Marek Bugdol · Piotr Jedynak

Integrated Management Systems

Springer

Integrated Management Systems

Marek Bugdol · Piotr Jedynak

Integrated Management Systems

Springer

Marek Bugdol
Piotr Jedynak
Faculty of Management and Social
Communication
Jagiellonian University
Kraków
Poland

ISBN 978-3-319-10027-2 ISBN 978-3-319-10028-9 (eBook)
DOI 10.1007/978-3-319-10028-9

Library of Congress Control Number: 2014946754

Springer Cham Heidelberg New York Dordrecht London

Printed on acid-free paper

Springer is part of Springer Science+Business Media (www.springer.com)

Contents

Introduction

"Integrated Management Systems" consists of five chapters. The first chapter presents types of integration, the integration of management processes, integration in organizational structures, and the synergy effect. The second chapter focuses on conditions necessary for successful integration. The authors emphasize the significance of trust in integration processes and the dominant influence of an organizational culture on processes of integration and disintegration, as well as problems related to cooperation among employees. In the third chapter, the authors discuss integration within the system approach and types of integration which occur amongst virtual organizations and supply chains. In discussing integration, it is impossible to omit the holistic concept of total quality management. The application of TQM influences various types of integration. However, the optimum level of organizational integration is possible only when the TQM concept is precisely defined, its key elements are identified, and its principles are recognized and implemented. The fourth chapter is devoted to a discussion concerning the integration of standardized management systems. For a considerable period of time, attempts have been made to combine various standardized management systems—mainly those related to quality, environment, and occupational safety. At present, in view of the development of various management standards, the problem of integrating different systems is of increasing relevance, because in practice, lack of such integration results in wastage, and unnecessary costs. Therefore, it is important to be aware of appropriate methods for the integration of standardized systems and also of how to reduce workload and documentation. The fifth chapter identifies new directions in research with regard to the issues of integration. It presents just a few proposals out of the many options available with regard to integration in crisis, organizational change, and social games.

The book is addressed to all those who wish to improve management efficiency. It determines the importance for an organization of comprehensive evaluation, of establishing plans for improvement, and of co-operation along the supply chain. It presents practical possibilities for the use of different types of integration. The book addresses the most recent changes and latest trends in integration management from both a theoretical and a practical perspective.

Chapter 1
Management and Integration

In this chapter, the authors will discuss types of integration and selected examples of their development, the significance of integration in organizational structures as well as the role of the structures themselves in ensuring a required level of integration and a synergy effect. The discussion will include the notion of synergy and its basic forms, difficulties in achieving a synergy effect and basic conditions for its occurrence.

1.1 Integration of Management Process

1.1.1 The Management Process in the Holistic Management System

The management process should be understood as all consecutive managerial activities which can be grouped according to the so-called management functions. From the perspective of a system, the management process constitutes an element of the organizational management system. Besides the management process, the organizational management system comprises also, among other things, of organizational structure and methods of management.

System-based management stresses the holistic approach to the performance of managerial functions (Hoare 1995). Such management takes place within the conventional limits of an organization, but simultaneously interacts with the environment. It is worth noting that, according to one of the standard classifications (Christopher 2007), systems can be divided into

- deterministic or probabilistic ones and
- simple, complex or very complex.

There is no doubt that contemporary organizational management systems are not usually deterministic (because of the increasing uncertainty of business activities) and are very complex. The complexity of such systems results, among other things, from their internal complexity (e.g. the complexity and variety of conducted

M. Bugdol and P. Jedynak, *Integrated Management Systems*,
DOI 10.1007/978-3-319-10028-9_1

operations, difficulties arising from the impact of people's actions) as well as external complexity (interactions between an organization and the components of its environment).

Therefore, everyday managerial work, i.e. the management process, is currently performed in conditions of considerable and increasing complexity. One of the tasks of the systemic approach to management, including integration in the management process, is to reduce this complexity.

1.1.2 The Management Process and Its Integrative Character

Both scholarly literature and the practical activities of organizations, indicate two dominant approaches to the identification and description of the management process. One of these was developed by H. Fayol, and the other by E.W. Deming.

H. Fayol identified five managerial functions constituting the management process. These are (Reid 1995): organization, planning, coordination, control, and command. Formulated at the beginning of the twentieth century, Fayol's proposal has survived to this day as a popular and simultaneously practical illustration of the basis of managers' work. In accordance with the spirit of Fayol's theory, the key managerial functions include, in this order: planning, organization, command, control and coordination. Of course, this basic set of the managerial functions can be combined with other elements such as knowledge management, information management, decision making, etc.

With respect to the aforementioned formula for the understanding of the management process, we can talk of its endogenically integrative character. In Fayole's approach (Reid 1995), several factors result in the integrative character of the management process. These are as follows (Fig. 1.1):

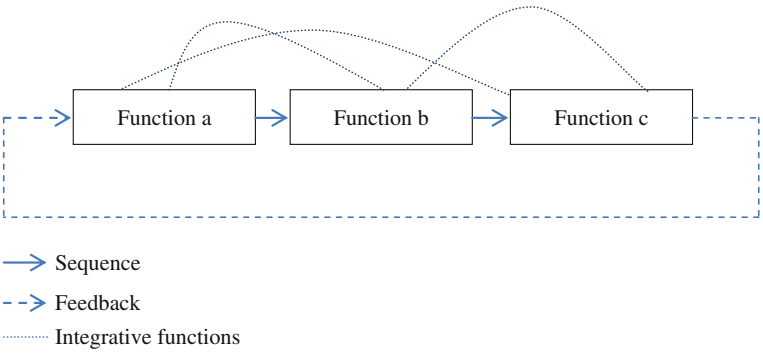

Fig. 1.1 The factors of integration in the management process

- *The sequence factor*. Between the particular managerial functions there occur relations resulting from the sequential performance of managerial activities.
- *The factor of integrative managerial functions*. The fulfilment of each of the aforementioned managerial functions results in integration in relation with the other functions.
- *The feedback factor*. This is related to the transfer of information during the earlier stages of the performance of the management process.

E. W. Deming's proposal constitutes an interesting supplement to H. Fayol's theory. While Fayol concentrated generally on managerial activities in their entirety, Deming stressed the never ending cyclical nature of such activities. Hence the colloquial term for Deming's cycle. This cycle comprises four activities identified as plan-do-study-act (PDSA) or alternatively as plan-do-check-act (PDCA). The particular stages of the cycle have the following objectives:

- *Planning*. The aim is to plan changes and improvements as well as to analyse the current situation. Attention should also be paid to possible consequences. Furthermore, planning includes determining a programme for changes and methods of their monitoring and assessment.
- *Implementing*. This usually takes the form of a pilot implementation.
- *Studying*. The aim is a comprehensive study of the consequences of implemented changes and the formulation of conclusions concerning the effectiveness of implementation.
- *Acting*. Its goal is the undertaking of proper activities to implement the standards of a given solution.

In the practical application of Deming's model, it is not only the management process itself which undergoes integration, but also management and labour, or both managerial and operational activities. The application of Deming's model can lead to different forms of integration, depending on the seriousness and scope of those problems constituting the subject of activities for improvement (strategic or operating problems; problems related to production, sales, etc.). By definition, this model should include a continuous improvement plan (Cleary 1995). Thus, within Deming's cycle, integration has a descriptive and improving character.

1.1.3 The Integrative Role of the Management Function

1.1.3.1 The Integrative Role of Planning

Planning-related activities usually constitute a prelude to the management process and strategic planning is of primary importance for the results of an organization's activities. It should be noted that in contemporary organizations, planning-related activities are conducted outside the scope of formalized procedures (Linn 2008).

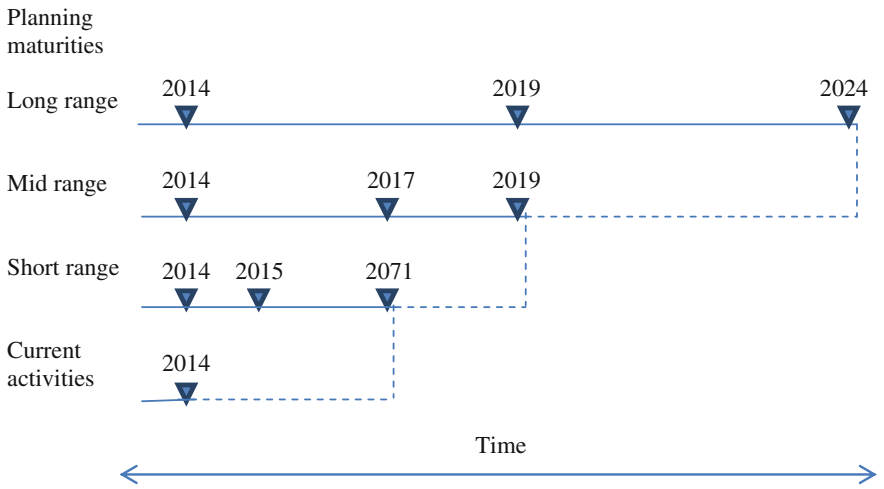

Fig. 1.2 Integration by planning maturities

However, the key dimension in which integration occurs in planning processes is time. This is clarified by a concept termed strategic planning maturities. This approach stresses mutual dynamic relations between planning horizons and strategic planning maturities (Harrison 1995). It should be stressed at the beginning that the period for which an organization can plan its operations depends on particular circumstances. The following organizational and managerial determinants of planning horizons can be identified. Answers to questions about organizational determinants usually refer to such factors as (Harrison 1995): product life cycle, technological change, lead time, present value, organization life cycle and the validity of planning premises. On the part of managers, limitations include cognitive limitations, risk avoidance, time and cost constraints and flawed information. After considering the aforementioned determinants, planning periods are determined, as presented in Fig. 1.2.

The integration of planning activities within particular planning periods is related, among other things, to the integration of objectives and the integration of dynamic change management processes. The integration of flexibility is also required. The continuous integration of planning activities within identified planning periods may (Harrison 1995):

- Reduce uncertainty and assist with the handling of inevitable change,
- Identify and exploit attractive long-range opportunities,
- Improve resource allocation,
- Control outcomes and ensure positive results in acceptable conformity with strategic organizational objectives,
- Permit the organizations to function more effectively.

Another measurable effect of the integration of strategic planning is the increased value of an organization (Kim 2004). As planning comprises the use of resources

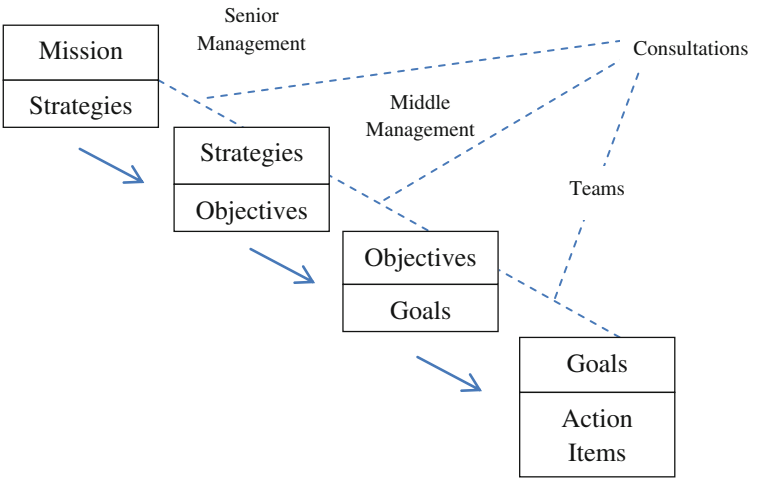

Fig. 1.3 The settling of objectives in the hoshin kanri method (Adopted from Kondo 1998)

with respect to planned results, one of the indirect effects of planning is the integration of an organization's resources (Linn 2008).

Apart from the aforementioned temporal dimension of integration, attention should also be paid to the hierarchical dimension. The Japanese method of hoshin kanri is a very interesting illustration of the integration of planning within this dimension (Fig. 1.3).

Hoshin kanri is a continuous organizational process consisting of the determination and achievement of long-term objectives through the development of an organization's general strategy into individual departmental or divisional strategies. This method can be also treated as an integrative cross-functional approach used for managing strategic priorities across the functional hierarchy of the firm (Witcher and Sum Chau 2007). At the beginning, an organization's operational policy is determined. Already at this stage, the two key media of organizational integration apply (Kondo 1998). These are leadership, which consists of senior management responsibility for the preparation of a formalized policy, and the participation of lower level managers (e.g. department managers), who play an active role in discussions on a given policy. This process is called catchball. After an organization's general policy has been determined, it becomes necessary to define more detailed policies and objectives. This stage comprises further consultations conducted not only in the hierarchical but also the functional dimension (e.g. between particular departments). The hoshin kanri method is initiated usually in annual cycles. It has two deployment styles: top-down and bottom-up (Kondo 1998).

Top-down Style In general, the discussion of targets focuses mainly on the necessity for achieving goals in order to satisfy customer requirements, secure profits or increase market share, and such targets are usually compulsory. This style was applied, for example, by Konsuke Matsushita, the founder of the Panasonic Corporation.

Bottom-up Style The discussion of bottom-up targets focuses mainly on the possibility of achieving them, finding the best methods, identifying possible obstacles to their achievement and finding ways of eliminating such obstacles. Bando Chemical Company is an example of a corporation which used this style to optimize its monthly production plans.

Thanks to the application of the integrative approach in the hoshin kanri method, the following advantages can be achieved:

- employees' commitment,
- improved relations among particular groups of employees,
- elimination of conflicting objectives,
- identification and elimination of barriers to implementation,
- improved insight amongst management and employees with regard to projects currently under implementation,
- the possibility for relatively rapid responses to available opportunities.

Furthermore, an organization can initiate activities aimed at the integration of the hoshin kanri method with other management approaches and methods. The hoshin kanri method can be successfully combined with the resource-based view or the balanced scorecard system (Witcher and Sum Chau 2007).

1.1.3.2 The Integrative Role of Leadership

The fulfilment of managerial functions does not mean that a manager automatically becomes a leader. This is probably the reason for emphasizing the leadership function as a significant aspect of the management process. According to Allio (2009), the differences between a manager who is a leader and a manager who lacks leadership qualities are related to the following factors:

- adoption of a time perspective (a leader uses a long-time perspective),
- basic criteria of reference (leaders develop organizational visions),
- approach to risk (leaders do not shun risk),
- areas of activity (leaders willingly explore new areas of activity),
- approach to the current state of affairs (leaders willingly initiate changes),
- basic operating style (leaders usually adopt the transformational style),
- attitude to subordinates (leaders use empowerment),
- attitude to diversity (leaders consider it an important value),
- the basic stimulus for activity (leaders are stimulated by passion).

The profile of a leader outlined above creates potential for cooperation within an organization which is qualitatively different to that generated within the "traditional" management process. Rausch (2003) presents a universal catalogue of the pillars of leadership which at the same time can be considered as the media for the integration of this function of the management process. These pillars are:

- *Established goals*. These should constitute a challenge to an organization's employees because only then will they unite their efforts in search of necessary solutions.
- *Communication*. This should comprise both internal and external stakeholders. What is of particular importance is defining information needs and ensuring the effectiveness of communication processes.
- *Participation*. This should include stakeholders' participation in decision-making processes.
- *Competencies*. Employees' required competencies need to be defined and ensured.
- *Satisfaction*. This concerns the necessity of ensuring balance in satisfying stakeholders effected by a leader's decisions.
- *Co-operation*. This concerns ensuring the highest possible level of cooperation and coordination.
- *Norms*. This concerns compliance with norms in both organizational and individual dimensions.
- *Reviews*. This concerns the monitoring of progress in the achievement of objectives.

Complementary relations occur among the above pillars of leadership, and thus a failure to follow even one of these recommendations can seriously endanger the final results of a leader's efforts.

However, the realization of leadership can be achieved in various ways, each of which will determine its effects. First of all, the deficiencies of professional leadership should be mentioned. Professional leadership is based on direction, process, and coordination. Realized separately, it is impossible to create a situation in which continuous cooperation can be ensured. This state can be achieved by enriching professional leadership with personal initiative. This, in turn, is based on the following elements (Mastrangelo et al. 2004): expertise, trust, care, sharing and moral standards. Thus, readiness for cooperation can result from the coexistence of the two types of leadership mentioned above.

Another dimension of integration within the scope of leadership is the sources of such integration. For example, within the scope of relational leadership, integration can be achieved through diversified relationships between a leader and her co-workers (Cardona 2000):

- in transactional leadership—through an economically-based exchange relationship,
- in transformational leadership—through a work-based exchange relationship,
- in transcendental leadership—through a contribution-based exchange relationship.

On the other hand, within the scope of servant leadership, integration is achieved additionally through (Stone et al. 2004): delegation, stewardship, teaching, and appreciation of others. The last factor substantially strengthens employees' commitment and motivation. Hay and Hodgkinson (2006) stress the existence of two

leadership perspectives: system-control perspective and process-relational perspective. As a result of the former perspective, integration can be carried out in the organizational dimension, and as a result of the latter—in the social dimension. However, for contemporary leaders, the most difficult challenge is to achieve an attitude of total commitment (Mostovicz et al. 2009).

1.1.3.3 The Integrative Role of Control

Similarly to the other management functions, control can be exercised with respect to both individual employees or their teams and the whole organization.

If control is analysed with respect to employees or their groups, emphasis is placed first of all on the sources of power justifying the exercise of control, its intensification, and the need to ensure compliance with regulations by way of control.

According to an interpretation offered by Etzioni (Sisaye 2005), organizations are characterized by a close relationship between the dominant sources of power or leadership and the applied forms of control. He distinguishes three types of such interdependencies:

- *Normative power and normative control*. Normative power uses rituals and symbols in order to evoke positive reactions in people. Because the dominant management styles are based on socialization and achievement of consensus, they are characterized by a slight intensification of purely controlling activities.
- *Coercive power and coercive control*. In selected circumstances, this form of power and control resorts in the use of sanctions. In the past this meant giving direct orders and controlling employees. Nowadays this form of control is far too insufficient. In view of the necessity of continuous improvement and the volatility of an organization's environment, it is being gradually transformed into self-discipline compliance.
- *Remunerative power and remunerative control*. Remunerative power is based on the control of instrumental relations, activities, and the achievement of economic objectives. This control mechanism is managed by supervisors and is adjusted to employees' low commitment.

Sisaye (2005) is right to note that organizational culture determines which of the aforementioned forms of control dominates. However, it should be remembered that control-related tasks are not limited exclusively to ensuring compliance. They should also strengthen the construction and maintenance of an organization's competitiveness. If control is to achieve such ambitious objectives, it should adopt a holistic form. This requires the implementation of the systemic approach to the controlling function and the integration of its particular subsystems. According to one of the more interesting proposals authored by R. Simons (Kimura and Mourdoukoutas 2000), the following four types of organizational control systems can be distinguished:

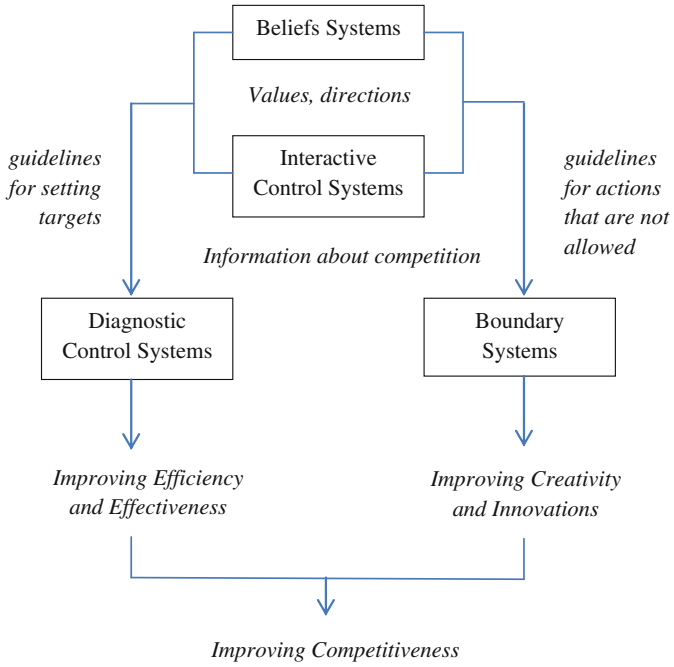

Fig. 1.4 Integration of control systems (Adopted from Kimura and Mourdoukoutas 2000)

- *Diagnostic control systems*. These are the same as the conventional control systems used in hierarchical organizations.
- *Boundary control systems*. These are less rigorous than diagnostic control systems. They are based on manuals and guidelines addressed to employees, relying to a lesser degree on managers' direct orders.
- *Interactive control systems*. These use the managerial practices of involving employees in mutual interactions related, among other things, to the assimilation of new information and reactions to changes in the market and technological requirements.
- *Belief systems*. These are based on trust and organizational values.

Generally, for a control system to be effective from the perspective of its objectives, it becomes necessary to combine diagnostic control systems with the other types of control systems. Figure 1.4 presents the principles of integration of the four control systems referred to above.

Microsoft is an example of an organization which follows the integrated approach to control.

1.1.3.4 The Integrative Role of Coordination

According to a generally accepted definition, coordination consists in the integration of various aspects of an organization in connection with the need to achieve common goals. There are two primary reasons for the increase in the demand for coordination: first, the popularization of the network approach in management, and second, the phenomenon of decentralization. In extreme cases, coordination becomes the main and only task of managers (e.g. in the case of alliances or supply chains). This happens, for example, when a business network actor assumes the role of a coordinator of process chains (Pau 2012).

In the current conditions of conducting business activities, the effectiveness of inter-organizational coordination depends to a considerable extent on common understanding. Common understanding consists of the following five elements (Jaatinen and Liavikka 2008):

- shared ways of thinking,
- shared ways of operating,
- shared knowledge,
- shared goals
- trust.

Good coordination comprising a number of organizations (e.g. raw-materials suppliers, manufacturers, distributors, retailers) allows greater flexibility for all related and independent organizations and facilitates reaction to rapid changes in the market. Bad coordination leads to higher production and transport costs, longer lead times, worse quality of customer service processes, and lower financial results (Simatupang et al. 2002).

The functions of coordination are emphasized not only in terms of the inter-organizational aspect but also within the scope of the selected domains of an organization's activities. In this respect, the best examples are activities of a comprehensive and interdisciplinary character, e.g. innovations management. In such cases, the function of coordination comprises four interpenetrating dimensions (Panesar and Markeset 2008):

- coordination of interested parties' activities (employees, suppliers, customers)
- coordination of information flow (feedback and new idea generation),
- coordination of an innovation's life cycle stages (idea generation, development of concept, feasibility analysis, development of new service, testing/piloting and commercializing, improvements/market introduction),
- coordination of an innovation's management stages (idea sifting, approval of the concept, evaluation and defining content of a new product, evaluation and defining of product delivery and support process, measurement and evaluation of product performance).

1.1.4 Selected Integrative Functions of an Organization

1.1.4.1 Internal Communication

In practice, internal communication occurs in many forms and shapes. If we assume simultaneously, that communication processes are of a multidisciplinary nature, then we should search for complementary domains of internal communication, which can be used subsequently in the integration of such domains.

We can distinguish the following domains of internal communication (Kalla 2005):

- *Business communication*. This can be defined as the study of the use, adaptation, and creation of languages, symbols, and signs to conduct activities that satisfy needs and desires by the provision of goods and services for private profit.
- *Management communication*. The major objective of this variety of communication is the building and diffusion of knowledge which improves the efficiency and effectiveness of managers' activities in the competitive business environment.
- *Corporate communication*. This type of communication fulfils the professional and formal functions of internal communication in an organization. It constitutes an umbrella over all forms of communication processes in an organization.
- *Organizational communication*. This type of communication is related to the understanding of a context in which communication processes, including their symbolic nature, influence organizational behaviours (Fig. 1.5).

Internal communication, considered as a collection of various domains, has the advantage of containing all important components of operating guidelines for experts, managers and employees of an organization with respect to all formal and informal communication tasks.

