistent process-modeling standard is used, such as the aforementioned EPC. Such formal process-modeling methods can be transferred into process descriptions that are easy-to-understand and easy-to-use, even for less-skilled employees. Change management encompasses the people side of process execution. Maximum flexibility in the technical execution of processes requires equal flexibility from the people working directly or indirectly with those technologies. Also, the people change management will be presented more in Chap. 4.

Process-controlling systems can be linked to the SOA (or traditional process automation environments) through standardized adapters to monitor and measure the business processes [17]. Information, such as cycle times or execution frequency, is monitored. Thus, it becomes easier to provide real-time information about potential process issues so that appropriate actions can be taken. This is the key goal of business activity monitoring (BAM). The result is the management of business events. To measure the appropriate processes or subprocesses, such controlling systems are configured on the basis of the aforementioned process models. They allow the “measurement” of the success of a process innovation and provide the information necessary for “smart” decisions.

The most important aspect of a functional open BPM environment is the integration between process design, implementation, and the following execution. The use of standards in this field enables the integration of process execution solutions (mainly SOA platforms) from various vendors (e.g., those necessary to support mergers and acquisitions when the merging organizations have different execution platforms in place). This can be done without the high costs of development and maintenance for software interfaces.

The consequent use of standards within open BPM also supports the management of processes across organizations, resulting in the collaboration of enterprises [18]. Therefore, collaboration innovation is well supported through this approach. This can, e.g., lead to a new more flexible supply chain process. Interactive Web-based applications, as offered by the “Web 2.0” [6] movement, can be integrated



**Fig. 2.9** MPE – enabler of innovation

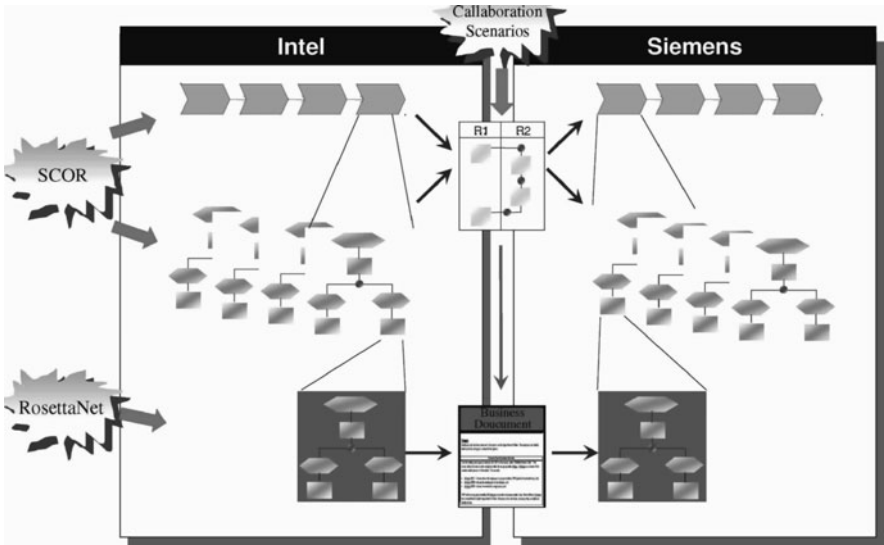
with business processes and support a collaboration environment within and across the organization effectively.

The agility delivered by MPE enables innovation, especially business process innovation. Directed by the guidelines defined in a “business process governance approach,” which will be discussed later, MPE facilitates the delivery of desired business results, especially process innovation, defined in process models. Innovation ideas can be evaluated through the flexibility to test new processes in a simulation or prototype mode and measure the results. Then, an enterprise can decide whether an innovation idea should be implemented and rolled out in the form of business model or technology innovation, mainly delivered through the necessary business process innovation. This effect is illustrated in Fig. 2.9.

Although MPE provides the necessary infrastructure, there are still entrepreneurial tasks left to define the innovation content that is evaluated and implemented. Market, technology, and process developments must be monitored to define which innovation areas should be addressed. For example, a structured, formalized market and product description can be very helpful. MPE facilitates but cannot automatically produce innovation.

The structured design of business processes is a good starting point in process innovation with MPE. One example is a North American producer of commodity chemicals, such as plastic foils. Differentiation through products is nearly impossible. Process innovation is extremely important. Therefore, the company defined process innovation as a key corporate initiative. Every business unit manager delivers suggestions for process innovation in the form of process models, so that an evaluation and potential implementation can be carried out easily.

Siemens and Intel, both high-tech enterprises, similarly facilitated the innovation of their mutual supply chain management (SCM). The intercompany collaboration processes were defined on the basis of the SCOR standard delivered by the Supply Chain Council [11]. Innovations included in the supply chain structure enabled an



**Fig. 2.10** Intel-Siemens: SCM innovation

efficient roll out of changes and standards across the organizations. Their approach is visualized in Fig. 2.10.

Mitsui, a leading Japanese trading company, has followed a similar innovation facilitation. As a service company, process innovation is basically the only effective form of innovation. Mitsui can also use its existing BPM environment to transfer innovation ideas from one location to another or to measure the effects of such initiatives.

Business Process Innovation has also found its way into the educational and academic practice. Universities, such as Widener University in Philadelphia, Pennsylvania, offer certifications and master's degree programs with a focus on business process innovation [19]. This allows enterprises to recruit employees who are familiar with innovation management in a process environment and can help put process innovation through MPE in practice.

## 2.4 The Bottom Line

The key messages of this chapter include the following:

- The main types of innovation are business model and technology innovation (Sect. 2.1).
- Business model innovation includes new or modified value propositions, new business processes (especially in the supply chain), or new target customers and markets (Sect. 2.1).

- Technology innovation has the following levers: products and services, process technologies, and enabling technologies (Sect. 2.1).
- Business processes play an essential role in both types of innovation; thus, business process innovation plays a pivotal role in all innovation initiatives (Sect. 2.1).
- Some companies are completely based on the notion of business process innovation (Sect. 2.1).
- To help ensure long-term business success and high performance, innovation must be part of daily business and an innovation process has to be put in place (Sect. 2.2).
- The innovation process defines the areas of innovation, the development of innovation ideas, and the realization of innovations, based on those ideas (Sect. 2.2).
- External partners should be included in the innovation process (Sect. 2.2).
- Through the use of business and technology standards, MPE ensures maximum flexibility at minimum cost, thus ensuring the necessary agility for business process innovation (Sect. 2.3).
- The most important aspect of a functional open BPM environment within MPE is the integration among process design, implementation, and the follow-on execution. This delivers the ability to progress quickly from design to execution in the case of change (Sect. 2.3).

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