1.1.4.2 Facilities Management

Facility Management (FM) is a relatively new function comprising many disciplines, the goal of which is to ensure the functionality of the environment through

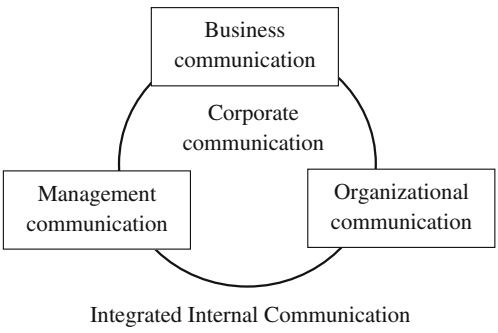

Fig. 1.5 A conceptual presentation of the integration of internal communication (Adopted from Kalla 2005)

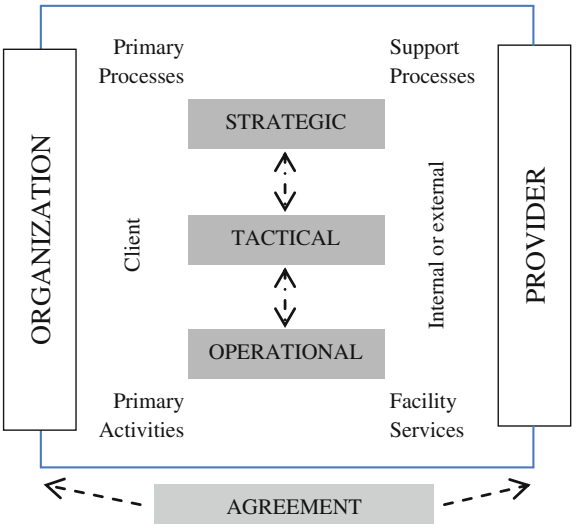

Fig. 1.6 A general model of facility management

the integration of people, places, processes and technologies. The scope of this function includes the integration of the rules of administrating an organization (economics, organization, management), architecture, behavioural sciences (sociology, psychology) and engineering sciences. Against a background of processes conducted in organizations, FM appears to be a supportive function for an organization's core business. This interpretation can be seen clearly in a definition of FM included in the BS EN15221-1 (2006) standard. According to this definition (BS EN15221-1 2006), FM is:

> The integration of processes within an organization to maintain and develop the agreed services with support and improve the effectiveness of its primary activities.

The model presented in Fig. 1.6 indicates that FM can be performed within an organization or it can be outsourced.

If FM is to support the execution of basic processes, then it should be integrated with planning processes, in particular strategic planning.

P.A. Jensen stresses that factual relations between FM and corporate strategic planning can be the following (Jensen 2008):

- *Integrated strategic FM*. This is an example of completely integrated relations which provide a place for dynamic, formal or informal dialogue between corporate strategic planning and FM.
- *Proactive strategic FM*. In this case, planning is parallel and interdependent, and information is exchanged.
- *Reactive strategic FM*. Plans related to FM are a reaction to an organization's strategic initiatives.
- *Passive non-strategic FM*. FM provides support, but is not involved in the strategic planning process.

For organizations functioning in strongly competitive markets, integrated strategic FM seems to be the best option because of the possibility of achieving a time advantage.

1.1.4.3 Performance Management

Performance management (PM) is a function allowing the control and management of an organization's efficiency by means of Key Performance Indicators which can apply to profit, return on investment or operating costs. According to the Procurement Executives Association, PM can be defined as (Amaratunga and Baldry 2002):

> the use of performance measurement information to effect positive change in organizational culture, systems and processes, by helping to set agreed-upon performance goals, allocating and prioritising resources, informing managers to either confirm or change current policy or programme directions to meet those goals, and sharing results of performance in pursuing those goals.

In the development of PM, the balanced scorecard proposed by Kaplan and Norton constitutes a particular breakthrough. Its special qualities include the following (Andersen et al. 2006):

- an alternative approach to strategic planning and the alignment of an organization,
- new formulas for the evaluation of an organization's assets,
- a combination of performance measures with reward systems,
- a stronger orientation towards human capital and its development,
- a strong orientation towards customer satisfaction.

Besides the balanced scorecard, a coordination mechanism described by Mintzberg as one of the significant effective components of an organization can be considered the second source of the development of PM. This coordination is based on three basic mechanisms (Mintzebrg 1983): mutual adjustment, direct supervision, and standardization of employee skills, work processes, and outputs.

It is worth noting that nowadays PM is one of the more popular consultancy services.

For example, the international company Price Waterhouse Coopers (PWC) includes in its offer a service called TRACC, which is an integrated system for the continuous improvement of operating effectiveness. In Poland, this service offered by PWC was used, among other companies, by SABMiller. Thanks to the implementation of TRACC, the following benefits were achieved:

- 450 % ROI in 24 months; benefits have continued for 5 years;
- Improved quality from 87 % in 2000 to 97.5 % in 2002;
- Increased throughput by 10 % as a result of more effective, time-efficient cleaning processes;
- Reduced cleaning-in-place agents by 25 % in one year;

- Reduced changeover times such as the improvement of a line's changeover time from 240 to 45 min,
- Increased machine efficiency from 77 to 88 % in just 2 years.
- Engaged employees in the organization where team building is now considered a continuous and crucial process that brings accountability and strong commitment from the entire workforce.

1.2 Types of Integration in Management

In the classical sociological approach applied in management, the following types of integration can be distinguished: normative, functional, communicative and cultural. This division was proposed by Landecker (1951). Of course, sociologists have mainly analysed integration occurring at the macro level: that of larger social groups or the whole of society. Nevertheless, specialists in the sociology of management, labour and organization have made various attempts to describe the particular types of integration in production or service organizations. In order to better understand the particular types of integration, it is necessary to refer to management processes at the level of an individual business organization.

Normative Integration —this notion refers to how particular standards occurring in an organization are related to one another and to what extent the process of the integration of particular standards allows the organization to be managed effectively. Organizations have many standards, for example:

- organizational standards—these are included in operating procedures, various work rules, job descriptions or employee handbooks.
- ethical standards—these are included in ethical codes, company bylaws, as well as self-assessment models,
- system standards—these apply to particular types of management systems (e.g. quality, occupational safety, risk, environmental, etc.),
- group standards—these result from culture, norms or behavioural models.

Standards can be characterised as both formal and informal. In the former case, they are recorded in formal documents. In the latter, they exist and are applied, but are not necessarily included in official documents. Such standards can be used by the whole organization or by its parts. Informal standards can be categorised as positive, accepted, unethical and even illegal.

Standards are created by employees or they can be imposed from the outside, e.g. by other dominant organizations or different institutions.

Even this short and general review of various standards reveals their abundance. Some standards can supplement or support one another while others include mutually exclusive principles. It is therefore imperative that they are integrated.

It is believed that normative integration occurs if the following conditions are fulfilled:

- the organization's employees and other stakeholders (such as suppliers, customers, owners, etc.) have to accept the system of standards existing in the organization,
- higher integration levels facilitate management processes (e.g. particular standards are not mutually exclusive),
- stakeholders' behaviour is consistent with the approved standards.

Functional Integration means such an arrangement of particular employees' roles and functions that each of them is indispensable for the organization and contributes to the achievement of its objectives (Jacher 1976). This integration expresses itself through the degree of developed relationships among employees, who provide each other with services resulting from the division of labour (Turowski 1993).

Such a perception of functional integration is highly relevant, despite the recent proliferation of organizational structures. In contemporary organizations, employees assume different roles and carry out different functions. However, the very notion of function can be interpreted in various ways Classical management theory refers to management functions. These functions are as follows: planning, control, organization, leadership and management. Managers themselves also perform different functions, as presented in Henry Fayol's research. Particular functions are not only performed by people but also by structures, processes, and even objectives. For example, Griffin (1996) describes functions which are performed within an organization by objectives. These are motivational, controlling, directing, and planning functions.

Therefore, the objective of functional integration is to ensure that all functions occurring in the organization support its development and guarantee the quality of its processes and, consequently, the quality of its products and services.

An example of such functional integration is the application of Deming's cycle. Its particular stages (P-plan, Do-do, C-check, A-act) are intended to supplement and support one another, and to ensure that the whole product realization process is continuously improved.

Functional integration occurs provided the following conditions are met:

- particular functions and roles are not mutually exclusive
- employees' competencies are adjusted to their functions (and such functions can support the development of their competencies)
- decision making powers are determined, known, and subject to change, if necessary
- particular activities are harmonized
- employees performing different functions depend on one another but simultaneously enjoy a necessary degree of autonomy, allowing them to undertake pro-quality initiatives.

Communicative Integration means sufficient intensity of relationships and contacts among employees in order to guarantee their cooperation and achievement of planned objectives. It is obvious that a level of communicative integration

depends on a number of organizational factors (e.g. opportunities for direct cooperation or frequency of contacts) as well as technical factors, opportunities for the sharing of knowledge, data or information, It is also dependent upon which communicative competencies employees have and use.

The achievement of communicative integration is facilitated not only by adequate work organization or resource allocation (e.g. adequate technical equipment) but also by the following:

- logic of messages
- uniformity of information (provision of consistent, non-contradictory information),
- clear determination of access to information.

Cultural Integration is the least precisely defined concept just as the notions of culture and organizational culture lack unequivocal clarification. Organizational sociologists used to believe that the communicative, normative, and functional types of integration were included within cultural integration as this notion is the most general and holistic.

However, it can be assumed that cultural integration refers to the degree of consistency amongst cultural patterns (according to Landecker, Turowski and others). In an organization, cultural patterns refer to management styles, individual approaches to the workplace, behavioural models, work input and the maintenance of relationships with other employees.

Cultural integration is related to employees' ability to combine their own cultural patterns with those of a given organization. This process is of considerable importance in the event of corporate mergers or acquisitions, in supply chains and all types of relationships among different entities.

The achievement of cultural integration is assisted by the following:

- a low heterogeneity (differentiation of behaviours and attitudes) index,
- a determined hierarchy of objectives,
- strong cultural ties,
- procedures aimed at the reduction of tension accompanying any lack of cultural integration,
- a sense of community (or, to some extent, interdependence).

Further types are **simple integration and complex integration.** Jerzy Kurnal established this distinction (Kurnal 1983). He was of the opinion that simple integration related processes take place among material elements. On the other hand, complex integration refers to emotional, intellectual or, generally speaking, psychosocial factors. Thus, complex integration takes into consideration employees' competencies and roles performed in various social groups or even organizations.

Integration occurs in the vertical or horizontal configuration, which means that it applies both to employees holding different positions in the power structure and those located at the same level of the structure. The former type of integration occurs, for example, between superiors and subordinates while the latter may apply

to employees within one organizational unit. Vertical integration does not comprise employees only.

Vertical Integration is a term denoting the acquisition of a distributor or supplier, which contributes to the broadening of the scope of business operations. Such integration is one of the stages in an organization's development. By increasing its scope of business activities, the organization strives for greater profitability (Stoner et al. 2001, p. 285). Viewed as an important corporate decision, vertical integration has been studied by many researchers. This integration defines a degree of a business organization's control over the input of a process or the supply phase (the delivery of products, semi-products or raw materials) and the process's output (the delivery of products and services to customers). Vertical integration can be divided as follows (http://pl.wikipedia.org/wiki/Integracja_wertykalna):

- backward/upstream vertical integration, in which the dominant entity takes control over suppliers of particular parts;
- forward/downstream vertical integration, according to which the firm controls retail outlets and wholesale centres;
- balanced vertical integration, which means that the firm controls the whole production chain from supply to retail.

An example of vertical integration is the oil industry. In the years 1970—1990 the former oil extraction corporations decided to acquire companies specializing in oil refinement processes and petroleum product distribution. Such corporation as Shell or BP started to take control over each product realization stage from crude oil extraction to the retail sale of fuel at petrol stations. The idea of virtual integration was applied, among other corporations, by Dell Computers. M. Dell, the company's founder, pursued the integration of a number of companies participating at different stages in the whole product realization process. And his integration did not resemble relationships occurring between the buyer and the seller. He tried to establish closer relationships, for example, by pursuing IT integrations (Vertical integration, The Economist, Mar 30th 2009).

Horizontal Integration is the process of the merger of organizations conducting business in the same industry sector. Both vertical and horizontal integrations are considered as strategic integrations. Their objective is to increase sales opportunities or decrease production costs. The integration of completely different lines of business is called **conglomerate integration.**

The Concept of External Integration has also been Researched This denotes the integration of customers, suppliers, and distributors. Research into the effectiveness of the supply chain shows that internal integration and external integration constitute a certain whole (Huo 2012).

The most general concept applied in literature on this subject is **organizational integration.** It can be assumed that organizational integration combines in itself all other types of integration essential for the functioning of a firm. It is stressed that organizational integration has effect on the performance of the organization,

knowledge sharing and closer cooperation among business entities. It improves the overall functioning of the organization. The existing definitions of organizational integration highlight the cooperation process occurring among particular organizational units and between functional departments and business partners, which requires determined objectives, a common vision, and knowledge sharing (Turgay and Ekemen 2013).

Besides the aforementioned types of integration, it is also possible to distinguish the following:

Network Integration which takes place within a social network among various employees (e.g. those working on a joint project). The contemporary organization constitutes a given whole, capable of functioning thanks to network-based communication. Its development is possible due to the building of a network of social connections.

Social Integration which occurs within a social system among employees, suppliers, shareholders, distributors, etc. An example of social integration is intellectual integration, which is possible thanks to the existence of accepted value systems or ideologies. This type of integration is possible if, within the organization, all employees embrace such values as justice, solidarity or trust. It is facilitated by the following two convictions:

- demonstrated commitment will be appreciated, and
- commitment of all employees has the same or similar intensity and it does not result from willingness to dominate or acquire a particular value for one's personal use.

Operational Integration organizations should strive to achieve this by ensuring an efficient organizational structure and work organization. Such interference can be divided into the following:

- process integration, which occurs within a particular product realization process (e.g. among internal customers, organizations making up the supply chain, various employees involved in the same process),
- structural integration, which should take place among particular elements (e.g. departments or divisions) of an organizational structure,
- orientation towards common objectives, which becomes possible as a result of determining measurable goals allocated to particular levels and service teams.

An Example of Operational Integration:
Producing graphite and carbon products, organization X was a typical manufacturing organization with clearly defined production and commercial departments. Its functional structure took into consideration the distribution of production activities among particular departments and units, from raw material preparation and milling, through the processes of calcination and graphitization to the final machining and the division of the commercial activities into sales and marketing.

The majority of processes had to involve several organizational units. For example, the process of replying to a request for quotation required the cooperation of departments which included sales, production preparation, technology procurement, and quality assurance. Each of them was responsible for one stage of the process (e. g. the quality assurance department confirmed the possibility of achieving required product parameters, the sales department proposed delivery conditions, etc.). On carrying out a detailed analysis of the process of responding to requests for quotation, the company decided to change its organizational structure by gradually introducing a process structure in place of a functional structure.. As of that time, particular activities have been performed by a single department responsible for customer communication. The implementation of the solution was preceded by an intensive training programme for employees.

Systemic Integration takes place among employees responsible for interdependent processes (such relationships can be seen in process maps). An example of systemic integration is integration which occurs within the chemical and physical composition of a manufactured product or integration of management systems. For example, a quality management system can be effective only and exclusively if its constituent elements operate together. The effectiveness of the system depends on the following factors: managers' responsibility, management of resources, infrastructure, product supervision methods, quality improvement activities, data analysis, and requirements for the process of external supervision.

Economic Integration which occurs among various entities conducting activities within a common economic system.

With respect to time, **short-term integration and long-term integration** can be distinguished. Integration resulting from the particular stages in the development of social relationships is long-term. Initially, physical contacts or contacts within a specific environment are developed. These are following by interpersonal relationships which, in turn, develop into social connections. Short-term integration can occur in situations of threat, e.g. during restructuring processes.

The practical possibilities of using the particular types of integration are presented in the Table 1.1.

The classification of integration presented above is and has to be subject to change in character. In practical management, the particular types of integration depend on one another. Although their names imply that simple types of integration exist—i.e. integration which is exclusive to standards, functions or communication—this is not the case. The existing standards are regularly reviewed and continuously improved. Let us consider normative integration. The name itself refers to standards, but in practice this type of integration is related strongly to values, behavioural patterns or legal systems. The same can be said of functional integration. Its name suggests that it relates exclusively to functions, but in the 20th century its dependence on the distribution of roles performed by particular employees had already been proved. The division between internal and external

Table 1.1 Types of integration and selected examples of their implementation

Integration type	Examples of practical implementation
Normative integration	Creation of normative systems accepted by employees, reviews of applied standards, periodic evaluation of normative systems with respect to their mutual impact (prevention of possible conflicts), implementation of continuously improved socialization and adaptation programmes
Functional integration	Adjustment of functions to available competencies, entrusting employees with new tasks after considering their functions in the organization (prevention of possible conflicts), preparation of employees for new functions, prevention of conflicts occurring among different functions (e.g. those of the department manager and the process supervisor)
Communicative integration	Application of diversified (both technical and social) communication methods, periodic evaluation of communication system effectiveness, employee training in communication methods, focus on the legibility of messages, avoidance of slogans or catchphrases; determination of communication methods and scope of access to knowledge
Cultural integration	Determination of behavioural patterns, development of a trust culture (e.g. by influencing aspects such as competence or reliability), periodic audits of organizational culture, combination of culture development objectives with work discipline principles, focus on the specific organizational culture in HR processes such as recruitment and training
Operational integration	Determination of measurable processes allocated to particular functions and levels, periodic evaluation and adjustment of objectives, application of process approach principles (evaluation of process input and output, resource allocation analysis, process monitoring, integration of particular activities, determination of objectives for processes and evaluation of their effectiveness, appointment of process owners, determination of indexes and methods for their assessment)
Systemic integration	Decision making with respect to the systemic concept (i.e. taking into consideration relationships among particular systems), selection of suppliers based on the systemic concept, determination of an appropriate hierarchy for particular systems
Network integration	Introduction of social network development programmes, periodic evaluation of communication networks. The application of a compelling theory of quality, facilitating the acquisition and cooperation of many participants who will be attracted to a particular project
Social integration	Implementation of socialization, adaptation, empowerment and social participation programmes, organizational value systems management (e.g. attention paid to equal treatment of employees, trust development, etc.)
Vertical integration	Evaluation of the effectiveness of integrating activities, evaluation of acquisition risk, development of a quality chain among entities subject to integration
Horizontal integration	Evaluation of strategic risk related to complications resulting from acquisitions or mergers, functioning of the basis of mutual agreements, determination of common objectives and profits (the principles of their allocation)
Economic integration	At the meso level—establishment of common undertakings or chambers of commerce At the macro level—government's proper economic and social policy, development of investor trust and economic trust. Development of policy allowing cooperation among various business entities

Source Authors' own research

forms of integration occurring among various organizations is a simplification because an organization's efficiency depends on the degree of integration amongst its customers and suppliers as well as its functions and channels of distribution.

1.3 Integration in Organizational Structures

1.3.1 Qualities of Integrative Organizational Structures

Integrative organizational structure should be characterized by a certain set of qualities. The most important of such qualities are presented below.

Quality 1. Adjusting the Structure to an Uncertain Environment A quality of this type allows the integration of an organization's internal solutions with challenges originating in its environment. In this context, we assume the necessity of an organization's adaptation to its environment. According to the structure-contingency paradigm, the higher the environment's uncertainty level, the more fluid and flexible structure an organization should have (Lysonski et al. 1995). Starting in the 1990s, major changes in the organizational environment comprised, among others, the following aspects (Lysonski et al. 1995): new technologies, increasing competitive sophistication, fluctuating commodity process, competitive entries, changes in government regulations, shrinking brand loyalty, industry oversupply, media costs, reduced margins, increased trade deal activity and a decline in lead time necessary for decision making.

The basic dimensions of organizational structures which need to be taken into consideration in terms of the uncertainty of their environment are as follows: the degree of decentralization of decision making, the formalization of rules and procedures, and structural differentiation. The universal recommendations for organizations functioning in an uncertain environment include the following:

- decentralization of hierarchical structures,
- participation of employees at all levels in decision making,
- reduction of the significance of formalization to the planning function and reduction of its scope in implementation processes,
- implementation of simple and flexible operating rules,
- the higher the level of decentralization in an organization, the more diversified it becomes, because it is highly probable that its particular departments are interacting with the environment.

Hunter (2002) is right to note that an environment characterized by uncertainty is usually also dynamic and complex. In her opinion, process, cellular, quantum, and political generic structures are the best adjusted to situations characterized by dynamic changes and complexity.

Quality 2. Clear Customer Focus A quality of this type results primarily from the assumption that the success of an organization's strategy is determined to a considerable degree by its structure. Thus, if a strategy is based on the fulfilment of clients' requirements, then the structure should facilitate it. A management concept which is based strongly on orientation towards customers is TQM. Research into success in the implementation of the TQM concept reveals the following regularities concerning structural solutions adopted by organizations (Jabnoun 2005):

- preference for a process-based approach instead of a functional approach (because processes are better subjects of analysis)
- support for the creation of cross functional teams as an addition to, or replacement of, functional departments,
- increased sensitivity to quality and customers' needs instead of departmental affiliations and functional roles,
- promotion of horizontal coordination based on the flow of the work process,
- use of linkages with customers and suppliers,
- increased usefulness of a structure's organic qualities instead of its mechanistic ones,
- duality in terms of levels of control (on the one hand, strong control is necessary for the elimination of diversity and a guarantee of compliance, on the other hand, customers' satisfaction is dependent on workers' empowerment and learning),
- a low level of centralization and formalization.

Quality 3. Support for Organizational Performance A very important notion in the analysis of organizational structures supporting organizational performance is business life cycle. The qualities of such structures should be different at the start-up, early growth, and maturation phases, respectively. Ultimately, in the subsequent phases of a business's development, an organizational structure supporting performance should be characterized by the following (Hunter 2002):

- decentralized reporting relationships,
- decision making based on financial objectives,
- communication regulated along formal lines,
- coordination of work by standardized outputs.

Another interesting relationship is the need to diversify types of organizational structures depending on an organization's size. Research conducted among medium-sized and large companies in the UK showed that their results correlated with a type of adopted structural solution, with organizations of different sizes achieving different results. For example, (Weir 1995):

- for the medium-sized enterprises participating in the study, holding and multidivisional solutions appeared to be optimal,
- for the large enterprises, the best solutions were identified as transitional multidivisional and corrupted multidivisional.

Table 1.2 Organizational structure and organizational learning

Organizational structure	Organizational learning
Order-control (specialization, hierarchy, centralization)	High knowledge sharing and communication
Work teams (low-specialization)	High share and innovation but low storage and retention of knowledge
Ring-form (authority share, double chain)	Better transference and sharing, storage, normal acquisition of knowledge
Network (flat and flexibility, authority share)	High innovation and responsibility to the market, normal storage

Adopted from Hao et al. (2012)

Finally, for an organizational structure to contribute to improvement in performance, it needs to support organizational learning processes. This recommendation is based on the results of research which confirmed that organizational learning led to improved performance because of its reliance on experience (Hao et al. 2012). Dependencies between solution-related organizational structures and the character of organizational learning are presented in Table 1.2.

Quality 4. Support for Strategy Implementation This quality of an organizational structure refers directly to the resource-based approach. According to this approach, the formulation of an organizational strategy requires the understanding of relationships among resources, capabilities, competitive advantage and profitability (Tavitiyaman et al. 2012). An organization's strategy depends to a considerable extent on its resources. In this context, the double function of an organizational structure becomes evident. On the one hand, it can be considered as an important though intangible resource of an organization, while on the other hand, it can be treated as a tool for exerting influence on the other resources.

Therefore, organizational structures having the aforementioned qualities are characterized by coherence, which allows the performance of the integrative function of such structures. As we can see, a structure's integrative function has not only an internal dimension but also an external one (relations with the environment).

1.3.2 Selected Problems of Integration in Organizational Structures

Changes in the Designing of Organizational Structures Over the past few years a number of global trends have appeared in the designing of organizational structures. The most important of these trends include the following (Nikolenko and Kleiner 1996):

- the treatment of structures as one of the key success factors,
- the creation of two co-existing organizational structures (macro structures across a whole organization) as well as partial structures for organizational components, which is visible particularly in corporations,
- the integration of organizational structures with an organization's environment by means of a strategy,
- the domination of an organic model of a structure in connection with the dynamization and unpredictability of the environment,
- the significant role of strategic business units as a form of making a structure flexible with respect to particular markets,
- the primacy of information as a form of cohesion between elements of an organizational structure (partly as a substitute for control),
- the displacement of the functional approach with the process approach,
- the replacement of vertical orientation with horizontal orientation,
- the virtualization of structural solutions, which is related to the growing importance of technology, trust, orientation towards perfection and elimination of barriers.

It is interesting that the aforementioned trends are characteristic for such global leaders as, for example, Apple or Google. These organizations have replaced basic structural solutions with flexible ones. Among Google's key organizational values there are, for example, such statements as: fast is better than slow; demand for access to information is limitless; excellent is not enough. By contrast, Apple is a corporation which, on the one hand, develops new product solutions in strict secrecy, and on the other hand, uses the modern solution of presumption, persuading, for example, iPad users to participate in its improvement. The implementation of users' suggestions is facilitated by Apple's flexible organizational structure.

Problems with Integration in Divisional Structures

Divisional structures are common elements in large multinational organizations. The scope of problems with integration in such structures depends on the adopted model of consolidation of performed functions. Two such models can be distinguished (Daugherty and Droge 1997): a line and staff model and a model based exclusively on the staff element. The concept of the linear-personal model is presented in Fig. 1.7.

In this model, the integration of selected functions (e.g. logistics, marketing) is effected completely through centralization. Such a solution is adequate for a situation dominated by advanced outsourcing and the use of external suppliers in the performance of particular functions.

In the model based on staff activities alone (Fig. 1.8), integration occurs exclusively at the corporate management level and is characterized by the staff dimension. Thus this integration concerns the strategic aspects of the management process while tasks related to the functions are performed by particular business units.

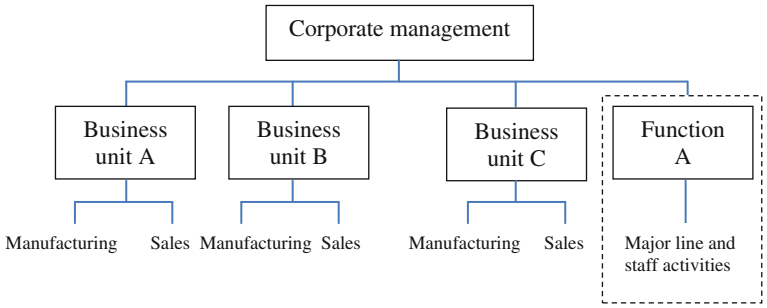

Fig. 1.7 The line and staff model of consolidation in divisional structures

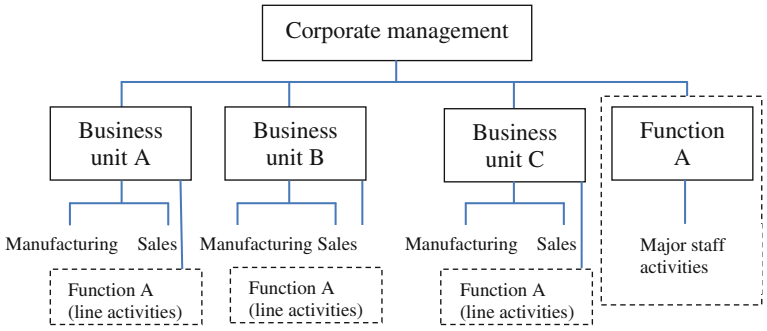

Fig. 1.8 The staff-only model of consolidation in divisional structures

Problems with Integration in Matrix Structures

The consequence of using matrix structures is the appointment of multidisciplinary teams whose members initiate cooperation, going beyond traditional functional affiliations. The basic problems with integrating people's efforts in the multidisciplinary dimension concern mainly the following (Rees and Porter 2004):

- the appropriate selection of team members based on their specific training requirements,
- a situation in which a line manager is responsible for a few disciplines,
- appreciation of informal authority on the part of the team leader,
- limited powers of a team leader to manage resources,
- a situation in which a multidisciplinary team functions in a weak base structure, which results in lack of support from functional areas,
- the need for special motivation of team leaders,
- reintegration of a team after the completion of a task.

A response to the identified threats should include the sanctioning of a multidisciplinary team leader's powers and the strengthening of her position, the assurance of administrative support necessary to coordinate a team's work, and regular reviews of a team's work progress.

Problems with Integration of Teams in Organizational Structures
Currently, two major problems related to team integration may arise. One of these is a universal problem concerning a team's performance, while the other results from the specific nature of managing multinational teams. Team integration oriented towards achievement of optimum performance should comprise the use of the following tools (Senior and Swailes 2004):

- a proper management of a team's objectives (definition of objectives, their acceptance by employees, their involvement in the achievement of objectives),
- a team's organization (roles and scopes of responsibility, decision making, problem solving, process planning, task distribution, evaluation),
- leadership (role of a leader, support for a team, support from a team, operational control),
- a team's climate (commitment, respect for differences, openness, participation in decision making),
- interpersonal relations (communication styles, reporting among team members, joint calendars),
- communication within a team (constructive conflicts, proaction, frequency of contacts),
- team composition (mix of personalities, mix of skills, defined team roles, team size).

A particular challenge, however, is the integration of teams whose members come from various countries. Besides typical problems occurring in any team there is an additional issue of cultural diversification. Therefore, in the case of international teams special emphasis is placed on the following (Iles and Hayers 1997): selection of a project manager (taking into account the complexity of functions to be fulfilled by the project manager), recruitment and selection of team members (e.g. on the basis of Belbin's model), active and sequential team management (including such phases as forming, storming, norming, performing), team work reviews and evaluations.

1.4 Synergy Effect in Management

The practice of management refers to synergy, emphasizing the need for analysing processes with respect to their effectiveness, allocation of resources, and relationships and dependencies occurring within a system. Currently one of the most important challenges is to achieve synergy effects among various quality management systems. For many years researchers have been discussing the extent to which the implementation of integrated systems helps businesses to improve their economic results. In other word, what is more cost-effective: the implementation of one system based on the ISO 9001 standards or the implementation of a complete integrated system? Disregarding different possibilities of integration, it can be said that in the case of many management systems (quality, risk, environmental, OHS),

full integration occurring in the documentation and operational areas is important. Some research indicates that organizations which have many management systems function better than those in which management is based on a single system (e.g. Casadesús et al. 2011). However, management practice shows that integrated systems implementation does not always result in synergy; it is not always possible to integrate objectives, documentation or operations, and in some cases there is a visible increase in bureaucratic procedures.

The achievement of synergy effects is not always an easy task; it is necessary to bear in mind its limitations as well as to ensure conditions favouring integration and, consequently, synergy.

1.4.1 Notion of Synergy

According to the theory of management, if at least two elements cooperate with one another, the sum of their individual results is greater than it would have been if they had worked separately. Those "elements" are people, but also social groups, and even sub-systems making up an organization. The word "synergy" comes from Greek (synergós) and means combined actions or cooperation of factors which is more effective than the sum of their individual efforts (http://www.slownikonline.pl/kopalinski/45FCA86F72994BCA4125659A007D53A2.php accessed 14.09.2013). Sometimes synergy is illustrated by means of the following formula: 2 + 2 = 5 or more.

According to the Economist (http://www.economist.com/node/14301509, accessed 10.02.2013), the notion of synergy was introduced into business language by Abraham Maslow (it was adjusted to his non-authoritarian model of organisational structure). Earlier, during the Second World War, it had been used by the anthropologist Ruth Benedict, who referred to synergy, describing cooperation among social groups.

In order to understand properly what a synergistic effect is, reference can be made to an example from the world of sport. Success in all team games depends on the extent to which particular players can cooperate with one another, the roles entrusted to them are mutually beneficial, and their positioning is advantageous for the whole team. It is sometimes the case that a team is composed of outstanding individual players, but its results are much worse than those expected. There are also teams who achieve the best possible results, even though they are made up of different players with various skills and abilities, not all of whom are outstanding. The situation is similar in service and production organizations, as was observed by Frederick W. Taylor, who advocated a scientifically-based selection of employees who should be allocated duties based on the degree of compatibility between particular tasks and their individual skills. These mechanisms were described in detail by Russell L. Ackoff, who advanced the thesis that "the sum of a system is never equal to the efficiency of its constituent elements" (Ackoff 1993, 103). Ackoff gives the example of people who want to assemble the most outstanding car in the

world. They assume that is suffices to collect parts from the best cars available and subsequently put them all together. However, even if particular parts could be put together, such a car will surely be a poor product.

The notion of synergy is sometimes identified with the notion of dependence. For example, synergy is described as something which should occur between learning processes or between what employees receive from an organization and what results from their needs. It is also believed that a synergy effect should take place between employees' competencies and motivation, organizational efficiency and technical devices supporting processes (Calabrese 2012).

The notion of synergy should not be confused with the notion of consistency. For example, IT specialists are convinced that there should be consistency among messages conveyed by call centre employees, web site content, and information provided by business agents or representatives. Quality auditors pay attention to consistency which should occur in the determination of various strategic, operational, quality or environmental objectives. Consistency is one of the prerequisites for both integration and synergy.

When the notion of synergy is discussed, it usually refers to social synergy which is the outcome of cooperation among employees. However, this is not the only type of synergy. Research conducted by Knoll (2007) has resulted in the description of different types of synergy. It is possible to distinguish the following synergy types:

- financial synergy, which is the effect of the integration of financial resources,
- operational synergy, which occurs when various operational resources are combined,
- market power synergy, which results from the integration of various opportunities for functioning on the market (e.g. by merging the activities of two companies operating on the same market) (Knoll 2007).

Other types of synergy obviously also exist, which can be related to the aforementioned classification of integration types. Taking into consideration the role of organizational culture in the creation of relationships, it is possible to refer to cultural synergy or even network synergy. The former type of synergy is visible in multicultural companies which succeed in using their cultural diversification to enhance cooperation and improve efficiency. The latter is visible where new products are developed in cooperation with customers or users of various Internet forums.

Synergy can be achieved in different ways, for example, through reorganization. Such synergy is termed positive as it results from knowledge and effort. On the other hand, synergy effects can be achieved when an organization acquires one of its suppliers. In such a case, thanks to the merger of two organizations, customers acquire lower prices, but this synergy does not have to be preceded by reorganization processes.

1.4.2 Forms of Synergy

Business synergy appears in one of the following six forms (Goold and Campbell 1998):

A. Shared know-how
The exchange of knowledge and experience is indispensable for efficient functioning and the achievement of synergy effects. In practice, however, this raises the question: how can employees be encouraged to share knowledge? Good organizations encourage not only their employees but also all stakeholders to share knowledge and experience; they identify their key competencies and foster their development. Know-how is included in formal procedure and instructions, but it also exists in the form of silent and covert knowledge shared amongst employees. It is embedded in an organization's value system.

B. Coordinated strategy
Individual business units carrying out tasks entrusted to them cannot compete for customers. However, cooperation among particular units is very difficult because of their pursuit of autonomy and independence. Management practitioners stress that a synergy effect which can be achieved by ensuring cooperation in the attainment of strategic objectives is vital.

C. Shared tangible resources
The joint use of the same tangible resources frequently becomes a necessity. For example, there is no need for each business unit to run its own research laboratory. A proper allocation of tangible resources is simply cost-effective because it prevents redundant duplication.

D. Pooled negotiating power
The so-called pooled negotiating power strengthens an organization's position in the process of negotiating delivery terms and conditions. It results in better chances for eventual success. Therefore, the negotiation process, involving not only suppliers but also other stakeholders, can have a positive impact on the acquisition of benefits. Negotiating power increases if, for example, procurement activities become centralized. Particular business units centralize the procurement process by entrusting its management to the most competent unit.

E. Vertical integration
The coordination of the flow of products and services from one unit to another reduces inventory costs, accelerates the development of new products, avoids wastage, and increases capacity utilizations.

F. Combined business creation
The creation of new businesses has to take into consideration the process of integrating knowledge held by the different business units within an organization. Frequently it becomes necessary to establish internal alliances and joint ventures.

1.4.3 Integration Versus Synergy

Research conducted so far indicates that direct relationships between integration and synergy occur. These concern the following: relations among complementarity, integration and autonomy (Zaheer et al. 2013), dependencies between vertical or horizontal integration and synergy (Nagurney et al. 2010), a synergy effect resulting from cooperation among various entities within a supply chain (Narasimhan et al. 2010), and the integration of different management concepts.

First of all, if complementarity and not similarity is the source of synergy, then both integration and autonomy can be achieved. Similarity negatively moderates the relationship between complementarity and autonomy when (Zaheer et al. 2013, p. 604). In practice, it is believed that too high a level of integration does not favour synergy because it constitutes an obstacle to independent autonomic activity or the taking of important decisions. The same can be said of the integration of both employees and businesses (in the case of vertical or horizontal integration and summary alliances). In fact, the problem is much more complicated because similarity can be a serious barrier to synergy while complementarity—that is mutual complementation or support among individuals, social groups or organizations—leads, under certain conditions (e.g. effective work organizations) to an energy effect.

Secondly, it is assumed that both vertical and horizontal integration should facilitate the achievement of synergy (Nagurney et al. 2010). However, in this case a lot depends on management skills—the integration of planning functions and distribution, the control of the supply chain, the initial integration costs, etc.

Thirdly, it is assumed that integration occurring between the supply chain and the product realization process allows the achievement of a synergy effect. The supply chain makes sense not when a simple relationship between two organizations occurs, but when cooperation among many entities results in synergy. "The findings show positive complementarities between PPT-(product-process technology) integration and supplier integration with respect to quality, delivery, and process flexibility. Also, positive complementarities exist between PPT integration and customer integration with respect to quality and new product flexibility." (Narasimhan et al. 2010).

Finally, it is generally believed that the combination of management methods and concepts should lead to synergy. For that reason, management practitioners have made numerous attempts to bring together the ideas of TQM, reengineering, lean manufacturing or corporate social responsibility. They have also discussed the possibilities of acquiring synergy effects as a result of combining the concepts of TQM and sustainable development.

1.4.4 Difficulties in Achieving Synergy

In order to achieve synergy, organizations resort to a wide range of management tools. Most of these tools can be divided into two groups.

One of these comprises activities of the organizational character. Cross-functional and interdisciplinary teams are established, processes and their particular stages are integrated, and the PDCA cycle is used. All key processes are subject to standardization and continuous improvement, mainly with respect to their effectiveness.

The other group comprises activities related to the improvement of an organization's social potential. Employees are motivated and encouraged to share knowledge or create new knowledge resources. Organizations implement special motivational programmes encouraging employees to cooperate, share experience, and develop team work and leadership skills.

In practice, however, the achievement of benefits resulting from the application of such tools is very difficult. According to Goold and Campbell (1998), there are a few reasons for this problem.

Firstly, when implementing various programmes oriented towards energy achievement, managers tend to overestimate potential benefits without carefully considering all costs related to the achievement of a level of cooperation which favours the occurrence of synergy. Any growth achieved by an organization as a result of synergy is almost always related to costs, hence the notion of the cost-effectiveness of synergy. The true profit is the added value acquired in consequence of integration, less the costs of synergy.

Secondly, it is too frequently believed that the knowledge required for the achievement of synergy is inherent to an organization and there is no need to search for externally, for example, through the application of benchmarking.

Thirdly, the negative consequences of implementing synergy-oriented programmes are underestimated. Such programmes frequently involve considerable changes and may cause disintegration in their initial stages.

Synergy resulting from mergers and acquisitions is also something elusive. Contrary to declarations made by some consultancy firms, the achievement of a synergy effect is not an easy task. There are two reasons for this (http://www.economist.com/node/14301509, accessed 10.02.2013):

- Managers pay too much attention to negotiations concerning the prices of the integration process itself, but they are not always able to estimate the true total costs of mergers or acquisitions.
- Managers do not appreciate the importance of cultural values, which frequently hinders integration processes in various entities.

It has been observed that the achievement of synergy is difficult because of the existence of two groups of managers: those with management contracts and those working under employment agreements (Lewis 2009). Currently one of the major problems related to the achievement of synergy is the occurrence of two types of

employees: permanent and temporary. This division of employees has always been present. However, as a result of the economic crisis of the first decade of the 21st Century, the number of people employed on a part-time basis or under fixed-term employment agreements has risen dramatically.

1.4.5 Conditions for Achieving Synergy

A synergy effect should take place among particular processes or systems and their respective parts. In management practice, it is assumed, for example, that a synergy effect should occur between quality management processes and marketing processes. Management specialists highlight the necessity for synergy between quality management systems and supply chain management. There is universal agreement that synergy effects need to be apparent. In reality, however, even research focused on synergy issues shows the existence of relationships and dependencies between particular processes, rather than what is commonly referred to as synergy. In other words, researchers are frequently unable to prove the occurrence of the added value which should be acquired when an organization's key operating processes have been integrated. Thus a serious challenge for management specialists is the measurement/assessment of synergy effects. This raises the question: How can it be proved that two cooperating sub-systems achieve better results than those they would have achieved if they had operated independently? The problem does not only concern the determination of indicators for particular processes, comparison of performance or operating costs. The essence of such measurements is to determine the key factors which contribute to cooperation.

On the basis of the study of literature available on this subject and the authors' own research, it can be said that a synergy effect is possible if:

A. A high level of trust exists,
   Trust plays a dominant role in cooperation among people. Its absence results in a lack of social capital, because trust constitutes the most important element of such capital. The lack of trust results in circumstances in which cooperation costs increase and pressure is put on the control and security of mutual relationships which do not support either synergy or cooperation.
B. The work of teams is well organized and their members represent compatible competencies
   However, it had already been proved at the beginning of the 1970s that a great deal could depend on the type of work performed. Ivan Steiner (1972) distinguished the following three types of tasks:

   - additive tasks, the final result of which depends on how all employees work on a given task,
   - disjunctive tasks, the result of which depends on the most competent team member (these are, for example, mathematical tasks),

- conjunctive tasks, the result of which depends on the work of the weakest team member.

A team acquires an advantage over an individual if it carries out disjunctive tasks; this does not have to apply to additive or conjunctive tasks. A lot depends on how work is organized, what tasks a team has to deal with, whether a team depends on other teams, the degree to which team work efficiency is dependent on the opinion of other people or groups, etc. For example, Morten Hanson's research has shown that a considerable degree of consultation among team members did not support effective decision making processes at all. Team work has its advantages, but also disadvantages (The Economist, Schumpeter of 7.08.2013, p. 55).

C. Existing objectives are accepted and attractive
Theoretical studies into a synergy effect include the very optimistic assumption that people can unite around a common goal. Cooperation supported by motivational systems is to contribute to the achievement of a synergy effect. However, the problem consists of the fact that employees' goals and expectations can differ and the determination of one superior goal does not always favour the occurrence of synergy, in particular if such a goal is rather unspecified or distant. Meanwhile, the existing goals have to be accepted by, and remain attractive for, both employees and other stakeholders. Simple goal management tools constitute a basis for the achievement of a synergy effect. However, such goals cannot be contradictory (in other words, this process should be characterized by integration). The attractiveness of goals is important for the motivation of people participating in particular projects and also for increasing the number of such people.

D. An organization has an optimum level of solidarity
Management science distinguishes vertical solidarity (with superiors) and horizontal solidarity (with co-workers). These two types of equity do not always appear together, which impedes cooperation and the achievement of synergy. Contemporary organizations pay increasing attention to organic solidarity. Within such solidarity, "each person carries out diversified, but mutually indispensable and complementary activities, by exchanging goods or cooperating with others" (Sztompka 2002, p. 500). Lack of equity causes a decrease in the levels of satisfaction, trust or commitment. It favours counterproductive behaviours. A strongly perceived inequity can lead to industrial action or riots. Equity is necessary for the development and maintenance of other values such as commitment and satisfaction. Thus it indirectly supports people's efficiency and motivation, and possibly the effectiveness of initiated activities. The equitable treatment of employees and the inclusion of this value in management practices favour the acquisition of cultural synergy.

E. There is no permanent conflict of interests and roles
A conflict of interests concerns not only members of the same team, but it has to be analysed from the point of view of roles performed by employees in an organization. For example, employee X is both a member of a team responsible

for quality planning and a participant in a quality circle. Her position in various teams is diversified, which results from her willingness to emphasise her input in the work of the quality circle in compensation for her inability to use her competencies within a formal organizational unit responsible for planning. Her behaviour raises suspicions and conflicts. Eventually other employees are unwilling to cooperate with her.

Conflicts are common phenomena. It has been argued that conflicts play an integrating role. However, this is based on the condition that their resolutions are positive, in the sense that they strengthen social groups and do not cause a feeling of inequity. However, too many conflicting roles and interests prevent the achievement of a synergy effect.

F. There is a possibility of organizing work in such a way that different behaviours and attitudes do not conflict, but complement one another.

Employees represent different attitudes towards work. Their behaviour is determined not only by an organization's structure or a formal work organization system. Some people are innovative; others expect a high level of support; some very quickly enter into numerous interactions and create strong social networks, while others represent conservative attitudes. The reconciliation of such opposing attitudes and behaviours is a key task for those who want to achieve synergy.

G. Employees do not play destructive games

The problem of destructive "games" was already encountered in Ford's factory. When in 1913, Henry Ford managed to implement his famous production line as a foundation for the manufacture of 15 million Ford T cars, his employees ceased to cooperate in a traditional way. Unable to satisfy each other's needs, they were inclined to play various games and jokes. For example, they glued cardboard boxes to the production line or changed particular functions in cars: the pressing of an accelerator started a horn or windscreen wipers. Nowadays employees also purposefully play various games (e.g. good cop/ bad cop; busy holidays; what will you do when you catch me? etc.).

There are different motivations and goals in playing such games, but social games almost invariably hinder cooperation and prevent the achievement of synergy.

H. The process of arriving at a synergy effect is purposeful and deliberate.

In practice, it becomes necessary to maintain a balance among various values in order to achieve a synergy effect and to intentionally create synergy between employees and customers.

Large companies which are aware of the problems they encounter in producing synergy effects try to develop special programmes. An example of such a successful programme is "Integrated Communications System for Managing" implemented by Alcan Aluminium Corporation. The programme comprised five parts: a job description, particularly with regard to employees' responsibilities; management by objectives; determination of the responsibilities of a person's job in relation to those with whom he interfaces, the "zero-based budgeting" approach; planning which includes both the short-term and long-term perspectives (Gentles 1984).

I. Clearly defined responsibilities and powers exist.
Clearly defined responsibilities and powers are of primary importance in any management system. However, problems may occur in relation to the understanding of responsibility. First of all, once defined and specified, responsibilities must undergo periodic reviews. The main reason for such reviews is not changes in product realization processes, but rather the fact that responsibility can constitute a serious barrier to the achievement of synergy. For example, the excessive emotional costs of responsibility incurred by both managers and employees do not favour the occurrence of synergy. Secondly, responsibility cannot be depersonified. The determination of institutional responsibility (e.g. the belief that responsibility for the cleanliness of an area lies with a municipal sanitation department rather than a particular person,) does not support synergy. The determination of responsibility is important, not only for a synergy effect which can be achieved within an organization. In the case of larger projects, it is important to ensure that responsibilities and decision making powers do not impede cooperation, which can happen, for example, if one entity occupies a dominant and privileged position in a system.
There are obviously many more conditions for the achievement of synergy effects. One of these is a proper integration of technical, economic, social, and organizational systems. This analysis is based on the assumption that the achievement of synergy through integration depends to a considerable extent on social integration and the degree to which people are capable of cooperating with one another. Social integration forces the occurrence of organizational changes and is undoubtedly the most important condition for the achievement of synergy.
Synergy requires competencies in process and project management. If synergy effects are favoured by cooperation, then competence in the use of methods and techniques enabling the optimization of conducted process is necessary together with social awareness concerning the functioning of employee groups. Synergy effects can be achieved not only within organizations, which usually require a reliable diagnosis of processes, but also through the management of external projects or the consolidation of various entities.
It should be remembered that synergy can occur not only in conditions of high trust or the absence of destructive conflicts (because conflicts are a common phenomenon). The very notion of synergy indicates that the achievement of higher efficiency is a dynamic and changing process. A considerable capacity for adaptation as well as an ability to learn and acquire new ideas is necessary for a synergy effect. There are organizations characterized by a large adaptation capacity and organizations whose adaptation capacity is rather limited (Harris 2004). Organizations with high synergy capacity are organizations where people cooperate with one another and such cooperation is not enforced, but it results from adopted customs and traditions. Thus cooperation is a social standard and not something imposed from the outside. Employees know that planned activities are beneficial for them as individuals and also for whole groups. Even if

such organizations are multicultural, they manage to achieve cultural synergy. Organizations characterized by low synergy capacities are dominated by individualism. The dominant individualistic approach to work is strong enough to prevent integration with other employees, which in turn hinders knowledge management processes. Such organizations do not use empowerment. Systemic solutions or policies are more important than employees and even customers.

1.5 Conclusions

Integration plays a key role in the organizational management process. For practising managers, it is important to know what type of integration they have to deal with. Hence the necessity of knowing different types of integration and their development methods. From Landecker's classic concept, it can be concluded that cultural integration is the most difficult to achieve. Simultaneously it should be remembered that management efficiency will depend on normative, functional, and operational integration. For example, effective process management requires knowledge of the development of process integration which occurs among particular operations and stages of product or service realization processes.

Different systems of organizational integration should already be taken into consideration at the stage of designing organizational structures and, subsequently, during reviews and modifications. It should be remembered that structures exert influence on a communication system, leaders' behaviour, roles performed by members of an organization (role conflicts), perception of conflicts or work effectiveness. Organizational structures impact decision making processes. The key processes identified need to have influence on the final shape of decisions. Key processes are those that have a direct impact on customer satisfaction, run through a number of organizational units, and are related to basic product realization. It is important to carry out periodic evaluations of structures, taking into consideration their specialization, standardization, coordination, and centralization: the size of units, their shape, range, and connections, as well as relationships between structures and processes.

Managers have to remember that the source of synergy is complementarity, and not similarity. Hence such a high importance of cross-functional competencies or an interdisciplinary recruitment of employees for a team. Synergy effects can be achieved in both manufacturing processes through the proper allocation of resources, the integration of key processes with auxiliary processes, the elimination of barriers which may occur at particular stages of product realization and the social system, on condition that a high level of trust exists and there are no conflicting interests or objectives. The measurement of synergy effects remains a serious challenge. In economics, it is assumed that progressive integration among various entities can be followed by a reduction in the costs of promotion and new product development. This assumption appears to be correct. The costs of promotion can be

lower, but the costs of integration itself have to be borne in mind as well. A good solution is to compare costs incurred in the implementation of integrated projects and individual ones. Project integration allows managers to reduce the costs of consultancy services, external services and supplies.

References

Ackoff RL (1993) Zarządzanie w małych dawkach. PWN, Warszawa
Amaratunga D, Baldry D (2002) Moving from performance measurement to performance management. Facilities 20(5/6):217—223
Andersen B, Henriksen B, Aarseth W (2006) Holistic performance management: an integrated framework. Int J Prod Perform Manage 55(1):61—78
Alio RJ (2009) Leadership—the five big ideas. Strategy Leadersh 37(2):4—12
BS EN 15221-1 (2006) Facility management. Terms and definitions
Calabrese A (2012) Service productivity and service quality: a necessary trade-off? Int J Prod Econ 135(2):800—812
Cardona P (2000) Transcendental leadership. Leadersh Organ Dev J 21(4):201—206
Casadesús M, Karapetrovic S, Heras I (2011) Synergies in standardized management systems: some empirical evidence. TQM J 23(1):73—86
Christopher WF (2007) Holistic management. Managing what matters for company success. Wiley, New Jersey
Cleary BA (1995) Supporting empowerment with Deming's PDSA cycle. Empowerment Organ 3 (2):34—39
Daugherty PJ, Droge C (1997) Organizational structure in divisionalized manufacturers: the potential for outsourcing logistical services. Int J Phys Distrib Logistics 27(5/6):337—349
Gentles R (1984) How Alcan achieves synergy with management techniques. Manag Rev 73 (3):29—31
Goold M, Campbell A (1998) Desperately seeking synergy. Harvard Bus Rev 76(5):131—143
Griffin WR (1996) Podstawy zarządzania organizacjami. PWN, Warszawa
Hao Q, Kasper H, Muhlbacher J (2012) How does organizational structure influence performance through learning and innovation in Austria and China. Chin Manage Stud 6(1):36—52
Harris PR (2004) European leadership in cultural synergy. Eur Bus Rev 16(4):358—380
Harrison EF (1995) Strategic planning maturities. Manag Decis 33(2):48—55
Huo B (2012) The impact of supply chain integration on company performance: an organizational capability perspective. Supply Chain Manag 17(6):596—610
Hay A, Hodgkinson M (2006) Rethinking leadership: a way forward for teaching leadership? Leadersh Organ Dev J 27(2):144—158
Hoare C (1995) A holistic management system. TQM Mag 7(4):57—61
Hunter J (2002) Improving organizational performance through the use of effective elements of organizational structure. Int J Health Care Qual Assur 15(3):12—21
Iles P, Hayers PK (1997) Managing diversity in transnational project teams. tentative model and case study. J Manag Psychol 12(2):95—117
Jacher W (1976) Zagadnienie integracji systemu społecznego. PWN, Warszawa
Jaatinen M, Liavikka R (2008) Common understanding as a basis for coordination. Corp Commun Int J 13(2):147—167
Jabnoun N (2005) Organizational structure for customer-oriented TQM: an empirical investigation. TQM Mag 17(3):226—236
Jensen PA (2008) The origin and constitution of facilities management as an integrated corporate function. Facilities 26(13/14):490—500

Kalla HK (2005) Integrated internal communications: a multidisciplinary perspective. Corp Commun Int J 10(4):302—314
Kurnal J (1983) Zarys teorii organizacji i zarządzania. PWN, Warszawa
Kim KS (2004) Strategic planning for value-based management. Empirical Examination Manage Decis 42(8):938—948
Kimura S, Mourdoukoutas P (2000) Effective integration of management control systems for competing in global industries. Eur Bus Rev 12(1):41—45
Knoll S (2007) Cross-business synergies: a typology of cross-business synergies and a mid-range theory of continuous growth synergy realization. University of St. Gallen, Business Dissertations. Preceding p1—389:413
Kondo Y (1998) Hoshin kanri—a participative way of quality management in Japan. TQM Mag 10(6):425—431
Landecker WS (1951) Types of integration and their measurement. Am J Sociol 56(4):332—340
Lewis LL (2009) Creating synergy between program managers and contract managers. Contract Manage 49(8):58—65
Linn M (2008) Planning strategically and strategic planning. Bottom Line Managing Libr Finances 21(1):20—23
Lysonski S, Levas M, Lavenka N (1995) Environmental uncertainty and organizational structure: a product management perspective. J Prod Brand Manage 4(3):7—18
Mastrangelo A, Eddy ER, Lorenzet SJ (2004) The importance of personal and professional leadership. Leadersh Organ Dev J 25(5):435—451
Mostovicz WI, Kakabadse NK, Kakabadse AP (2009) A dynamic theory of leadership development. Leadersh Organ Dev J 30(6):563—576
Mintzberg H (1983) Structure in fives: designing effective organizations. Prentice-Hall, Englewood Cliffs, New York
Nagurney A, Woolley T, Qiang Q (2010) Multi-product supply chain horizontal network integration: models, theory, and computational results. Int Trans Oper Res 17(3):333—349
Narasimhan R, Swink M; Viswanathan S (2010) On decisions for integration implementation: an examination of complementarities between product-process technology integration and supply chain integration. Decis Sci 41(2):355—372
Nikolenko A, Kleiner BH (1996) Global trends in organizational design. Work Study 45 (7):23—26
Panesar SS, Markeset T (2008) Development of a framework for industrial service innovation management and coordination. J Qual Maintenance 14(2):177—193
Pau LF (2012) Smart business networks: interaction-coordination aspects and risks. Bus Process Manage J 18(5):829—843
Rausch E (2003) Guidelines for management and leadership decision. Manag Decis 41 (10):979—988
Rees WD, Porter Ch (2004) Matrix structures and training implications. Ind Commercial Training 36(5):189—193
Reid D (1995) Fayol: from experience to theory. J Manage Hist 1(3):21—36
Senior B, Swailes S (2004) The dimensions of management team performance: a repertory grid study. Int J Prod Perform Manage 53(4):317—333
Simatupang TM, Wright AC, Sridharan R (2002) The knowledge of coordination for supply chain integration. Bus Process Manage J 8(3):289—308
Sisaye S (2005) Management control systems and organizational development. New directions for managing work teams. Leadersh Organ Dev J 26(1):51—61
Steiner I (1972) Group processes and productivity. Academic press
Stone AG, Russell RF, Patterson K (2004) Transformational versus servant leadership: a difference in leader focus. Leadersh Organ Dev J 25(4):349—361
Stoner J, Freeman E, Gilbert D (2001) Kierowanie. PWE, Warszawa
Sztompka P (2002) Socjologia. Znak, Kraków
Turgay T, Ekemen MA (2013) An Empirical analysis on organizational integration and its effect on the internationalization of exporting firms in North Cyprus. J Manage Res 5(1):359—377

Turowski J (1993) Socjologia. Małe struktury społeczne, Lublin
Tavitiyaman P, Qiu Zhang H, Qu H (2012) The effect of competitive strategies and organizational structure on hotel performance. Int J Contemp Hospitality Manage 24(1):140—159
Weir Ch (1995) Organizational structure and corporate performance: an analysis of medium and large UK firms. Manag Decis 33(1):24—32
Witcher BJ, Sum Chau V (2007) Balanced scorecard and hoshin kanri: dynamic capabilities for managing strategic fit. Manag Decis 45(3):518—538
Zaheer A, Castañer X, Souder D (2013) Synergy sources, target autonomy, and integration in acquisitions. J Manage 39(3):604—632. http://pl.wikipedia.org/wiki/Integracja_wertykalna

Chapter 2
The Main Conditions for Integration Success

This chapter presents examples of the required conditions for successful integrations. Part One includes a discussion of the concept of trust. In the past few years this notion has been a popular subject in management sciences. Articles written by scholars working in the field of management sciences have demonstrated the significance of trust amongst people, management processes and external relationships' management. Trust can be categorised in a variety of ways (e.g. as knowledge-based, characteristics-based, dispositional, institutional or competence-based) and dimensions (e.g. in terms of reliability, competencies, predictability). A correct identification of the varieties of trust and knowledge of its dimensions allows for a practical development of trust management programmes. In such a short sub-chapter, it is only possible to present a small selection of examples proving the importance of trust in the economy: the management of knowledge, people, and changes, and the development of safety, quality, and productivity. Trust is a value which allows enables social integration. This value results in an increase in the importance of cooperation and a decrease in the costs of control.

A large number of publications have been devoted to organizational culture. It is generally believed that it is culture that determines how an organization functions; to what extent it is capable of developing, acquiring and using knowledge; and whether it has potential to adapt and innovate. Integrating culture favours knowledge management processes (acquisition of knowledge, application of new ideas, etc.). While culture itself can fulfil an integrative function, integration processes occurring among various stakeholders have to be carried out with a specific purpose in mind. In this part of the book, the authors refer to only one example of a relationship taking place between an individual and an organization. The globalized economy is characterized, among other things, by the growing importance of knowledge concerning methods of cultural integration, especially in multi-cultural organizations operating in many parts of the world and in various cultures. Cultural differences occurring in outsourcing processes are also of considerable importance.

M. Bugdol and P. Jedynak, *Integrated Management Systems*,
DOI 10.1007/978-3-319-10028-9_2

2.1 Organizational Trust

In any discussion of integration, it is impossible to avoid the notion of trust. How can integration and synergy be achieved if there is no trust within an organization? How can the integration of quality management systems be set in motion if one is not convinced that such integration will prove both cost-effective and successful in terms of its functionality? How can one manage a supply chain if one does not trust one's buyers? Every day these and similar questions are on the minds of people managing various organizations. Trust has an enormous influence on economic behaviours. It favours efficiency, decreases control costs, and facilitates mutual learning processes and cooperation. It is one of the key social elements in an organization.

2.1.1 Definitions of Trust

There are many definitions of trust in the literature on this subject. These can be divided into a few groups. Thus trust is defined as:

1. A state expressing acceptance of what will happen in the future despite the fact that the future is uncertain.
   This group includes definitions describing trust as a wager on the uncertain future actions of other people and a readiness to accept other people's behaviours (e.g. Sztomka 2007; Mayer et al. 1995).
2. An element of social capital and/or a resource, thanks to which an organization can function and develop properly.
   This group comprises definitions treating trust as an element of social capital (Prusak and Cohen 2001) or an organizational resource (Gambetta 1988).
3. A necessary foundation of human interactions. A value which makes cooperation possible.
   For example, trust is defined as a foundation of social interactions or a valuable resource located in organizational or interpersonal relationships (Weber et al. 2005).

Through analysis of various theories and definitions, we can identify the following characteristic features of trust:

- Trust depends on risk: if the results of undertaken tasks/projects were known in advance, trust would be unnecessary.
- Trust is connected with a relationship between two people, who are called actors according to the theory of dramaturgy or agents according to the theory of social exchange. If this relationship did not exist, there would be less need for trust.
- Trust is accompanied by susceptibility: risks and relationships contribute to the occurrence of susceptibility or vulnerability.

- Trust is related to future expectations: actors accept susceptibility in relationships with others if they have positive expectations for the future.
- Some types of trust are inherent, while others result from contracts (Bugdol 2010).

2.1.2 Types of Trust

There are many different varieties of trust. Taking into consideration the character of this work, we should select a few particular types of trust from among those described in literature to date. Therefore, the basic selection criterion will be a relationship between a particular type of trust and integration processes. With respect to this criterion, it is possible to distinguish the following types of trust:

- Knowledge-based trust, which ensues from the possibility of predicting people's behaviour on the basis of a history of interactions (the better we know someone, the better we can predict their behaviour, and predictability increases trust) (Robbins and Decenzo 2002).
- Characteristics-based trust, which means that people with similar characters and experiences are better at understanding one another's needs and expectations. We are convinced that those people belonging to our group are loyal to us and understand our needs. That is why we can trust them (Hummels and Roosendaal 2001).
- Dispositional trust, which is understood as an inclination or tendency to believe in other people's positive attributes. This type of trust is particularly important at the initial stage of making new friends in a work environment. Such a tendency determines further stages in the development of social ties (McKnight et al. 2004).
- Institutional trust, which is not trust in an institution, but trust related to a formal organizational structure ensuing from established procedures (formal standards enhance such trust, and to some extent guarantee the predictability of other people's behaviour).
- Competence-based trust, which is trust in competent (masterly/capable) people in possession of a sound knowledge of standard procedures. Such knowledge should be demonstrated in everyday work performance. It is the trust which is placed in aircraft pilots and technicians by passengers boarding a plane. A high level of trust occurs when another person is regarded as an expert, competent in their work and capable of applying the knowledge they possess in a variety of situations (e.g. crisis ones).

The aforementioned examples of different types of trust can be very useful in analysing integration processes. For example, knowledge-based trust proves that in social integration processes, a significant role is played by the competencies of personnel, in particular their experience. For this reason, people who have not

earned the trust of others are worse at establishing relationships and thus hinder cooperation and achievement of objectives. Trust has been compared to a mirror which, once broken can be glued back together, but it will remain forever damaged and misleading. Two other types of trust—characteristic-based trust and dispositional trust—emphasize the role and importance of personality traits together with tendencies visible in the expression of the so-called "credit of confidence." Such credit frequently results in stronger commitment amongst newly recruited employees. Thanks to dispositional trust, all forms of socialization and adaptation processes are possible, facilitating social integration.

Confidence-based trust clearly emphasizes the role of managers in integration processes. Particularly in situations of uncertainty, people need recognizable authorities. On the one hand, institutional trust shows us the importance of a formal structure itself in integration processes, while, on the other hand, it also proves the weakness of various procedural solutions. The very fact that procedures exist does not guarantee success in integration processes. What is more, the existence of institutional trust can be a major obstacle in the manner of achieving a satisfactory level of integration. In many companies employees think that procedures exist only to be followed. Quality management systems, however, pay attention to the improvement of procedures or proposals for corrective or preventive measures.

2.1.3 Dimensions of Trust

The basic dimensions of trust include the following: reliability, dependability, competence, predictability and kindness.

A reliable behaviour is one which is consistent with promises, even if such promises do not maximize benefits (Francois and Zabojnik 2005). In management, managers' reliable behaviours perform an instrumental role. The level of trust depends on their reliability. The absence of reliability is usually connected with the disappearance of trust. It is, however, also possible to refer to the reliability of an entire organization. In this case, reliability is related to honesty in terms of the delivery of functional, useful products which are regarded as dependable and reliable.

According to the ISO 9000:2005 standard, dependability is "a general term used to describe a facility's readiness and factors impacting this readiness such as resistance to damage, operability, and provision of maintenance measures" (EN ISO 9000:2005, 3.5.4, p 37). This term applies to behaviours, processes (their results), and systems. Dependability plays a key role in the evaluation of other people and products. Within a dependability structure, the following elements should be distinguished: certainty, safety, and flawlessness (Bugdol 2010).

Competencies constitute another dimension of trust. There are numerous categories of competencies. Oleksyn (2006) lists the following: experience, skills, creativeness, innovativeness, responsibility, enterprise, professionalism, flexibility, ability to cooperate, communication competencies, assertiveness, effectiveness, and

efficiency. According to the ISO 9001:2008 standard, competencies are: knowledge, experience, qualifications and skills (ISO 9001:2008, item 6.2). Rostowski (2003) enumerates as many as eight different categories of competencies: skills and abilities, knowledge, physical competencies, styles, personality, principles and values, and interests. According to a more common classification, categories (elements) of competencies can be divided into soft and hard. Soft elements include, among others, motives for action, awareness and attitudes, while hard elements are those which can be examined or analysed more easily, for example qualifications or skills. It is assumed that competence-based trust can be defined as the conviction that held competencies are sufficient so far as the execution of tasks at hand is concerned. Predictability is a term referring to particular people's beliefs concerning possible future behaviours, actions or results. A predictable behaviour is one which does not have an alternative. If we know how the other person will behave, we can trust that person. The absence of predictability entails uncertainty, fear or bad decision making.

Kindness is classified as a factor impacting on, and directly related to, reliability (e.g. Dirks and Skarlicki 2009). The manifestation of reliability is accompanied by the attitudes of favour or understanding towards other people's expectations. Kindness is one of the factors influencing the process of trust development; it is associated with liking, or favourable acceptance.

2.1.4 Significance of Trust

Trust plays a very important role in organizations, social exchange networks, and at both the micro and macro levels. On the basis of conducted research, it is possible to conclude that trust plays an important role in economic development. It is of primary importance for productivity or quality improvement. It is a value indispensable in human, change, and safety management processes. Without trust, there can be no innovativeness or knowledge management. Obviously, trust is a very important element in the majority of management concepts. Nevertheless, even such a limited selection of issues would indicate that trust is a key value for the functioning of organizations as well as their improvement and development.

Economic Development

There is much evidence to support the thesis that trust is important for trade processes, including export activities, impacting on economic behaviours—in particular investment behaviours—and is essential for saving and lending operations. The absence of trust in public institutions can be a reason for the development of unethical behaviours and the black market. The consequence of the absence of trust in public institutions and legal regulations is a limiting of the number of entities involved in public-private partnerships.

Trust among state institutions and market entities has a favourable influence on trade processes. People who trust one another can take greater risks and do not fear

cooperation, resulting in innovation, the taking out of loans, involvement in business activities and the establishment of new economic relationships. Where trust is lacking, the scope of business exchange processes is seriously limited. Even if at a given time businesses have financial resources, they do not use them to create new jobs or enterprises, but prefer to build their own financial houses or invest in new machinery.

Trust among partners increases creativeness and inclination towards investment. However, the level of such trust should be optimal because too high or too low a level of trust can be detrimental. Therefore, trust requires monitoring. If entrepreneurs lack trust, then they are wary of new projects and move their business operations to other countries (Bugdol 2010). The same happens when people have no trust in their own currency. They do not keep their money in long-term deposits, but turn their attention to alternative forms of saving such us buying gold. Trust in financial institutions is of particular import for economic exchange processes. Institutions regarded as unworthy of trust have problems with the sale of financial products which carry greater risk but can ultimately be the most profitable; trust itself reduces individual risk (Cox 2007).

Productivity

It is obvious that people who trust one another do not have to spend time on insuring their mutual transactions. They know that there is their cooperation carries little risk, hence their willingness to participate in new projects. It is also known that a group's productivity depends on a number of organizational and psycho-social factors. An important function is performed by group tasks, a common pursuit of goals, a proper level of integration and communication. Trust favours required standards of organizational behaviours and proper approaches to work and cooperation; it improves the quality of interactions within teams of employees and strengthens employees' morale (Dirks and Ferrin 2000). Trust is credited with facilitating process improvement, and increasing productivity and operational effectiveness (Reina and Reina 1999). Research conducted by Watson Watt Worldwide indicates that trust is closely related to productivity. Shareholders' profits are greater in corporations characterized by a high level of trust (Corporate scandals lowering trust, HR briefing, 15.09.2002, no. 3018).

Quality Improvement

Trust is a key value for both the users of quality systems and companies following the rules of total quality management. Quality management systems stress that quality assurance has to be oriented around the promise that quality requirements will be fulfilled. Considerable research on the function of trust in quality management has been carried out in recent decades, particularly at the end of the 1990s. It was at that time that researchers found that trust was one of the elements of TQM culture, and research on the TQM implementation level conducted by Dale and Lascelles (1997) showed that trust on all rungs of an organizational structure was related to leadership culture, was a source of satisfaction amongst employees, and determined an organization's ability to adapt quickly to changes in the environment. In other words, trust is indispensable if quality is to exist. Without

employees' trust in their superiors, the implementation of quality programmes becomes a fiction. Trust in relationships between an employee and a customer allows for the acquisition of reliable information which is useful in quality improvement. Taking into consideration both successful and unsuccessful TQM implementations, it is possible to conclude that one of the reasons for the failures of pro-quality programmes was a low level of trust. That is why excellence models based on the TQM principles emphasise the necessity for developing and maintaining trust. For example, the Common Assessment Framework stresses the importance of the following: determining the principles of confidentiality and information security management, increasing trust and morale by involving employees in self-assessment processes, examining the level of social trust in an organization and its services or products, mutual trust and respect in relationships among leaders, managers and employees, and the selection of g a team leader who enjoys the trust of all team members. Trust is also an element of organizational assessment (in accordance with M. Baldrige's model).

The precursors of TQM referred to trust indirectly. Deming promoted the need for the elimination of fear and rejection within an organizational hierarchy because he knew that an organization without trust was not able to improve quality in the long term. His recommendations for incentive schemes were also related to trust. He was convinced that it was cooperation and a proper work that favoured, rather than competition or the attraction of customers at any cost. The same could be said with regard to Crosby's assertions. Identification of the causes of problems consisted in engaging in dialogues with employees. The author of "Quality is Free" emphasized the need for the building of trust with respect to the elimination of the causes of defects. Crosby's idea was to empower employees, who were expected to keep a record of the causes of defects and to strengthen trust by appreciating and acting on ideas proposed by employees.

Human Resources Management Processes

There is an unbelievably large body of evidence proving that trust has a positive impact on human resources management processes. Research has shown that trust in an organization facilitates recruitment and selection processes, considerably improves the effectiveness of adaptation processes, and accelerates learning processes. Due to trust, employee assessment processes do not cause unnecessary emotional tension and incentive systems make sense (employees do not fight or compete by means of unethical methods).

Trust is vital in employee dismissal processes; trust is the basis of sustainable commitment on the part of employees. Trust is also indispensable in personnel safety assurance systems and work safety management systems. In other words, without trust, the effective or efficient management of people is impossible.

The problem of trust is of particular importance in recruitment processes. On the one hand, an organization's reliability is dependent on recruitment processes, while on the other hand, such processes entail an element of risk. Problems with trust occur in relation to candidates or applied recruitment procedures. That is why the

preliminary socialization process plays such an important role in the development of trust.

Research conducted so far indicates, for example, that trust is indispensable for effective training (Kahane 2006). Its effectiveness is determined by trust in a trainer, combined with integration skills and a sense of community (Kahane 2006). A level of trust depends on how an organization perceives the competence, consistency, and motivation of a training services provider (Leimbach 2005).

Employee assessment systems are dominated by trust and equity. The manner of conducting an employee assessment elicits a sense of equity or inequity; consequently, it is believed that an equitable assessment is necessary for the maintenance of trust (Hemdi and Nasurdin 2006). An important element in the trust development process is the extent to which employees accept and have faith in an assessment system. An increase in the acceptance and reliability of an assessment system improves the level of trust (Mayer et al. 1995).

Trust is also an important factor in the effectiveness of motivational systems. If there is no trust, a sense of inequity will occur sooner or later. Meanwhile, human resources management experts concluded long ago that there was a direct relationship between perceived equity and motivation (Steensma and Visser 2007). Simply speaking, the absence of equity means the absence of motivation to work or the emergence of negative attitudes and behaviours oriented against an organization.

Change Management

Trust performs a key role in change management, which is the result of two basic factors. Firstly, the level of trust in leaders determines the pace and effectiveness of changes which occur. Secondly, trust—in particular information trust—is of immense importance for the evaluation of information acquired by employees during the course of changes. Trust is a very important aspect of change management. The level of trust perceived results from the nature of changes and a person's position in the hierarchy of power. An absence of trust in those people implementing changes can lead employees to devise methods of avoiding or sabotaging changes, or feigning work. It should be also remembered that during the course of changes, trust is strongly dependent on other organizational values, especially equity.

Work Safety

Trust plays an important role in work safety management (Conchie and Donald 2009). It is believed that trust is one of the elements of a "safety culture" (Conchie and Donald 2009). The role played by trust in work safety assurance processes can be either positive or negative. It is believed that if the level of trust is too high, employees become less careful. It can also be the case that employees place too much trust in management procedures, which are not perfect. Trust in safety systems depends to a considerable extent on people responsible for work safety. On the other hand, the absence of trust prevents employees from reporting accidents, while

managers do not regard all reported accidents as genuine. A low level of trust prevents the achievement of significant improvements in work safety.

Knowledge Management
Many studies conducted indicate that trust:

- Has also a considerable influence on external processes related to knowledge sharing among organizations (Marshall et al. 2005),
- is indispensable in processes oriented towards the effective search for and acquisition of new knowledge,
- performs an important role in the process approach which takes into consideration, among other things, knowledge transfer and documentation (Renzl 2008).

Various knowledge management processes are dominated by different types of trust (Hoe 2004). In knowledge acquisition processes, the most important function is fulfilled by interpersonal trust, which is both relational and identification-based. Knowledge creation is facilitated by competence-based and institutional trust. Codification processes require system-based trust. Interpersonal trust has a positive impact on knowledge acquisition processes and also on knowledge dissemination processes occurring within a learning organization (Hoe 2004).

2.1.5 The Role of Trust in Integration

Trust plays a key role in social integration processes. Such a conviction is based on several facts.

Firstly, trust is of enormous significance for knowledge management processes. As has been emphasized above, trust facilitates the acquisition of knowledge, its application and processing. Without trust, the sharing of tacit knowledge among employees is impossible. Trust creates conditions favourable to a sense of safety.

Secondly, trust is both dependent on and influences the other organizational values. In this sense, we can consider such values to function as a system. Trust influences an evaluation of equity. The absence of procedural or distributive equity is related to the absence of trust. In a sense, equity is the source of trust.

Note: Procedural equity results from a conviction that the application of even unjust laws can be equitable in a procedural sense. Such equity is related to procedural trust. Distributive equity results from a conviction that each employee should be treated as equal to others. The basic task is an equal distribution of goods.

Equity and trust influence employees' commitment. Commitment is facilitated first of all by trust in superiors. Research shows that such trust exerts an impact on commitment during periods of change and innovation (Neves and Caetano 2009). Trust in colleagues and managers positively influences employees' satisfaction and also has an indirect influence on their loyalty (Matzler and Renzl 2006). Employees showing greater trust enjoy a higher degree of work satisfaction. A level of solidarity characteristic for an organization is also important for all organizational

values. Thus trust is favourable for the social, functional, communicative and cultural types of integration.

Trust is an indispensable value in both vertical integration and horizontal integration. It is generally accepted that trust enables the integration of a supply chain. Trust in relationships between suppliers and an organization reduces cooperation costs (Sungmin et al. 2008). Trust plays an important role in relationships between suppliers and an organization, and lowers the level of dissatisfaction resulting from a temporary decline in work performance quality (Sungmin et al. 2008). Similarly to the other relationships discussed, trust reduces the risk of undertaken activities, but depends also on a level of commitment and communication. Trust among organizations is a factor which determines the effectiveness of their cooperation and also their potential inter-organizational integration.

Thirdly, trust proves the effectiveness of integration programmes implemented within an organization. Therefore, large organizations have examined levels of trust. Boeing was one of the forerunners of such studies, which became a necessity in view of the fact that employee efficiency was estimated at the very low rate of 30–40 %. This meant that the organization had an enormous but untapped potential. The company management, in cooperation with a group of volunteering employees, concluded that the major problem was a low level of trust. They drew up a special questionnaire detailing forty-eight different situations occurring in everyday work. As a consequence of this study, Boeing distinguished three key types of trust: competence-based trust, contractual trust (based on the honouring of agreements or promises), and communicative trust (understood as a willingness to share information).

Thus trust is a value determining the course of integration processes. Without trust, there is no social integration and the integration of social and technical systems is also impossible. This is the case, because the integration of these two systems depends on technological trust or on the degree to which people have faith in modern technologies.

2.2 Cooperation of People and Organizations

2.2.1 Fundamental Aspects and Dilemmas of Cooperation Within an Organization

In contemporary organizations, cooperation plays a synergistic role and also serves as a crucial, although frequently invisible process, influencing operational effectiveness. It is possible to identify a few key qualities associated with the essence of cooperation. Thus cooperation occurs when:

- individuals work together in order to achieve common goals,
- independent agents become involved in social interactions among people in an organization,

- individual efforts maximize collective results.

In literature on this subject (Hevey and Murphy 2012), two major perspectives of cooperation are distinguished. One of these assumes the sharing of goals, while the other is focussed on engagement in collective forms of activity.

Cooperation can also be described as a phenomenon which stands in opposition to competition and conflicts. Cooperation is possible only in situations which will support it. A situation is cooperative when goals are mutually shared and positively related to each other (Hevey and Murphy 2012). On the one hand, cooperation is based on formal arrangements (e.g. contractual obligations) and on the other hand, informal varieties of cooperation can occur. The increasing role of virtual communication in organizations has led to a rise in demand for cooperation, even more so in view of a further dimension of time and space. Research also shows a close relation between the practise of a given management style and cooperation within an organization (Schalk and Curseu 2010). This is so because a management style largely determines employees' individual motives for action, including their propensity for cooperation, and also influences group behaviours. It has been proved that cooperation increases a group's effectiveness. From the managerial point of view, a skill in establishing successful cooperation can be considered as one of the key factors determining the success of a manager or organization (Hevey and Murphy 2012).

Orientation towards internal cooperation is usually stronger in organizations which, under the influence of competition, do not focus on short-term objectives alone, but try to develop and generate growth on a long-term basis (Schalk and Curseu 2010).

In organizations, managers usually stimulate cooperation processes because they are convinced that the results may be as follows:

- an organization will be able to adapt to changes in the environment more quickly,
- an organization will be better positioned in various inter-organization networks and relationships,
- the effect of flexibility will be achieved in production and service provision operations.

A strong ability to cooperate can signify the maturity of an organization and its management processes. 'It means that the organization has succeeded in eliminating/trouble-shooting problems concerning the ability of individual employees to maximise their potential. In organizations of this type, cooperation largely replaces coordination and reduces the extent to which control is necessary (Lopes and Calapez 2011).

2.2.2 Conditions of Cooperation in an Organization

Common Goods Common goods carry an ontological significance for cooperation in an organization. These are goods which (Lopes and Calapez 2011):

- are attainable only through interaction,
- are recognized as beneficial by the members of a given community—to account for the emergence and sustainability of cooperation.

Common goods comprise relational goods and moral goods.

Relational goods are the outputs of a relational nature created by interpersonal relations (Lopes and Calapez 2011). They are characterized by the following qualities:

- they are of a generic character,
- they are closely related to work satisfaction and effectiveness,
- they are important for employees because they influence their image and individual identity,
- they are the subject of common, everyday experience.

Typical examples of relational goods in a workplace are social support and friendship.

Moral goods are the outputs of moral nature generated by social interactions. It is frequently noticed that cooperative behaviours coexist with the occurrence of compliance with moral standards. Moral goods that are of special importance for employees are dignity and equity. Moral goods have more of an individual impact on employees than relational goods because they are experienced intersubjectively, despite the fact that they are based on standards and values occurring across the whole organizational community.

Treated collectively, common goods can provide a solution to the problem of knowing why cooperation is necessary and how it is to be achieved.

A very good example of the significance of common goods for cooperation is the situation of many football clubs. Such clubs frequently achieve poor sports results despite having considerable potential in the form of well-known and talented players. Additionally, the greatest stars of such clubs frequently demonstrate individualist tendencies and are not willing to sacrifice their personal interests for the sake of their teams. Such negative circumstances can usually only be overcome by a new coach who is capable of persuading a group of individuals to start cooperating and consequently to achieve better results. Eventual success is founded on the players' conviction of the importance of common goods. For example, it is important to foster a good atmosphere and relationships among the players during their free time and also to ensure an appropriate choice of players for a particular match. An illustrative example is the approach adopted by Carlo Ancellotti, who has used common goods in every club (e.g. AC Milan, Real Madrid) he has worked for.

Risk and Cooperation In the contemporary world, business activities are closely connected to risk. The character of risk can be either positive or negative. The perception of risk amongst employees is closely related to the category of trust. It is believed that trust can reduce risk, which in turn, can potentially raise the level of

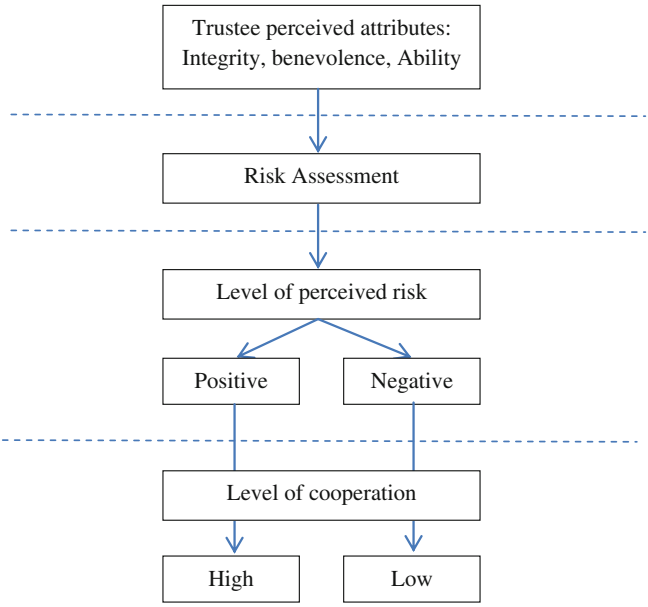

Fig. 2.1 Trust, risk and cooperation

cooperation (Hevey and Murphy 2012). The mechanism of relationships among trust, risk and cooperation is presented in Fig. 2.1.

An illustration of the existence of the relationships shown in Fig. 2.1 can be the attitude of employees in relation to their sense of job security. Such employees have a particular trust in their employer. On this basis, they evaluate the stability of their employment. If the conclusion of such an evaluation is that they could be dismissed, they naturally show little inclination towards cooperation. This problem can intensify, for example, in the case of less permanent forms of employment.

2.2.3 Cooperation Among Organizations

2.2.3.1 Cooperation in Various Economic Situations

The vast range of rules regarding the functioning of contemporary organizations result in very different situations in which cooperation among organizations occurs. Some types of such situations will be discussed below.

Horizontal Inter-organizational Cooperation Inter-organizational cooperation is based on a formal or informal contract which promotes cooperation for the

achievement of common or new objectives in a more effective and efficient manner. This type of cooperation is characterized by qualities which include (Birru 2011):

- cooperation among two or more independent organizations,
- significant influence on the generation of innovation,
- the strengthening of partners' operational effectiveness and competitiveness.

If cooperating organizations are located at different places in a value chain, their cooperation has a vertical nature; if organizations are in the same place on a value chain, their cooperation is horizontal. Horizontal cooperation creates opportunities for a collective learning process, in which ideas are shared and developed jointly. It is worth noticing that horizontal cooperation is useful especially for small and medium-sized enterprises because it compensates for their shortages in resources. Among the factors facilitating horizontal cooperation among organizations, we can distinguish the following (Birru 2011): inter-organizational trust, geographical proximities of organizations, interpersonal relationships, social ties (for example, membership in religious associations and kinship). Unfortunately, in reality barriers to horizontal cooperation also exist. Examples of such barrierss include the competitive views of owner managers, the lack of trust in a partner organization and cultural factors.

An example of a sector characterized by a strongly developed horizontal cooperation is the logistical services sector. The major motives of logistical services providers for establishing cooperation include the following (Schmoltzi and Wallenburg 2011): increasing productivity, service portfolio extension, cost reduction, better market positioning, improvements in service quality, access to additional knowledge, financial resources and new markets. The structure of cooperation among organizations in the logistics sector comprises the five aspects presented in Table 2.1.

An interesting example of horizontal cooperation is insurance companies' joint creation of databases of insurance events and damage. As a result of such cooperation, insurance companies are able to identify fraudulent attempts to submit a number of claims for compensation in relation to a single insurance event. This type of fraud consists in notifying different insurance companies of their liability for the same damage. Due to access to such databases, insurers are able to reduce their compensation costs and eventually to offer their customers lower insurance premiums.

Cross-border Inter-organization Cooperation This form of cooperation applies to relationships between exporters and importers. Thanks to such cooperation, partners (Obadia 2008): create new development strategies, achieve new goals, improve effectiveness, and share technical and market information. The pillars of this model of cooperation between exporters and importers are as follows: orientation towards effectiveness, the expectation of long-term activities and mutual trust. In the model of this type, two perspectives carry significance for the partners involved: a short-time perspective concerning care for the profitability of transactions and a long-term perspective related to joint efforts to achieve permanent success.

Table 2.1 The structure of horizontal cooperation among organizations providing logistic services

Aspect	Description
Contractual scope	Formality (four types of agreement may be used: verbal, written contract, minority stake agreement, joint venture agreement)
Organizational scope	Reflects the number of companies involved in the cooperation
Functional scope	Specifies the functional focus of a cooperation in terms of value creation
Service scope	Consists of two dimensions: the type of logistics services offered, the geographical coverage
Resource scope	Categories of resource scope refer to: market competence profile, market penetration profile and corporate structure profile

Risk Management in Cooperation Although cooperation appears to have only positive connotations, it should be remembered that cooperating partners are always exposed to a number of risks. Such risks are intrinsically related to potential conflicts between partners. Risks related to cooperation can be defined as the possibility of failure, which means not being able to fulfil plans and goals due to conflicts on macro or micro levels (Ehrenberger and Hornsten 2011). A conflict at a micro level can have the following sources: customer attitudes, competitor behaviour, contradiction and timing. In order to contain such risk, cooperation needs to be managed in the following four phases: risk identification, risk assessment, risk analysis, and risk mitigation.

Cooperation and Reputation of Organization Inter-organization cooperation can lead to a significant increase in an intangible asset known as relational capital. An organization has an opportunity to acquire such capital in relations with its customers, suppliers, allies, partners and shareholders. An organization's reputation is of key importance for conducting the intellectual capital development process. We can distinguish three major dimensions of an organization's reputation (De Castro et al. 2004):

- financial reputation or financial strength,
- managerial reputation or corporate management responsibility,
- community reputation.

An external evaluation of some or all of the dimensions of reputation displayed by organizations is frequently the basis for a decision as to whether cooperation should be started or not.

2.2.3.2 Cooperation in Strategic Alliances

Inter-organization relations can adopt the form of hierarchical relations, joint ventures, equity investments, cooperatives, R&D consortia, strategic cooperative

agreements, cartels, franchising, licensing, subcontractor networks, industry standards groups, action sets or market relations.

A strategic alliance is an agreement between firms to do business together in ways that go beyond normal company-to-company dealings, but fall short of a merger or a full partnership (Elmuti and Kathawala 2001). A strategic alliance constitutes a partnership of two or more corporations or business units which work together to achieve strategically important and mutually beneficial objectives. Alliances can occur in "pure" forms or as hybrids, characterized by different degrees of formal and market interactions. The main types of alliances are as follows: marketing and sales alliances, product and manufacturing alliances, technology and know-how alliances.

An example of a marketing and sales alliance is cooperation between Tesco and the banking sector. For example, in Poland, Tesco and Meritum Bank have entered into a long-term agreement, providing for the wide range of financial products that Tesco offers its customers. Among other services, this cooperation is to include a dedicated hire purchase offer and easy access to new financial services. The financial services are sold at Tesco Finance shops and over the Internet. On the other hand, from the point of view of Meritum Bank, cooperation with Tesco potentially entails access to the 5 million customers who shop at Tesco supermarkets every week.

Cooperation between Renault and Nissan provides an illustration of product and manufacturing alliances. This alliance was established in 1999 and continues to the present day. At its beginning, Renault had at its disposal considerable financial resources, while Nissan could offer a famous brand, high quality, and a good position on the markets in Asia and North America. At the initial stage of the alliance, the companies established 11 joint working teams responsible for identifying potential areas of cooperation. Both companies greatly benefit from the alliance, which allows them to take advantage of the economies of scale and synergy effects. Such benefits result from various aspects of the alliance, including the standardization of production, the use of common floor pans and power transmission systems, and the development of the range of offered models.

The third category of technology and know-how alliances can be exemplified by cooperation among the three leading computer companies (IBM, Motorola, Apple Computers) on the development of a new microprocessor. This alliance was formed for a definite period of time, after which the allies were supposed to compete with one another based on their final products.

Another example is a joint venture between the Dutch company Philips and Siemens of Germany. These corporations set up a joint 1 million USD research project called MegaSubmicrom, the objective of which was the development of semi-conductor manufacturing. Thus companies which had been competitors for a long time shared their costs and risks.

A strategic alliance is cooperation of two or more firms which (Todeva and Knoke 2005):

- remain legally independent after the alliance is formed,
- share benefits and managerial control over the performance of assigned tasks,

- make continuing contributions in one or more strategic areas, such as technology or products.

Companies are motivated into forming alliances by a wide range of factors. The most important of these motives include the following (Elmuti and Kathawala 2001): to implement a growth and new market entry strategy, to acquire new technologies, to improve product quality, to reduce costs, to reduce financial risks, to share research and development costs, and to secure a competitive advantage.

Cooperation among participants in a strategic alliance can also be exposed to a number of threats. Such threats include the following:

- clash of culture and incompatible personal style,
- lack of trust,
- lack of clear goals and objectives,
- lack of coordination between management teams,
- differences in operating procedures and attitudes among partners,
- relational risk,
- performance risk.

Cisco is an example of a corporation which suffered a defeat in its strategic alliances. This occurred in Cisco's relations with Motorola and Ericson and its reason was the lack of cooperation skills and also a lack of trust resulting from mutual fears of a takeover.

However, corporate experiences resulting from successful alliances allow for the identification of key success factors such as:

- senior management commitment,
- similarity of management philosophies,
- an effective and strong management team,
- frequent performance feedback,
- clearly defined, shared goals and objectives,
- thorough planning,
- clearly understood roles,
- international vision,
- partner selection,
- communication between partners.

It should be noted that as a result of strategic alliances, organizations can increase the values of all intellectual capital components, i.e. human capital, process capital, relationship capital, and innovation capital (Joia and Malheiros 2009).

2.2.3.3 Cooperation as an Element of Coopetition

From the perspective of relationships between organizations, coopetition is a fascinating phenomenon. While competition or cooperation have been relatively well analysed in isolation, the harmonization of the coexistence of these categories has

not yet been sufficiently researched. A competition-based behaviour exposes an organization's independence and individual interests. According to the theories of leading schools in strategic management, it is possible provided an organization maintains a proper competitive position within its sector or achieves a competitive advantage with respect to resources. An organization's orientation towards competition can be explained in psychological terms as a desire to fulfil the need for prestige and pride.

As opposed to the perspectives of competition and cooperation, the concept of coopetition provides a certain integrative platform combining the aforementioned contrasting perspectives (Simoni and Caiazza 2012). At the same time it is a concept which breaks the conventional perception of competition and cooperation and assumes the achievement of benefits by all interested parties. Coopetition is characterized by a temporal concurrence of competition and cooperation.

Coopetition is a combination of cooperative and competitive behaviours between rivals in order to be more effective (Geraudel and Salvetat 2014). It is possible to distinguish the following criteria whose fulfilment is a prerequisite for the establishment of a coopetitive relationship (Geraudel and Salvetat 2014):

- the parties want to be engaged in the relationship,
- each party has a value the other wants,
- the relationship is mutually rewarding,
- there is the freedom to accept or reject the terms and conditions of the exchange,
- the parties are able to interact with each other,
- the parties share values and norms,
- the parties can strike a positive balance between the advantages and disadvantages of the relationship.

In coopetition, the parties' relationships are aimed at the implementation of a win/win strategy. In the coopetition model, rivals cooperate in some areas such as the control area through the sharing of the same director, while competing in others such as the functional areas, including the primary value chain activities (Simoni and Caiazza 2012).

Positive relationships occur between coopetition and performance. This is so because organizations participating in coopetition take advantage of their mutually complementary competencies. Furthermore, coopetition arrangements generate strong social structures.

The proportions of cooperative behaviours to competitive ones during coopetition also raise an interesting issue. It appears that the optimum ratio between such proportions cannot be categorically determined. However, it can be assumed that the three variables on which these proportions depend are an organization's maturity, its market position, and its adopted business orientation (Fig. 2.2).

The more intensive cooperative behaviours are, the better an organization's market position and maturity is, and the more macro perspective it becomes in its strategic thinking.

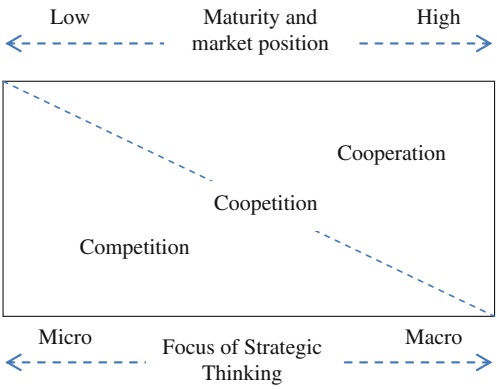

Fig. 2.2 Proportions of cooperation to competition in coopetition

Simultaneously with the growth of the aforementioned qualities, the forms of inter-organizational cooperation also undergo transformation. Special attention should be paid to the following (Wang and Krakover 2008):

- *Affiliation*. Organizations help one another through informal information sharing or common advertising. Interpersonal relations are also important.
- *Coordination*. An organization achieves its individual objectives through the coordination of activities with other compatible organizations. Equilibrium occurs between an organization's interests and those of other organizations.
- *Collaboration*. This consists in securing long-term advantages through the creation of joint strategies and shared objectives. All parties become involved in such activities.
- *Strategic networks*. This term refers generally to the creation of long-term shared visions and strategies. It includes the use of the systemic and holistic approach to achieving success.

Although the "original" definition of coopetition refers to relationships between competitors, some researchers are of the opinion that coopetition can also apply to customer-supplier relationships (Lacoste 2014). Such relationships occur especially between corporate purchasing units and their suppliers. For both organizations, coopetition is a means of reducing uncertainty and securing assets which are unique to a particular transaction.

Cooperation Among Cluster Organizations

A cluster can be defined as a geographic concentration of interconnected companies, specialized suppliers, service providers, firms in related industries and associated institutions in a particular field that compete but also cooperate (Carpinetti et al. 2008). The cluster phenomenon can be partly explained in terms of the category of so-called collective efficiency which is understood as a competitive advantage derived from the combination of local external economies and cooperative joint actions. Collective efficiency can be derived from horizontal cooperation

(between competitors) or vertical cooperation (for example between producer and supplier) either bilaterally or multilaterally.

The measurement of cooperation effects within clusters can apply to the following perspectives (Carpinetti et al. 2008):

- *Economic and social results*. Measures related to local gross product, workforce occupation and any result that brings economic and social benefits;
- *A firm's performance*. Measures related to results in terms of growth and competitiveness of the firms and measured by financial and non-financial performance of the firms in the cluster;
- *Collective efficiency*. Measures related to external economies and actions of cooperation among companies in the cluster;
- *Social capital*. Measures related to cultural values such as trust and cooperation.

For organizations participating in clusters, cooperation with other firms can result in the following benefits (Patti 2006):

- better access to employees and suppliers,
- better access to specialized information,
- increased availability of complementary products and services,
- better access to public institutions,
- better motivation and measurement.

The consulting firm PwC has developed a forecast for industrial clusters until the year 2040. The forecast comprises the following sectors: pharmaceuticals, the automotive industry, assets management, the film industry and higher education. The clusters in the aforementioned areas will probably undergo the biggest changes, including those related to relocation from developed countries to developing ones. For example, currently the three most important film industry clusters are located in Los Angeles, London and Paris. However, according to the forecast, Shanghai and Mumbai will have risen considerably in this ranking by 2040.

2.3 Organizational Culture

When discussing integration, the concept of organizational culture should not be ignored. Certain characteristics of such culture can indicate the extent to which an integration process is successful. For example, a considerable degree of employee empowerment, quality of life within the workplace, the quality of interpersonal relations, trust among employees and a sense of order and cultural community are just a few selected cultural determinants of successful integration. An organization's culture can facilitate or hinder integration processes. What is also important is the integration of various cultures, particularly within merger and acquisition processes.

2.3.1 The Notion of Organizational Culture

It was Henry Mintzberg who analogised the structure of an organization to a skeleton and its culture to a soul. Organizational culture is one of the key notions in management sciences. Various definitions of organizational culture emphasize both tangible elements such as policies, procedures, techniques or objectives and intangible elements such as employees' beliefs or convictions. The notion of culture applies to standards, behavioural models, attitudes, feelings and interactions (Stoner et al. 2001).

Thus two components can be distinguished within a culture: one component related to organizational regulations, instructions and procedures, and the other component concerning that which is firmly rooted in the intangible world, i.e. employees' convictions, beliefs or emotions. Culture is closely related to employees' behaviours, attitudes or value systems, but it also concerns their everyday patterns of living. Obviously, culture's intangible aspects exert influence on its formal aspects. In this sense, organizational culture is similar to the notion of competencies. Within competencies, it is possible to distinguish measurable components such as education or experience and immeasurable ones such as attitudes, motives or awareness.

The basic elements of an organizational culture include the following: values, beliefs, myths, legends and rules of conduct.

The notion of values is not unambiguous. It is believed that values may be classified in terms of being what most employees desire, or as factors which have a positive impact on the functioning of an organization. Examples of ethical values are goodness and truth. Equity, trust, commitment and solidarity are organizational values, while a sense of safety, intellectual development, a sense of dignity and recognition or self-fulfilment are autotelic values. Instrumental values include, for example, activeness, self-control, responsibility, independence, honesty, reliability, altruism or peaceful coexistence with others. A common feature of particular values is that they constitute a certain system, which means that they depend on one another. For instance, there is no trust without equity. Without trust, long-term commitment becomes impossible.

Beliefs concern phenomena which cannot be verified empirically, but can influence employees' behaviours, their opinions about an organization or their attitudes. Beliefs are defined as a psychic condition in which an individual-employee holds an assumption concerning the veracity of certain facts or phenomena (e.g. regarding who is the true owner or manager of a business).

Myths and legends refer to an organization's traditions, identify its development process, and frequently include references to an individual's success. They are important in the processes of building a sense of cultural awareness and pride. Rules of conduct are included in work regulations, procedures and ethical codes but are also established in customs, rites or group rituals. Such rules of conduct result from the dominant culture in a given place and are strongly based on its education system. The rules of conduct apply to relationships occurring among various

stakeholders. Typical rules of conduct include quality rules: for example, customer focus or the building of long-term relationships with suppliers.

Thus an organizational culture can be defined as a set of intangible factors (e.g. values, beliefs or myths) and formal rules of conduct included in procedures, regulations, instructions, and codes. These factors exert impact on the functioning of an organization. They co-determine an organization's regulation of interpersonal relationships, the quality of life in a workplace, and finally an organization's social reliability. Culture is the result of interactions among many social processes such as adaptation, socialization or internalization. Despite the existence of subjective elements, it can be subjected to diagnoses. After its elements have been defined, culture can also become a general objective of management, especially in the area of human resources management.

2.3.2 The Strength of Organizational Culture

A great deal of research has indicated that an organizational culture, and in particular the culture of learning, support innovations (Darvish and Nazari 2013). Martins and Terblanche (2003) proved that the basic elements of an organizational culture, such as common values, behaviours or attitudes, facilitate creativeness and innovativeness in the following ways:

1. A socialization process which teaches employees which behaviours are acceptable. Due to socialization standards develop, are accepted, and become the subject of social exchange. Standards existing in a organization determine whether it nurtures innovative behaviours.
2. It is not only values, assumptions and beliefs that influence employees' behaviours and activities. Their role also consists in the realization of organizational aspects such as structures, policies or management practices. Such materialized factors influence creativeness and innovativeness (Martins and Terblanche 2003).

Numerous studies emphasize the dominant role of culture in the processes of mergers and acquisitions. It is generally believed that integration of an organization depends not only on existing structures or applied management concepts, but fundamentally on the level of cultural integration (e.g. Paul and Berry 2013).

In the contemporary globalized world, the process of cross-cultural integration is increasingly stressed as one of the key factors in the development of new products. In the contemporary globalized world, it is more and more frequently stressed that development of new products depends, among other things, on the course of the cross-cultural integration process. If such integration is feasible and existing cultural differences can be reconciled, then the development of new products is possible. However, more can be achieved through the application of a synergy effect which can occur across various cultures. Cultural variety does not only play an important role in the creation of new products. It constitutes an organization's

potential. According to the cultural cooperation model, the existence of many mutually-supplementary cultures is beneficial for an organization. The process of interactions across cultures creates new values.

2.3.3 Culture Versus Integration

Relationships between an organizational culture and integration have already been discussed in the most prominent literature on this subject. For example, in describing the significance of an organizational culture, Stoner (1994) states that those organizations which develop through business acquisitions are more inclined to respect independence than those in which development is based on the strong will of a single leader.

The relationships between an organizational culture and integration are the following:

Firstly, the essence of culture is that it is a manifestation of common customs, notions, activities or perceptions. In this sense, it is possible to say that the existence of a clear and strong culture proves the existence of integration.

Secondly, culture itself can perform an integrating function, resulting from the fact that there is a continuous increase in the prevalence of flexible working hours, and therefore working at home, in parks, dedicated Wi-Fi zones or restaurants is becoming increasingly popular. Organizational culture is what unites such people. According to Tim Hilde, organizations aspire to having strong organizational cultures in the belief that they constitute a binding unity amongst their employees (Hilde 2007).

Thirdly, within culture itself, occur processes of integration and disintegration occur. As has been mentioned above, culture is a collection of beliefs, rules of conduct, myths, symbols, and legends. The way in which the integration of apparently fragmented elements occurs is explained in the cultural network theory which was introduced into the social sciences by Johnson and Schols (1997). In their cultural network model, symbols, customs, legends and structures find cohesion through paradigms which apply directly to work performed in a given organization, e.g. forms of employment, duration of work, management styles, orientation towards tasks or people, etc.

2.3.4 Integrative Culture

The segmentation and integrative types of culture were already described in the 1980s. Organizations with an integrating culture are characterized by a few important features. Firstly, they excel at managing knowledge processes. Organizations of this type search for new knowledge, combine ideas derived from many different sources, go beyond learnt knowledge, and support knowledge and

information sharing processes. Thus it can be assumed that cultural integration processes depend on employees' competencies, their possibilities and willingness to acquire new knowledge and to share already held knowledge.

Secondly, a characteristic quality of an integrating culture is an level of efficient risk management (two elements are important here: the questioning of previous practices and acting on the limits of competencies). Thirdly, another aspect of such a culture is the ability to think in a systemic manner (to perceive problems in a wider context and to combine certain facts) (Senior 2003).

Organizations in which an integrating culture dominates, on the one hand, take care of their employees, but on the other hand, expect a lot from them. In this type of culture oriented strongly towards organizational efficiency, employees are expected to sacrifice themselves for their organization. They are motivated to become fully committed by means of various financial incentives (such as profit sharing, additional bonuses, and share purchase options) and high salaries. Such organizations attract talented employees, ensure their development, and stress the importance of training. Integrative culture companies typically promise fast career movement (Von Glinow 1985).

It is assumed that an integrative culture is to be predominantly supported by line managers. In practice, however, line managers are not always able to successfully cope with such a challenge (Cunningham and Hyman 1999). There are a few reasons for this. First of all, the acquisition of new ideas, knowledge or information is rather a task for top managers. Knowledge management is conceptualised in terms of the strategic acquisition of knowledge. Secondly, an obvious deficit in systemic thinking occurs. Line managers are not always able to perceive relationships taking place between on organization's social and technical systems, but each change in one system triggers subsequent changes in the others. For example, the implementation of a new organizational structure influences employees' behaviours by requiring a new division of duties and authorities.

2.3.5 The Cultural Integration of an Individual with an Organization

An individual's integration with her organization's culture is the result of the processes of socialization and internalization as well as social and professional adaptation. It can be assumed that integration is a specific process in which a few stages can be distinguished. At the initial stage the individual becomes familiar with work regulations, procedures and ethical codes. This process is supported by various preliminary training courses. Most frequently, the individual's fears about how she will be received in the organization are accompanied by a high level of motivation. The course of this process is strongly influenced by what employees expect and what is expected from them. It sometimes happens that these expectations are contradictory. Researchers have stressed that an organizational culture is supported by employees helping others; they are not necessarily managers, but

Table 2.2 The factors subject to an individual's cultural integration with an organization

Factors	Quandaries, dilemmas	Practical opportunities for integration
Standards a. Moral b. Customary c. Social d. Legal e. Group	a. What is good and what is evil? b. How should I behave at meetings? c. How is the labour code enforced? d. How should we celebrate the boss's birthday? e. How should I work in order to become an integrated member of the group?	Recording standards, determining standards together with colleagues, diagnosing standards through social research, reporting uniform standards for cooperation
Expectations		
Attitudes towards work a. Autotelic dimension b. Normative dimension c. Punitive approach d. Instrumental approach	a. Does work give me pleasure and is it an opportunity for self development? b. Does my work contribute to an increase in the organization's value? c. To what extent is my work a constraint for me? d. Should I work for others or only for myself?	Conveying information about achieved objectives (information establishes whether work increases the value of the whole organization) Employees' participation in the determination of objectives (so that work is not a constraint) Creating cooperative tasks (we work not just for ourselves)

Source Authors' own research

usually older and more experienced people. According to specialists, such people should receive appropriate motivation and support because they are "a hidden dimension of an organizational culture" (Grant 2013). The initial period of employment is a time for the development of trust and a value system connecting the individual to her group. In the subsequent period the intensity of the integration process fluctuates and depends not only on the individual's opportunities for communication, but also on the type of work discipline, professional development programmes and the individual's internal motivation. The table below includes a specification of the factors subject to cultural integration between an individual and an organization (Table 2.2).

Cultural integration among various employees depends in principle on two factors: the position a particular employee occupies in the organizational structure and types of employee evaluation. The success of this process can be also facilitated by the possibility of shaping interpersonal relationships. Not every employee comes into contact with the board of management, suppliers or customers. Sometimes this process is purely virtual, and sometimes it is strictly limited to relations between a client and a supplier of internal services. Success in the process of an individual's integration with an organization can be diagnosed with reference to the characteristics of an integrative culture. One such characteristic is the scope for employee empowerment. Most researchers emphasize that, as an element of empowerment,

autonomy can facilitate job satisfaction and commitment. Culture at a proper level of integration is characterized by an ability to communicate bad news (French and Holden 2012).

2.3.6 Problems with Integration

One of the major problems with the integration of an organizational culture is the allocation of appropriate personnel to particular organizations and employee teams. In theory, this should be straightforward: it simply suffices to apply the optimum set of selection techniques. A range of tests, including assessment of knowledge, personality and truthfulness, should enable the selection of the best candidates. In fact the process is not so obvious. Firstly, it should be remembered that various candidate verification techniques and tools are not perfect. For this very reason, many organizations do not conduct any interviews or tests. During the recruitment process both parties are exposed to the risk of various psychological distortions. Problems related to the occurrence of prejudice should also be kept in mind as these can lead to discrimination or a varying array of less than realistic expectations.

Secondly, a range of studies have indicated that from 20 to 70 % of candidates provide false information about their education, skills or previous salaries and employers. In many countries, people are still convinced that it is necessary to sell yourself well in order to get a job, hence a tendency to be economical with the truth. In response to that, businesses resort to increasingly complex candidate verification systems. However, in spite of the efforts devoted to the verification of a potential employee's credibility, more opportunities arise for deceiving a potential employer.

With regard to cultural integration, it is still difficult to determine which of the following options is more advantageous. Should an inexperienced candidate be chosen on the grounds that they will be easier to train, or would it be better to choose a candidate with experience? Meanwhile, various research has shown that even employees from the same business sector behave quite differently. In simple terms, the culture of Goldman Sachs is very different from the culture of Wells Fargo (Is it better to hire for cultural fit over experience? April 28, 2011. http://management.fortune.cnn.com/2011/04/28/is-it-better-to-hire-for-cultural-fit-over-experience/). Both corporations have similar structures, objectives and fields of activities, but in practice they behave differently. Employees' competencies are determined by their tenure, the companies' respective organizational cultures and economic positions, and the character of work tasks. An organizational culture cannot be evaluated during a job interview. It cannot be inferred from an employee's documentation, whose records concerning education, experience or attitudes provide no insight into an employee's values. It is not enough to evaluate behaviour on the basis of key words. Meanwhile, during job interviews many people responsible for recruitment processes pay attention to the occurrence of words such as trust, reliability, and respect for customers or willingness to cooperate. The objective of recruiting employees for particular teams is not to force them

into uniform patterns of behaviour, but to utilize an organization's potential based on its cultural diversification. In this respect, all forms of international management standards which precisely identify required management techniques can prove helpful. For example, the most popular ISO 9001 standard stresses the necessity of ensuring cooperation among project teams.

Cultural integration can be seriously impeded by a disparity between declarations or official announcements made by a company and its actions in practice. In this respect, Greg Smith's resignation from Goldman Sachs has gone down in history. In an interview for the "New York Times," he said that his resignation resulted from the corporation's organizational culture. His claim that this was a culture dominated by greed was toxic and destructive. His most shocking statement was that the corporation's clients were referred to as "muppets." The bank's management reacted sharply to Smith's statements, declaring that their clients' success was the bank's success. This and many other similar examples prove how difficult integration processes can be. Such difficulties result not only from differences in cultural values, but predominantly from a disparity between a culture's declarations or public image and the everyday practices of its employees.

One of the most serious barriers to integration is a lack of appropriate value hierarchies. Globally, corporations are faced with the problem of reconciling the necessity of acquiring profit with ethical values, when their owners and shareholders expect quick returns. How can the influence of greed culture on the behaviours of employees be reduced while simultaneously motivating them effectively? The lack of a proper hierarchy of values is a barrier to cultural integration. When profit—in particular short-term profit—dominates, people forget about other values which are important for an organizational culture such as work safety or working atmosphere. The establishment of a proper hierarchy of value depends to a considerable extent on managers and their direct involvement in the value creation process. It has been demonstrated, for example, that appropriate behaviours and attitudes on the part of superiors are favourable for the occurrence of a sense of safety in a workplace and support an organizational culture (Bailey 2013).

2.3.7 An Organization's Cultural Integration

Following the growth in popularity of various M&A strategies, most researchers have agreed that,, integration depends mainly on cultural factors in a range of various organizations. Most researchers also agree that while the merger of operational or technical systems is not without its problems, it is cultural integration that constitutes a true challenge. The main objective of various mergers, fusions or acquisitions is an increase in financial values, the attainment of new sales markets, customers and means of production. However, the achievement of this goal depends on whether employees will be involved in processes of change. Such changes are influenced enormously not so much by strong leadership but by accepted leadership, i.e. leadership which does not risk the rejection of employees

as a result of a cultural disparity between values and beliefs (see the example below).

In 2002 Hewlett-Packard announced its intention of acquiring Compaq Computer Company for a total sum of $19 billion. Although Compaq was smaller than HP, a decision was made to integrate the two companies on a merger-of-equals basis. It should be stressed that neither shareholders nor customers demonstrate any special interest in this type of merger, mainly because of the market's high degree of changeability. From the very beginning it was obvious that there were many legal barriers to the planned merger. HP employees were burdened with a lot of new duties resulting from the merger plans. They had to consolidate their 83 product lines down to 17 lines. HP was even said to be abandoning its corporate management style ("The HP Way"), its values and the principles of sustainable development. A merger process is always difficult; especially if merging entities with similar operating profiles do not cooperate with one another (this is why it is easier to merge a number of entities within a supply chain). The plans provided for the integration of the human resources policy, manufacturing processes, production and sales plans and above all cultural cornerstones. The managers knew that it was easy to integrate operational objectives, but full cultural integration was a different story. Problems with integration are always rooted in an organizational culture, and employees' attitudes and behaviours. The actions of Carla Fiorina, HP Chairman and CEO, the ardent advocate of the merger, were not received well by the company's shareholders, who forced her resignation in 2005 (Allen 2012).

On the basis of the process of integration between HP and Compaq Computer, it is possible to distinguish a few key stages in the first phase of integration:

- the implementation of the principles of the two companies' coexistence (two management boards working close to one another),
- the appointment of a cultural integration team,
- the application of social studies as a diagnostic tool
- the making of decisions concerning the staffing processes of key positions, leadership selection, reward and compensation plans,
- the development of cultural cornerstones (values, corporate objectives, and practices), among others, on the basis of the integration partners' value systems,
- the training of change leaders (using, among others, the technique of coaching),
- the integration of small groups (e.g. particular functional divisions),
- the combination of cultural integration with communicative integration (detailed information about the partners, including their traditions and cultures),
- the building of new teams in the key operating areas of both integrating organizations,
- the performance of management reviews (a review of the integration processes),
- decision-making with regard to further integration activities (the key issue is very often to keep talented employees).

Cultural integration causes most problems if integrating organizations come from very different cultures, have different systems of values, work safety, and attitudes towards the personal dignity of their employees. (see the example below).

There is no doubt that products such as iPads or iPhones have become the icons of innovative solutions. Unfortunately, despite strict supply chain management procedures, the working conditions of suppliers' or subcontractors' employees may still be unhealthy and hazardous. The quality of life in such workplaces is very low. The employees do a lot of overtime, sometimes even working 7 days a week and living in crowded barracks. Bad working conditions result in frequent cases of disease among employees. There are documented cases of child labour. It is suspected that occupational health and safety standards are not complied with and labour documentation may be falsified. In 2010, 137 employees working in a factory located in the east of China were poisoned with a chemical used to clean iPhone screens. Two explosions in Apple factories (one of them in the city of Chengdu) killed 4 and seriously wounded 77 workers. According to the representatives of the National Advisory Committee on Occupational Safety and Health, when Apple representatives were notified of unacceptable working conditions, their reaction was not proportionate to the scale of the risk. In 2005 the Apple management produced a set of regulations concerning cooperation with suppliers. Over the past 3 years, 313 audits were carried out. The auditors identified numerous deviations from the established procedures. Simultaneously Apple launched a series of employee training courses, the main objective of which was to share knowledge of employee rights and safe working methods. In 2011 the company published a report on its social responsibility in the supply chain. According to the report, there was an improvement in working conditions (Duhigg and Barbooza 2012). Apple is not the only corporation confronted by problems with ensuring a necessary quality of cooperation in the supply chain. Similar problems have been studied in corporations such as: I.B.M, Nokia, Toshiba, Motorola, Lenovo, and Hewlett-Packard.

Inter-organizational integration is related to the notion of cultural community. In practice, such a community is the result of a compromise which needs to take place among the cultures of particular organizations or groups.

2.4 Conclusions

With regard to integration, it is necessary to bear in mind the numerous limitations related to the creation of a trust culture. For example, there are two pitfalls related to the use of trust. The first of these is that some people attempt to form as many trust-based relations as possible, which, in turn, weakens the social network. The second issue is related to a natural tendency to reject those people who are known not to express trust. It should be kept in mind that trust can be based on performance, and not on a sense of community. A range of studies have indicated that the level of trust should be optimised because if it is too high or too low, it may be harmful. Therefore, trust has to be monitored (Bidault and Castello 2009). In practice, it is necessary to remember to monitor the level of trust in both internal and external relationships and to develop trust.

There are several forms of trust development:

- trust development by means of specific people management processes (from recruitment and selection to dismissal),
- trust development by means of trust dimensions (e.g. purposeful competence management, pursuit of reliability; behavioural predictability),
- trust development through the development of other values related directly to trust (e.g. equity),
- preparation of programmes aimed at the development of particular types of trust (in particular, competence and process-based trust).

As has been demonstrated above, an organizational culture can perform both integrating and disintegrating functions. It is important that an organizational culture should be systematically diagnosed and purposefully developed. The knowledge of cultural integration can be used in this process. If such integration indicates the compatibility of cultural models among various stakeholders, then it becomes an obvious necessity to determine the form such models are to take. Employees should be notified of what is regarded by the company as a cultural model, and the management should try to determine how such models may be achieved. In practice, these standards should undergo periodic reviews with respect to their applicability or the validity of their definitions.

2.5 Management by Objectives

2.5.1 Principles of Management by Objectives

The use of objectives in management models has a relatively long tradition. The approach termed "the rational goal model" was first used simultaneously alongside the development of Taylor's ideas. Besides the determination of objectives, this approach stressed the importance of command and control. Subsequently, McGregor developed the objective-based approach in parallel with his Y Theory. He claimed that employees responsible for the achievement of objectives should exercise self-control. This was accompanied by an assumption that a work system based on the determination of objectives should improve productivity if used collaboratively (Dinesh and Palmer 1998). However, it is P. Drucker who is considered as the greatest propagator of management by objectives.

Regarded as a system, management by objectives includes the following elements (Dinesh and Palmer 1998):

- objectives established for all jobs in the organizations,
- use of joint objective setting,
- linking of objectives to strategy,
- emphasis on measurement and control,
- establishment of a review and recycle system.

Used in practice, management by objectives can have both advantages and disadvantages. Potential advantages include the following:

- the supplementation of leadership practices,
- the standardization of employee evaluation and control principles,
- the possibility of harmonizing targets, objectives and goals in large organizations,
- the elimination of the need for manual coordination,
- the possibility of assigning objectives from the organizational level to lower levels of the hierarchy.

On the other hand, potential disadvantages can comprise the following:

- the destruction of employees' commitment through performance measurement,
- the limitation of individual freedom in an organization,
- games and conflicts during the objective determination process,
- middle managers' problems with translating corporate objectives into actions.

The role of communication processes in management by objectives is also emphasized. Objectives should be created through dialogue and not top-down communications (Dahlsten et al. 2005).

Significant problems with management by objectives occur in functional organizations. The formulation of objectives for functional areas and the measurement of results in functional work can lead to the perception of these functions as independent entities when in fact they are simply parts of a business.

Drucker and Ansoff claim that objectives should be closely related to an organization's strategy. They draw attention to the fact that the determination of objectives is a key element within the strategic planning process. This process should be carried out in a manner which enables the elimination of conflicts between objectives and this is possible only by ensuring a proper balance between the perspectives of various stakeholders (Kenny 2012).

It should be strongly emphasised that depending on the type of organization, (e.g. with respect to size or ownership), an organization can have very different priorities expressed in terms of its operational objectives. For example, in small family businesses, the following regularities can be observed (Westhad 2003):

- for many business owners, expansion of a business is not an objective,
- many business owners are particularly concerned with maintaining their independence,
- numerous business owners form and expand their business to a point that allows them to maintain control of the organization and the supervision of labour issues,
- many owners prefer their firms to stay small,
- owners of family firms cited the following objectives: building family reputation and status in the community, providing employment for the family, protecting family assets, ensuring independence, social goals such as employee welfare,

and a dynastic wish to pass on a developed business position in addition to wealth to the next generation.

If an organization accepts the general assumptions of management by objectives, the implementation of this management technique should comprise the following steps (Dinesh and Palmer 1998):

- identification of organizational strategy,
- collaborative goal setting,
- rewards linked to goals,
- development of action plans,
- cumulative period review of subordinate results against targets,
- review of organizational performance.

There is a wide range of experience related to the practical implementation of management by objectives. The implementation of this management technique frequently ends in failure. Researchers identify two major factors responsible for such undesired results (Dinesh and Palmer 1998):

- partial implementation of the system (as an individual performance appraisal system rather than an overall goal congruence system),
- a lack of paradigm shift from scientific management principles to the human relations model (which is endorsed by the creators of management by objectives as key to the system).

2.5.2 The Role of Stakeholders in Management by Objectives

For an organization, stakeholders are any groups or individuals who can affect or are affected by the achievement of an organization's objective (Freeman 1984).

Some stakeholders are of critical importance for the survival of an organization, especially when they provide it with key operational resources.

There are three major approaches to the interpretation of the role of stakeholder role in an organization: instrumental, descriptive, and normative approaches.

Within the instrumental approach, the main problem concerns how an organization should deal with issues related to stakeholders and how it should monitor and control relations with them. According to this approach, an organization should pay attention only to those stakeholders who can participate in the creation of value. Thus a strategic dialogue should only be held with powerful stakeholders and it should be oriented towards risk management and taking advantage of opportunities.

The descriptive stakeholders approach identifies and classifies the different constituents of an organization without assigning any value statements to the legitimacy of their claims for their power (Spitzeck and Hansen 2010).

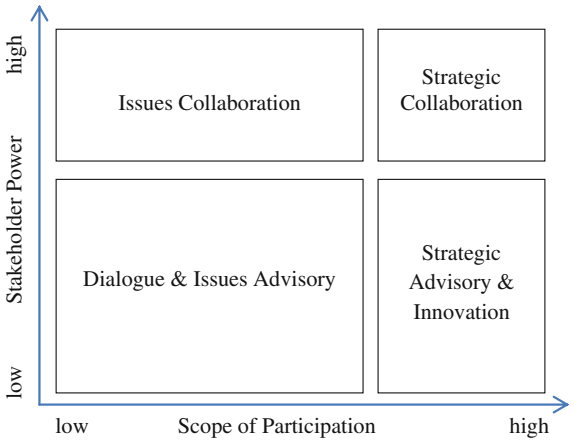

Fig. 2.3 Relations between organizations and stakeholders in decision making processes

On the other hand, a key problem within the normative stakeholders theory addresses the rights and duties of the actors involved and how a just balance of the concerns of different stakeholders can be achieved.

In the normative approach, organizations should take their shareholders into consideration because of their moral rights. Stakeholder dialogue is not strategic but open and deliberative (an ideal speech situation).

Besides the three aforementioned approaches, there is one further argument in favour of stakeholders' participation in corporate governance. The participation of stakeholders in corporate decision making has been related to efficiency gains leading to competitive advantage and is supposed to reduce conflicts (Spitzeck and Hansen 2010).

Stakeholders' participation in organizational management is characterized by two basic dimensions: power and scope.

Power refers to the level of influence stakeholders are granted in organization decision making. In this context, it is possible to distinguish the following two extreme situations for stakeholders:

- non-participation, when stakeholders have no influence on decision making processes,
- stakeholder power, when stakeholders hold considerable power over decision making.

Scope refers to breadth of power in decision making and usually spans along a line of deciding on isolated local issues to decisions affecting the general business model of an organization (Spitzeck and Hansen 2010).

These two dimensions give rise to four types of potential relationships between an organization and its shareholders with respect to decision making (Fig. 2.3).

Irrespective of the quality of relationships between an organization and its stakeholders, it remains obvious that the organization's objectives are logically related to what the stakeholders expect from the organization and what the

organization wants from the stakeholders. This is illustrated by the following examples of organizational objectives related to stakeholders (Kenny 2012):

- to grow the business by 10 % per annum (customers),
- to operate with integrity (a value),
- to increase productivity (employees),
- to get suppliers to deliver on time (suppliers),
- to attract better staff (employees),
- to increase profitable revenue (customers),
- to be a good corporate citizen (a value),
- to be innovative (a value),
- to change the foyer décor (an action),
- to be number one in the industry (part of the vision statement),
- to decrease employee turnover (employees),
- to increase funding (government),
- to provide products diametrically in opposition to the competition (part of the mission statement).

A procedural version of the approach integrating management by objectives and stakeholders has been presented by Kenny (2012). The objectives management procedure comprises 5 steps.

Step 1. Identify Key Stakeholders In the case of small and medium-sized businesses, stakeholders will probably be their customers, suppliers, employees, and owners. For large organizations, the situation is more complicated.

Step 2. Establish Behavioural Outcomes These can concern, for example, an organization's interest in receiving more orders from its customers or acquiring cheaper and more modern materials from its suppliers.

Step 3. Design Organization Objectives Typical verbs that are used in this context include: "to increase," "to decrease" or "to maintain". Formulated objectives should meet the requirements of the SMART formula; that is they should be: Simple, Measurable, Achievable, Relevant, Timely defined.

Step 4. Develop Measures Practice shows that in developing measures, the following three categories are used: (1) monetary symbols, which refer to revenue, profit, funds, (2) numerical symbols, which refer, for example, to patient numbers, cars produced, errors, opportunities, (3) percentage symbols, which refer, for example, to market share, customer spending.

Step 5. Set Targets People planning objectives have to use a combination of four methods. One such method involves looking at performance during the last period. Another involves imperatives such as safety and risk. A third method is benchmarking. A fourth method establishes a target on one measure by reviewing targets on other measures.

2.5.3 Management by Objectives and the Balanced Scorecard

A management process described by means of the balanced scorecard is very similar to that referred to in management by objectives because (Dinesh and Palmer 1998):

- both approaches are based on goal congruence throughout an organization,
- both approaches emphasize an iterative process based on collaboration between and within all levels of an organization,
- both approaches are based on the rational goal model (clear measures and goals),
- both approaches make use of the human relations model,
- both approaches highlight the necessity of using motivating tools,
- both approaches are based on the development of strategic performance measures.

The only fundamental difference concerns the space in which an organization's objectives are defined. An open formula is applied to management by objectives. Objectives can be established in practically any way. On the other hand, although objectives within the balanced scorecard are established in the cooperative formula, it is more focused on the four categories of customer satisfaction, internal processes, innovation and learning and financial measures.

Establishing Objectives Within the Balanced Scorecard
The use of the balanced scorecard is quite common. Most organizations adapt the structures of their objectives to the general proposal made by the balanced scorecard's authors Kaplan and Norton, i.e. that structures for objectives should fall within the scope of four perspectives. A typical structure for objectives in organizations using the balanced scorecard comprises the following perspectives (Atkinson 2006):

- Financial: emphasising shareholder satisfaction, key goals and measures here generally involve (gross and/or net) profitability, return on capital employed, residual income, economic value added, sales growth, market position and share, cash flow etc.
- Customer: focusing on real customer satisfaction, key goals and indicators here typically stress common customer concerns such as delivery time, quality, service and cost etc.
- Internal business: key goal and measures here should highlight critical skills and competencies, processes and technologies that will deliver current and future organizational (customer/financial) success.
- Learning/growth: underpinning the other three perspectives, key long-term goals and indicators in this regard typically relate to improving flexibility and investing for future development and new opportunities.

Potential Problems with Balanced Scorecard Application As with every management tool, the balanced scorecard has its advantages and disadvantages. Among

potential limitations concerning the application of the balanced scorecard, we can distinguish the following:

- a lack of overall coherence with the stakeholders approach to performance management, which can result in an inadequate consideration of the requirements of some stakeholders, for example employees or suppliers, within the structure of objectives,
- problems with bringing together strategic and budgetary control perspectives,
- problems with ensuring the integration of the balanced scorecard with other control systems,
- problems with the effective combination of the balanced scorecard and long established systems,
- the need to integrate the strategic planning process and the budgeting process,
- problems with an organization's flexibility and speed of reactions to changes in the environment when the balanced scorecard is dominated by the top-down approach,
- the excessive use of the balanced scorecard for top-down control.

The Functions of the Balanced Scorecard The previously mentioned problems related to the application of the balanced scorecard allow for the identification of the following functions of this approach in an organization (Johanson et al. 2006):

- Balanced scorecard as a facilitator of a long-term perspective. A model of this management tool should enable organizations to become more oriented towards long-term revenue, rather than short-term costs, in their management control routines.
- Balanced scorecard as an arena for dialogue. This tool's implementation process should include consultation at all levels of hierarchical organizations.
- The balanced scorecard as a tool for the correction of previous control systems. This tool can be used in particular to make adjustments in previous budgetary control practices. Unfortunately, situations sometimes occur in which the implementation of a new tool causes a decrease in the measurability of an organization's objectives.
- The balanced scorecard as a tool for the improvement of objective setting practices. This becomes possible particularly if the tool implementation process is accompanied by decentralization.
- The balanced scorecard as an instrument for change. The tool implementation process frequently allows for the identification of those activities within an organization which are ineffective and require improvement. The tool's diagnostic function can be subsequently complemented with the forecasting function, which consists in determining the objectives of changes or improvements in a situation.

Balanced Scorecard and Other Management Tools The use of the balanced scorecard can be highly effective if it is integrated with other management tools. An

Table 2.3 An input of the balanced scorecard in the development of the 7-S model elements

7-S model element	Input of balanced scorecard
Strategy	Through the implementation of various measures, including those of a non-financial variety, BSC provides managers with new system design and customization tools
Structure	BSC reduces the pressure on managers to find and install the perfect structure. The organizational improvement process occurs as it were spontaneously during BSC implementation
Systems	The setting of achievement measures results in clear responsibility and accountability
Staff	The BSC learning and growth objectives links the staff, employees' knowledge, capabilities and skills to the strategy
Skills	These are captured in the internal process perspective of BSC, where organizations identify operating, customer management, innovation and regulatory and social processes
Style	The BSC keeps executives' attention focused on balance between short-term operational improvements and the drivers of long-term value creation. Leadership attributes and style, together with organization capital component are captured in the learning and growth perspective
Shared values	Vision, mission, value are not explicitly recognized in BSC. They are starting points for developing strategy. The BSC can translate even the most intangible elements of the 7-S model (shared values) into quantifiable objectives that lead to action and feedback

Adapted from Kaplan (2005)

example of such a tool is the 7-S model. This model includes 7 critical factors for an effective organizational strategy (Kaplan 2005):

- *Strategy*. The positioning and actions taken by an enterprise, in response to or anticipation of change in the external environment, intended to achieve competitive advantage.
- *Structure*. The way in which tasks and people are specialized and divided, and authority is distributed; how activities and reporting relationships are joined; the mechanisms by which activities in the organization are coordinated.
- *Systems*. The formal and informal procedures used to manage the organization.
- *Staff*. The people, their backgrounds and competencies, recruitment processes, selection, trainings, socialization, management of careers.
- *Skills*. The distinctive competencies of the organization.
- *Style/culture*. The leadership style of managers, organizational culture.
- *Shared values*. The core set of fundamental values that are widely shared in the organization.

According to the assumptions of the 7-S model, success is possible if an organization achieves balance and harmony among the so-called hard Ss (strategy, structure, systems), soft Ss (staff, skills, style) and super-ordinate goals (shared values).

Both approaches (the 7-S model and the balanced scorecard) (Kaplan 2005):

- articulate that effective strategy implementation requires a multi-dimensional approach,
- stress interconnectedness,
- help managers align their organization for effective strategy execution.

A potential input of the balanced scorecard into the development of the 7-S model is presented in Table 2.3.

Thus the combination of the management models discussed can result in synergy effects.

References

Allen AM (2012) Culture integration in a "clean room". OD Pract 44(3):50–54
Atkinson H (2006) Strategy implementation: a role for the balanced scorecard? Manag Decis 44 (10):1441–1460
Bailey S (2013) Hard evidence of feedback reducing injuries and altering organizational culture. Forbes 30(08):2013
Bidault F, Castello A (2009) Trust and creativity: understanding the role of trust in creativity-oriented joint developments. R D Manag 39(3):259–270
Birru WT (2011) Horizontal inter-firm cooperation in Ethiopian small and medium enterprises. J Small Bus Enterp Dev 18(4):806–820
Bugdol M (2010) Wymiary i problemy zarządzania organizacją opartą na zaufaniu. Wydawnictwo UJ, Kraków
Carpinetti L, Galdamez E, Gerolamo M (2008) A measurement system for managing performance of industrial clusters. Int J Prod Performance Manag 57(5):405–419
Conchie SM, Donald IJ (2009) The moderating role of safety-specific trust on the relation between safety-specific leadership and safety citizenship behaviors. J Occup Health Psychol 14 (2):137–147
Cox P (2007) Should a financial service provider care abort trust? An empirical study of retail saving and investment allocations. J Financ Serv Mark 8:332–345
Cunningham I, Hyman J (1999) Devolving human resource responsibilities to the line. Pers Rev 28(½):9–27
Dahlsten F, Styhre A, Williander M (2005) The unintended consequences of management by objectives: the volume growth target at Volvo Cars. Leadersh Organ Dev J 26(7):529–541
Dale BG, Lascelles DM (1997) Total quality management adoption: revisiting the levels. TQM Mag 9(6):418–428
Darvish H, Nazari EA (2013) Organizational learning culture—the missing link between innovative culture and innovations (case study: Saderat Bank of Iran). Econ Insights—Trends Challenges 65(1):1–16
De Castro GM, Saez PL, Lopez JE (2004) The role of corporate reputation in developing relational capital. J Intellect Capita 5(4):575–585

Dinesh D, Palmer E (1998) Management by objectives and the balanced scorecard: will tome fall again? Manag Decis 36(6):363–369
Dirks KT, Skarlicki DP (2009) The relationship between being perceived as trustworthy by coworkers and individual performance. J Manag 35(1):136–157
Dirks KT, Ferrin DL (2000) The effects of trust in leadership on employee performance, behavior, and attitudes: a meta-analysis. In: Academy of management proceedings
Duhigg CH, Barbooza D (2012) In China, human cost are built into an IPod. Econ Dated 12 (02):2012
Ehrenberger L, Hornsten B (2011) Performance and risk management in strategic cooperation. Int J Prod Perform Manag 60(4):387–403
Elmuti D, Kathawala Y (2001) An overview of strategic alliances. Manag Decis 39(3):205–217
EN ISO (9000:2005) Quality management systems-Fundamentals and vocabulary. ISO Geneva
EN ISO (9001:2008) Quality management systems-Requirements. ISO, Geneva
Francois P, Zabojnik J (2005) Trust, social capital, and economics development. J Eur Econ Assoc 1(3):51–94
Freeman RE (1984) Strategic management: a stakeholder approach. Pitman, Boston
French SL, Holden TQ (2012) Positive organizational behavior: a buffer for bad news. Bus Commun Q 75(2):208–220
Gambetta DG (1988) Can we trust trust? In: Gambetta DG (ed) Trust: making and breaking cooperative relations. Basil Blackwell, New York, pp 213–237
Geraudel M, Salvetat D (2014) What are the antecedents of coopetition? Explanation terms centrality and personality traits. Eur Bus Rev 26(1):23–42
Grant A (2013) Givers take all: the hidden dimension of corporate culture. McKinsey Q 2:52–65
Hemdi MA, Nasurdin AM (2006) Predicting turnover intentions of hotel employees: the influence of employee development human resource management practices and trust in organization. Gadjah Mada Int J Bus 8(1):21–42
Hevey C, Murphy E (2012) A proposed cooperation framework for organizations and their leaders. Manag Decisions 50(6):993–1000
Hilde T (2007) Zarządzanie zasobami Ludzkimi. Tom V Biznes, PWN, Warszawa
Hoe SL (2004) Is interpersonal trust a necessary condition for organizational learning? J Organ Trans Soc Chang 4(2):149–156
Hummels H, Roosendaal HE (2001) Trust in scientific publishing. J Bus Ethics 34(2):87–100
Is it better to hire for cultural fit over experience (2011). http://management.fortune.cnn.com/2011/04/28/is-it-better-to-hire-for-cultural-fit-over-experience. Accessed April 28 2011
Joia LA, Malheiros R (2009) Strategic alliances and the intellectual capital of firms. J Int Capital 10(4):539–558
Johnson G, Scholes K (1997) Exploring corporate strategy: texts and cases. Prentice Hall, Hamel Hampstead
Johanson U, Skoog M, Backlund A, Almqvist R (2006) Balancing dilemmas of the balanced scorecard. Acc Auditing Accountability J 19(6):842–857
Kahane E (2006) Trust and powerful learning. T+D 60(7):51–53
Kaplan RS (2005) How the balanced scorecard complements the McKinsey 7-S model. Strategy Leadersh 33(3):41–46
Kenny G (2012) From the stakeholder viewpoint: designing measurable objectives. J Bus Strategy 33(6):40–46
Lacoste SM (2014) Coopetition and framework contracts in industrial customer-supplier relationships. Qual Mark Res Int J 17(1):43–57
Leimbach MP (2005) Invited reaction: outsourcing relationships between firms and their training providers: the role of trust. Human Res Dev Q 16(1):27–32
Lopes H, Calapez T (2011) Exploring the sources and benefits of cooperation. The role and challenges of relational and moral goods. Int J Soc Econ 38(7):607–627

Marshall RS, Nguyen TV, Bryant SE (2005) A dynamic model of trust development and knowledge sharing in strategic alliances. J Gen Manag 31(1):41–57
Martins EC, Terblanche F (2003) Building organisational culture that stimulates creativity and innovation. Eur J Innov Manag 6(1):64–74
Matzler K, Renzl B (2006) The relationship between interpersonal trust, employee satisfaction, and employee loyalty. Total Qual Manag Bus Excellence 17(10):1261–1271
Mayer RC, Davis JH, Schoorman FD (1995) An integrative model of organizational trust. Acad Manag Rev 20(3):709–734
McKnight DH, Kacmar CJ, Choudhury V (2004) Dispositional trust and distrust distinctions in predicting high-and low-risk internet expert advice site perceptions. e-Serv J 3(2):35–58
Neves P, Caetano A (2009) Commitment to change: contributions to trust in the supervisor and work outcomes. Group Org Manage 34(6):623–644
Obadia C (2008) Cross-border interfirm cooperation: the influence of the performance context. Int Mark Rev 25(6):634–650
Oleksyn T (2006) Zarządzanie kompetencjami. Oficyna Ekonomiczna, Kraków
Patti AL (2006) Economic clusters and the supply chain: a case study. Supply Chain Manag: Int J 11(3):266–270
Paul GW, Berry DM (2013) The importance of executive leadership in creating a post-merged organisational culture conducive to effective performance management. S Afr J Hum Res Manag 11(1):1–15
Prusak L, Cohen D (2001) How to invest in social capital. Harvard Bus Sch Press 79(6):86–93
Reina DS, Reina ML (1999) Trust and betrayal in the workplace. Berrett-Koehler Publishers, San Francisco
Renzl B (2008) Trust in management and knowledge sharing: the mediating effects of fear and knowledge documentation. Omega 36(2):206–220
Robbins SP, DeCenzo DA (2002) Podstawy zarządzania. PWE, Warszawa
Rostowski T (2003) Zintegrowany system zarządzania kompetencjami. W:Juchowicz M (red) Narzędzia i praktyka zarządzania zasobami ludzkimi. Poltex, Warszawa
Schalk R, Curseu PL (2010) Cooperation in organizations. J Manag Psychol 25(5):453–459
Schmoltzi C, Wallenburg CM (2011) Horizontal cooperation between logistic service providers: motives, structure, performanace. Int J Phys Distrib Logistic Manag 41(6):552–576
Senior B (2003) Zmiana organizacji i rozwój organizacji. In: Chmiel N (ed) Psychologia pracy i organizacji. GWP, Gdańsk, p 394
Simoni M, Caiazza R (2012) Interlocks network structure as driving force of coopetition among Italian firms. Corp Gov 12(3):319–336
Spitzeck H, Hansen EG (2010) Stakeholder governance: how stakeholders influence corporate decision making. Corp Gov 10(4):378–391
Sungmin R, Soonhong M, Nobuhide Z (2008) The moderating role of trust in manufacturer—supplier relationships. J Bus Ind Mark 23(1):48–58
Steensma H, Visser E (2007) Procedural justice and supervisors' personal power bases: effects on employees perceptions of performance appraisal sessions, commitment, and motivation. J Collective Negotiations 31(2):101–118
Stoner J, Freeman E, Gilbert D (2001) Kierowanie. PWE, Warszawa
Sztomka P (2007) Zaufanie fundamentem społeczeństwa. Znak, Kraków
Todeva E, Knoke D (2005) Strategic alliances and models of collaboration. Manag Decis 43 (1):123–148
Von Glinow MA (1985) Reward strategies for attracting, evaluating, and retaining professionals. Hum Res Manag 24(2):191–206
Wang Y, Krakover S (2008) Destination marketing: competition, cooperation or coopetition? Int J Contemp Hospitality Manag 20(2):126–141

Weber MJ, Deepak M, Murnighan KJ (2005) Normal acts of irrational trust: motivated attributions and the trust development process. Res Organ Behav 2(26):75–101
Westhad P (2003) Company performance and objectives reported by first and muliti-generation family companies: research note. J Small Bus Enterp Dev 10(1):93–105

Chapter 3
Integration Approach in Modern Management Concepts

3.1 Integration in the System Approach

This chapter discusses the systems theory. In this sub-chapter, the authors present the particular systems which comprise an organization and analyse the essence of a social system. In the next section, they define the concept of a socio-technical system. This is followed by an example of a practical application of the systems theory. The example illustrates the possibilities of integrating a quality management system with an environmental management system. It is impossible to avoid reference to the functioning of virtual organizations when writing about integration. This chapter is devoted to a discussion concerning definitions of various types of virtual organizations, the importance of and conditions for integration, risks connected with integration, and two selected methods of integrating entities for the formation of virtual organizations (the application of various types of integration and the idea of social capital).

The following sub-chapter presents the integrating role of TQM. It identifies integration problems comprising the integration of TQM with research and development activities, the integration of databases and the integration of TQM with Performance Measurement. TQM's integration potential results from the following factors: assimilation of various management methods and techniques, the strengthening of an organization's social potential and the use of empowerment and self-assessment methods. The authors present the possibilities of using quality principles and their factors to achieve various types of integration, options for the integration of TQM as a holistic concept with various other management concepts, and the integrating role of excellence models. The study of related literature shows that total quality management (TQM) shares many elements with the concepts of reengineering, knowledge management, the kaizen philosophy, lean management, internal marketing, and corporate social responsibility.

M. Bugdol and P. Jedynak, *Integrated Management Systems*,
DOI 10.1007/978-3-319-10028-9_3

3.1.1 The Concept of System

Before relationships between an organization's systemic structure and integration are discussed in more detail, it is necessary to refer to the concept of system. It is generally assumed that a system consists of many elements which depend on and influence one another. For example, a social system consists of people who are able to cooperate thanks to the various relationships, together with the social and material bonds which exist among them. However, sometimes people are quarrelsome and their interests are divergent. In such a system numerous conflicts and tensions occur. A technical system comprises technical equipment, machinery and infrastructure. All such technical elements have to be well harmonized and support a social system. An organizational system refers to the organization or methods of work. An organizational system is embedded within an organizational structure. An economic system comprises financial resources necessary for the functioning of an organization. Such resources can be either external or internal: that is, those that are currently within an organization's possession. Sometimes an organizational-legal system is distinguished, which stresses the dominant role of legal requirements in management processes. In management there are also other non-social systems which cover one selected area of interest. Therefore, we distinguish quality management systems, occupational safety management systems, risk management systems, configuration management systems, etc. The notion of system applies also to remuneration, motivation and evaluation systems. It is also possible to distinguish an axionormative system within organizations, or "a related set of rules, standards and values concerning all manifestations of social life and characteristic for a particular culture" (Sztompka 2002, p. 287). Financial management also makes use of the concept of system. For example, an accounting information system collects, processes, archives, and integrates financial data important for decision making processes.

In this sense, a system is a collection of many interdependent activities. For example, so far as a quality system is concerned, it is necessary to determine the management's responsibility, to carry our management reviews and quality audits, to analyse data, to undertake corrective and preventive measures and to supervise documentation and records.

Literature on this subject applies two different but not mutually exclusive terms concerning an organization's systemic structure. On the one hand, an organization can be treated as a uniform, purposeful and open system consisting of mutually related parts. This approach is based on the assumption that a whole system is comprised of sub-systems.

According to the other approach, as a group of people with determined objectives, tasks, scopes of responsibility and powers, an organization is a set of various systems mutually dependent on one another.

Management science uses the notion of systemic approach which strongly emphasizes the need for the holistic treatment of organizations: "The identification, understanding, and management of mutually related processes as systems

contributing to an increase in an organization's effectiveness and efficiency in objectives achievement" (EN ISO 9000:2005, item 0.2, p. 9). Advocates of systemic approach are convinced that an organization should be perceived as a given in whole, a collection of various systems or subsystems. Therefore, one must not make a decision concerning one system without taking into consideration all other systems. For example, every change within an organizational structure (or more broadly within an organizational system) causes particular changes in organizational behaviours (in a social system). New machinery and equipment (a technical system) requires training courses for employees (thus changes in a social system). Superiors have to be able to think and make decisions in a systemic manner.

Every system has its limits and flows (Stoner and Wankel 1992). A system's limits separate it from its environment. It is conventionally assumed that there are open and closed systems and that systems exist which do not cooperate with their environments. However, in the case of large production or service organizations, this is impossible because irrespective of its field of activity, every organization has to cooperate with different external entities. At the very beginning of establishing a business, contacts have to be maintained with tax authorities, banks, consultants, etc.

A flow takes place within a system itself and also concerns its external relations. If a system is to function properly, it requires a flow of information, data, knowledge, energy, resources and elements of other systems.

It should be stressed that the systemic approach does not stand in contradiction to the process approach, in which an organization is perceived as a set of interdependent processes. After all, both approaches are quality management principles. The systemic approach does not stand in opposition to the classical, quantitative or behavioural approaches, either. Successful managers appreciate the importance of the behavioural, situational, quantitative, and classical points of view.

3.1.2 The Essence of a Social System

The understanding of the essence of a system has been aided by sociology, in particular studies conducted by T. Parsons, an American sociologist. In his research, Parsons focused on interactions taking place between people who he refers to as "actors." He asserts that through entering into interactions with others, actors pursue the optimization of their gratification. He claims that socialization in which actors are passive observers and social control is exerted form two major mechanisms which allow for the maintenance of balance within a system. He concludes that a system has to be flexible and capable of tolerating a certain degree of change (Ritzer 2004). A social system is not only able to determine the limits of changes, but also to control changes occurring in the environment. It is characterized by a self-maintaining order or a state of balance (Ritzer 2004).

The common qualities of all social systems include the following: morphology (on the basis of which it is possible to draw conclusions about the number and size

of elements making up a system), an arrangement of functions and positions, a dependence hierarchy assigned to each element, an ability to adapt, and a set of values related to a system's objectives (Jacher 1976). These common qualities of social systems can be used in practice to analyse and integrate different virtual organizations or organizations which form part of a supply chain.

If a social system is to be capable of executing its tasks and achieving its objectives, it needs to maintain a dynamic balance. This is possible due to a form of control, the function of which is to correct errors or inconsistencies in relation to adopted standards or resulting from those processes of learning and socialization which cause employees to accept the standards and values of an organization. However, if control is to facilitate the achievement of objectives, it cannot be bureaucratic in character or oriented around employee discipline. Control should allow for the correction of mistakes and function as a regular process, thanks to which the pursuit of established goals amongst different elements of the system can be anticipated. Therefore, it is a good idea to test alternative control mechanisms, for example various forms of self-control[1] or control which involves the participation of employees.

Control involving employees is the opposite of bureaucratic control. Such control usually requires the following:

- Employees' involvement,
- a remuneration system oriented to group results,
- expectations of results exceeding a minimum level.

Such a form of control is possible where effective formal regulations are not forcibly imposed and bureaucratic, but instead employees comply with group standards stressing their participation (Griffin 1996).

The dynamics of a system do not result from a large number of elements. Conversely, a large number of system elements need no hinder cooperation. System dynamics result from the fact that particular system elements are active, closely related and non-linear, while a system itself is characterized by the abilities to adapt and self-regulate (Sterman 2000). Integration is an indispensable process for the maintenance of balance in the social system (Ritzer 2004). However, when we observe the social system itself, we conclude that it is an extremely complex entity. One of the factors which contribute to the complexity of the social system's problems is the fact that it comprises not only employees, but also actors in a broader sense: that is, owners, customers, agents, service providers or supervisory board members. Such people represent different approaches to work, value systems or world views; they perform various roles and have various interests. The accommodation of these differences is very difficult. However, similarly to the dynamics mentioned above, diversity is not always detrimental; conversely, it is believed that diversity is necessary for integration to take place. It increases the complexity of an organization

[1] Note: there is no agreement as to whether self-control can be considered as a typical form of control because it is not related to exerting influence on other people.

(Piotrowski 2007). Integration in a social system is possible when managers determine measurable goals assigned to particular levels and functions. Such objectives have to be included in a realistic perspective (their achievement is to be ensured by the participation of employees). Taking into consideration various theories of motivation, it can be concluded that the best goals demand and slightly exceed the level of employees' skills and thus facilitate their development. Integration in a social system should be based not on similarity but complementarity. Similarities alone (e.g. the same occupational qualifications) do not guarantee integration; in fact, they limit the possibility of reaching agreements and that is why interdisciplinary work teams are so important in contemporary organizations.

The existing concepts of social systems assume in a simplified manner that processes of socialization, control and common goals are required by a social system. Meanwhile, little is known about the course of enforced integration. Such enforcement can result from situations of threat or strong pressure from leaders of an organization. In reality, employees, particularly in large organizations, know little about one another, and thus employee evaluations are not necessarily reliable. Therefore, the question arises as to whether enforced integration can alter a negative vision of reality and whether it can make employees who have not previously trusted one another cooperate and even derive satisfaction from such cooperation.

3.1.3 A Socio-Technical System

One of the most interesting issues at stake is the coexistence of a technical system and a social system. A technical system concerns the processes, tasks and technologies necessary to transform input into output. A social system concerns human qualities (i.e. attitudes, skills, values, etc.), relations among people, remuneration or evaluation systems, etc. It is claimed that a process's output (its results) are caused by interactions between these two systems (Upadhyaya and Mallik 2013).

The technical system comprises technology. The social system consists of people and its quality is influenced by their attitudes towards work, motives and individual objectives. This system is shaped by a system of penalties and rewards, day to day management activities, error corrections and the strengthening of positive behaviours. Many processes, for example e-learning, depend to a large extent on these two systems (Upadhyaya and Mallik 2013).

A lot of research has indicated that integration which takes place within the technical system depends on the elements which make up the social system. This is so because the cost-effectiveness of the applied technical system is frequently dependent on an appropriate organisational arrangement, which, in turn, is influenced by the quality of entry data received by an organization, directly or indirectly, from the broader social and economic environment (Romero 2010).

The socio-technical system theory is used in examinations of process effectiveness. Such studies not only include analyses of the particular elements of a system and the relationships between them, but also approach systems as entities

consisting of processes within which it is possible to distinguish input (e.g. supplied raw materials), internal processes (e.g. key technological processes), and output (e. g. a product delivered to a customer). This theory is also used to study customer behaviours. For example, Lovell (2005) carried out an interesting analysis of the UK property market, subsequently stating that in such analyses it was necessary to take into consideration not only existing relationships between supply and demand, but also a product's technical characteristics, together with relationships between the technical system and the social system. He concluded that more attention should be paid to the influence of a product's technical characteristics on customers' decisions. Customers do not have sufficient knowledge of modern technologies because their previous experiences have been determined by their place of residence (Lovell 2005).

A trust challenge is an attempt to use the socio-technical system theory in analyses of mobile systems. Mobile systems are usually created by many stakeholders who develop their own individual subsystems. The integration of such subsystems is much more complicated than the integration of traditional technical systems, the latter consisting only of machinery and equipment located on the premises of a given organization. An example of this would be a wireless network infrastructure provided by one supplier, while software is developed by another. Furthermore, both organizations can use communication infrastructure operated by a third participant in the same project (Olla et al. 2003).

Of contemporary significance is the attempt to utilize a synergy effect which can occur in the socio-technical system. Many modern organizations implement various robots in their operations. The purpose of this is not to replace humans in the execution of dangerous tasks, but to experiment with cooperation between people and machines (e.g. in operations such as cutting, lifting, etc.). The basic premise of such ideas is that robots should not replace people. Therefore, in many organizations it is employees that make decisions about where robots are to be used.

3.1.4 An Example of Integration Between Two Management Systems

Integration is a process which takes place within a system and between systems. As has been mentioned above, integration is necessary if a system is to maintain its balance. Integration is not impeded by the diversity of those elements making up a system. In practice, the process of integrating different systems is extremely important. Without integration an increase in wastage would occur, or more precisely, it would be necessary to maintain duplicate documentation and repeat the same activities related to product delivery or service provision supervision processes.

In the implementation of any management system, it is necessary to take into consideration the existence of other systems, some of which may not necessarily be

standardized, in order to minimize risks related to a decrease in an organization's operational efficiency. Problems with integration appear at the stage of implementing a single management system: for example, a quality management system, and also later at the stage of integration two systems (e.g. a quality and an environmental system). In the construction of various technical systems (e.g. computer, quality, environmental), emphasis is usually placed on the preparatory stage in order to ensure that in the future, when a system is implemented and maintained, its particular elements constitute a cohesive whole, capable of functioning properly.

A quality management system can be used as an example. The ISO 9001:2008 standard states explicitly that before system implementation, as early as the design stage, it is necessary to take into consideration the following:

- organizational conditions (What is the risk of implementing a quality management system? What types of risk can occur in the process? What is the required architecture of acceptable risk? What risk assessment techniques should be used? How should an organization react to risk?)
- particular objectives to be achieved (What are the goals of quality improvement? What do we want to achieve? What goals will be assigned to particular processes?),
- delivered products (Does a customer require a quality management system certificate? Will the implemented quality management system apply to all products? What will be its scope?),
- applied processes (What are the key product realization processes? Which processes are auxiliary or systemic? What is their importance and variability? Are realized processes susceptible to distortions?),
- an organization's size and structure (How will the complexity of the existing organizational structure influence the system's shape and maintenance? Is the organizational structure adequate for the system? What changes are necessary?),

The risk related to system implementation is very important and usually comprises the possibility of an organization's disintegration, which can result from a bad identification of key processes. In particular, organizations, including functional structures, can experience periods of deteriorated functioning. A frequent error is to refer to "the existing condition." People dealing with the implementation of quality management systems do not worry about the future shape of a redesigned organization which will be much more efficient after a system has been introduced, but try to describe what the organization is already doing. If a description of particular processes is to be used to initiate a discussion about necessary changes, then such a solution is not damaging. However, if this is the end result of a system implementation process, a decrease in organizational efficiency is to be expected. Why is this the case?

Firstly, processes which pass through a number of functional organizational units tend to undergo distortions. Problems occur with the verification of their particular stages. Process objectives are achieved by many people and organizational units,

which can make it difficult to assess particular people's contribution to their success. Secondly, in accordance with the normative principles, many organizations appoint process owners. This function is performed by organizational unit managers, or new people appointed for this particular purpose. In organizations where structures are divided into departments and divisions, entrusting the process owner function to a department manager is not problematic. However, in organizations with independent and equal managerial positions, appointing one manager as process owner can result in interpersonal conflicts. This can raise the following questions: Who should be distinguished? Which managers have the most authority? Who will be able to manage the whole process?

During a quality management system implementation process the following problems related to integration can appear:

- How can the new system be integrated with already existing systems?
- How can key service and product realization processes be identified to ensure that there will be no decrease in efficiency and effectiveness after the system has been implemented?
- How can the so-called system elements be integrated with activities already undertaken by the organization?

If an organization has already implemented one standardized management system (e.g. an environmental, occupational safety, risk or supply chain management system), already at the planning stage it becomes necessary to examine which elements of a new system can be integrated with the existing one. Let us assume that the organization has already implemented a quality management system based on the ISO 9001 standard. It now wants to introduce an environmental management system based on the ISO 14001 standards. The first task will be to group the particular system elements in such a way as to facilitate an answer to the following questions: which system elements will it be easiest to integrate and which will not undergo integration at all, at least at the first implementation stage. In our example, the elements of the quality and environmental management systems will first be divided, paying attention to their integration potential. This task's results are presented in Table 3.1.

A further stage will be an attempt to consider the possibility of integrating particular problem groups. A few selected examples are presented below.

Example 1. Conducting quality audits and environmental audits.
Both types of audits are based on the same standards. The ISO 19011:2011 standard. Management systems auditing guidelines can be used to audit both quality and environmental management systems. In the future, such audits will apply to the integrated management system. This means that the existence of the two systems should be taken into consideration in audit plans and programmes and during the performance of process or functional audits in particular organizational units.

Table 3.1 The integration strength of system elements as exemplified by quality and environmental management systems

Quality management system	Environmental management system	Notes concerning integration
System elements: supervising documentation, supervising records, undertaking corrective and preventive actions, conducting quality audits, conducting management reviews, supervising legal and customer requirements as well as obligatory requirements which have not been specified by customers, identifying and monitoring key processes	System elements: supervising documentation, supervising records, undertaking corrective and preventive actions, conducting environmental audits, conducting environmental reviews, supervising legal requirements and access to legal requirements, identifying and monitoring key processes	As much as 90 % of the overlapping system elements can be integrated
Social elements: people management, top management's activities (ensuring resources, communicating system effectiveness, determining responsibilities and powers, determining quality policy, appointing management representatives)	Social elements: people management, top management's activities (internal and external communication, determining responsibilities in the environmental system, determining roles, tasks and responsibilities, determining environmental policy, appointing management representative	The integration of the social elements possible is approximately 80 %. Corrections will be required in the scope of human resources management and the determination of functions to be fulfilled by particular employees
Specific elements related to supervision of design and development work, supervision of product realization process, data analysis	Specific elements related to environmental protection (operational control, readiness and responsiveness in case of emergency)	The specific elements are the most difficult to integrate. Because of their character, they will have to be implemented individually (e.g. determining environmental aspects in environmental management systems)

Source Authors' own research

Example 2. Human resources management.
Within a quality management system, employees' competencies are determined, the effectiveness of activities undertaken is examined, records related to human resources management processes are maintained, training courses (or other activities such as personnel rotation, a period of traineeships in another company, etc.) are organized. Competence elements include experience, completed training, education and skills. A very similar approach is applied to human resources management in environmental systems. However, in this case, integration will require an examination of training needs within an environmental management system. There is no such requirement in a quality management system.

Example 3. System reviews
Both management system reviews and environmental reviews are conducted according to the same methodology. First, input data need to be prepared. After auditors become familiar with the input data, they carry out a proper review which is followed by an evaluation of an organization's needs and the possibility of fulfilling such needs. The results of reviews are termed output data or concrete decisions which concern the maintenance and improvement of both the system and the whole organization. In the event of the integration of both systems, input data need to be integrated. In consequence of such integration, input data will include elements belonging to both the quality management system (e.g. results of audits, feedback from customers, information concerning the course of processes and product conformity, the status of preventive and corrective actions) and the environmental management system (e.g. the effects of the organization's environmental activities, a specification of new legal requirements concerning environmental protection, a specification of emergency events). Output data or decisions to be made by the top management will concern the respective systems and their integration.

Example 4. Integration between operational control and product realization.
In practice, operational control requires a detailed analysis of product realization processes. Activities such as process monitoring, critical points measurement and a determination of ranges of deviations from adopted technological standards are necessary. These activities are common for both systems. In the case of the environmental management system, the influence of a particular operation on the environment requires additional identification. Where necessary (e.g. because of environmental hazards), procedures should be implemented in order to prevent possible deviations from adopted environmental policies, objectives and tasks.

Therefore, before initiating the integration of two systems, it is necessary to take into consideration inherent risks related to this process and the common elements which comprise the two systems (in the example provided, these were elements of a quality management system and an environmental management system). It is possible and recommended to integrate system documents (e.g. policies, procedures and instructions), work positions (e.g. representatives) and process supervision methods. However, it is cultural integration which poses the most serious challenge.

3.2 Integration in Supply Chain Management

3.2.1 Supply Chain and Supply Chain Management

Before analysing and clarifying the essence and dimensions of integration in supply chain management, it is worth pointing out the significance of basic conceptual categories such as supply chain and supply chain management.

Supply Chain The idea of supply chain was developed over 30 years ago. The author of the original concept was Houlihan, who defined it as a process for building improved and stronger upstream and downstream business linkages, focused toward improving value for the ultimate customer.

Other attempts to describe value chains focus on the following definitional elements (Stonebraker and Liao 2006):

- possible answers to the question of how to integrate and perform logistics and manufacturing activities,
- collaboration among supply chain partners,
- connected series of activities concerned with the planning and controlling of raw materials, components and finished products from suppliers to the final customer,
- a minimum set of characteristic features including the following: multiple echelons, focus on integration, goals of service and profitability, collaborative process and value-adding considerations,
- cash and credit movements as a part of integrated supply chain flows.

Skinner's concept, according to which the supply chain is more effective if production focuses on one or a limited number of products, is sometimes identified as a classical limitation for supply chain integration.

The supply chain is, without doubt, a multidimensional construct. The essence of the supply chain can be explained through the metaphor of an umbrella. The building of supply chains is the focus of a number of complex aspects which include the following:

- transfer of a range of information on product/service attributes, cost and availability,
- commonality of volumes, quality, and technologies to assure efficiencies of flow and communications,
- the importance of a product life cycle stage with functional decision-making activities,
- a wide range of cultural variables and professional functions,
- the significance of openness and trust,
- the occurrence of many phases such as: creation of raw materials, manufacture of parts and components, assembly of finished goods, distribution of foods/services and customer service,
- risk and cost associated with customer service level should be defined within each activity.

Decisions made with respect to the value chain concern the following three fundamental problems:

- number and type of business processes to integrate,
- horizontal and vertical network
- management processes used.

Supply Chain Management Supply chain management appears as a management formula for achieving optimal integration of the company's network of business relationships. Thus it is another step in the development of the integration phenomenon applied first of all to internal business functions, departments and processes and only subsequently to all the companies in the supply chain. According to the definition of the Global Supply Chain Forum, supply chain management is the integration of key business processes from end user through original suppliers that provide products, services and information that add value for customers and other stakeholders (Simon et al. 2014).

In order to explain the essence of supply chain management, it is useful to refer to three theoretical categories s: atomistic, holistic and cross-disciplinary.

Another popular approach is to locate supply chain management within a marketing channel. In such a case, it is worth noting that development of integrated marketing channels requires that the management of business activities be viewed from three perspectives, namely strategic, tactical and operative. A collection of selected opinions on the essence of supply chain management is presented in Table 3.2.

It can also be assumed that the supply chain creates some kind of a business system. In this context, it is possible to distinguish two types of supply chain members' behaviours which are essential from the perspective of management. The

Table 3.2 Selected interpretations of supply chain management

Author	Interpretation
Lummus	SCM includes the logistic flows, the customer order management, the production processes, and the information flows necessary to monitor all activities at the supply chain nodes
Mentzer	SCM is the management of close interfirm relationships, and understanding that partnering is important in developing successful retail supply chain relationships
Chandra and Kumar	Many firms have moved aggressively to improve SCM to balance customers' demands with the need for profitable growth These efforts have been focused mainly on flexible organizations, organizational relationships, total supply chain coordination, improved inter- and intra-enterprise communication, outsourcing of non-core competencies, built-to-order manufacturing strategy, inventory management, and cost control
Bechtel and Jayaram	SCM crystallises the business ecosystem idea by providing a process framework that enables firms to engage in co-evolvement rather than competition

Adopted from Svensson (2003)

first type of behaviour, called transaction, emphasises negotiation, which may lead to the exchange of products. The second type, called transvection, places emphasis on something that flows through a marketing channel context, coming in at one end and going out the other.

3.2.2 Supply Chain Integration

3.2.2.1 Evolution of Integration in Supply Chain

A highly integrated supply chain can be a purposive integrated organizational entity that shapes the attraction, the selection, and the retention of the members of the collective (Huang et al. 2014). The result is something called a meta-organisation, a supply network or a net chain.

Information sharing and interdependence are the two key features of supply chain integration which allow for the identification of its evolution. Information sharing is one of two critical elements of integration, because it serves a platform through which parties can engage in coordination, joint action, problem solving activities and just-in-time or build-to-order production.

The great importance of information sharing in supply chain integration can be observed clearly, for example, in the automotive industry. In view of the large number of suppliers in this industry, the sharing of information between them is a key factor in success. This type of a situation is characteristic, for example for the manufacture of Volvo vehicles.

The other key characteristic of supply chain integration is interdependence. Relationships between organizations (buyer-supplier) in supply chains require efforts such as joint problem solving between two or more firms to coordinate the various exchange and production activities. Thus one of the tasks of supply chain management is the synchronisation of interdependent processes, which is necessary for the mutual benefit of the firms that engage in supply chain collaboration.

The levels of information sharing and interdependence can be used to illustrate the evolution of supply chain integration occurring during a particular period of time, which is presented in Fig. 3.1.

Within the scope of this evolution, integration starts at a level referred to as an arm's-length transaction supply chain and then moves through the low and middle levels of supply chain integration eventually to reach the high level (a spider-web supply chain network).

3.2.2.2 Dimensions and Models of Integration in the Supply Chain

As has already been mentioned, integration within the supply chain is a multidimensional problem. The figure below presents a few supply chain integration models together with their major aspects and challenges.

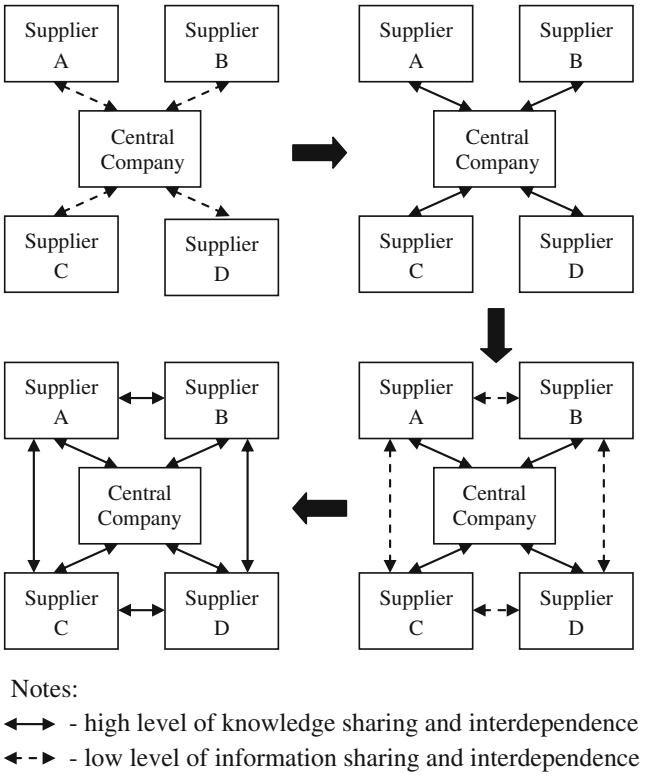

Fig. 3.1 Evolution of supply chain integration (perspective of integration levels). Adopted from Huang et al. (2014)

The Four Dimensional Integration Model

The model's basic premises are presented in Fig. 3.2.

In the model presented above, the important variables are stages, degree of breadth and form of integration.

Furthermore, the model takes into consideration, among other elements, the product or process life cycle stage. According to this stage, changes occur in integration priorities. Such priorities apply to process continuity, entry/exit strategies and risk and competition in the marketplace. The life cycle stage also influences extra-operational areas such as cultural and human resource issues. Finally, the product life cycle stage is reflected in the organizational dimension of integration through the involvement of the employees of various organizational units. Furthermore, the character of the environment which determines its complexity and munificence is taken into consideration. Complexity is the heterogeneity and concentration of environmental elements. Munificence is connected with resource abundance and the resulting capacity to support organizational growth. It should be

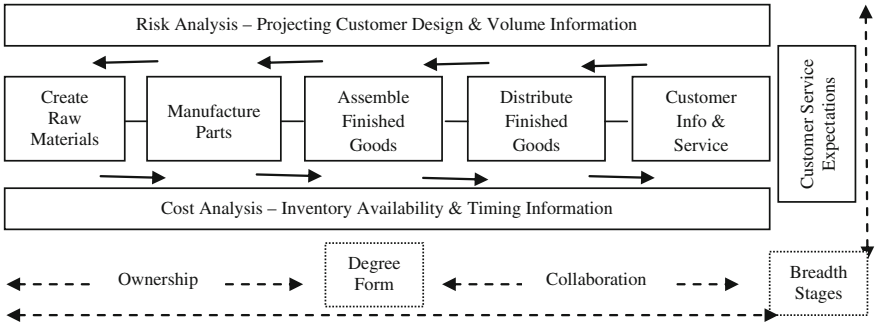

Fig. 3.2 The four dimensional model of supply chain integration. Adopted from Stonebraker and Liao (2006)

noted that in this model, the integration processes are oriented towards the satisfaction of customer expectations, while the important parallel functions are joint risk management and cost management.

The Organizational and Managerial Integration Model

Figure 3.3 presents the organizational and managerial integration model.

The organizational and managerial model presented above has a holistic character. It is based on the assumption that the overall integration of the supply chain consists of a few partial integrations to which particular integration elements have been assigned. The advantage of this proposal is that it takes into consideration both the internal and external dimensions of integration. Furthermore, it stresses the role of stakeholders such as customers or suppliers. Among other things, the model includes the scope of integration, direction of integration, stages of integration, areas of integration and level of relationship.

The Process Model of Integration

This model is based on the assumption that the process nature of the supply chain requires in particular the integration of processes. The objective is to identify key processes which are to be integrated with key customers and key suppliers. A referential set of such processes comprises the following elements (Simon et al. 2014):

- customer relationship management,
- customer service management,
- demand management,
- order fulfilment,
- manufacturing flow management,
- supplier relationship management,
- product development and commercialization,
- returns management.

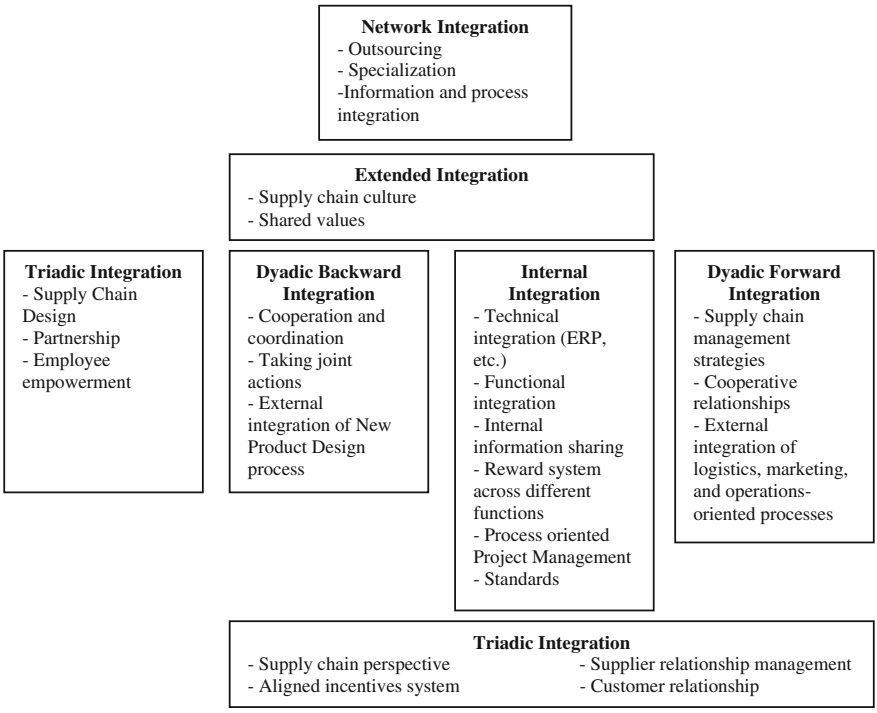

Fig. 3.3 presents the organizational and managerial integration model. Adopted from Naslund and Hulthen (2012)

The essence of this model is the integration of the aforementioned processes through cooperation and relationship from initial suppliers to end consumers. The procedure, incorporating the key processes identified, comprises a set of stages which include: identifying requirements for these processes, determining the categories and scale of process measuring standards, analysing process results, organizing and planning improvement actions. It is important that this process approach should apply to the whole supply chain.

Problems with Integration Implementation

Irrespective of which integration model is selected by supply chain participants, similar problems are faced relating to its implementation. Researchers identify the following key success factors allowing for the implementation of integration activities within supply chains (Power 2005):

- a committed organization, from the board down,
- effective programme management,
- consistent, pre-emptive communications,
- positive action to identify and manage key risks before they become issues,
- a well-defined and managed programme baseline, changed as necessary,

- a succession of manageable delivery milestones to maintain momentum and confidence,
- an actionable, owned, manageable and measurable set of business benefits.

Integration Services in Supply Chains

Integration activities within supply chains have become the subject of commercial and professional services. This means that the integration models and effects mentioned above can be achieved with the participation of integration service providers. Two examples of integration services provided for the benefit of supply chain participants are presented below.

The first example concerns an Internet integration platform called EDInet Communicator. The EDInet integration platform is a B2B system, providing solutions in the areas of electronic communication as well as technological integration, synchronization and cooperation between business partners within a supply chain. EDInet solutions constitute a wide range of outsourceable EDI and supply chain management processes, allowing enterprises to integrate with business partners all over the world. The exchange of commercial documents from an order through an electronic invoice, the synchronization of product data, price lists and access to information concerning partners' inventories levels support production management, sales management and planning, optimize inventory management and accelerate all cooperation processes within the supply chain. Within the scope of the outsourced integration services, the platform owners ensure the following: integration based on the customer's individual requirements; business application design, implementation and development; practical implementation methodologies; technical support and continuous process improvement; integration with partners' transaction systems (SAP, IFS, Oracle, etc.) and www interfaces for documents flow management. The integration solutions focus on common benefits for the whole supply chain and ensure the following: a reduction in costs related to manual documents processing; error elimination; a timely exchange of information between the supply chain links and a faster reaction to possible errors; a better insight into the delivery organization system; the elimination of problems with regard to shortage of materials.

The other example concerns logistics standards strengthening possibilities of integration within the supply chain. The example company is Logistics.com Inc. based in Burlington, which on 4 November 2001 published its standards entitled LEMA (*Logistics Event Management Architecture*), allowing transport operators and forwarding agents to buy, sell, manage and optimize road, sea and air transport services. The company developed LEMA as an open standard-based architecture supporting customers in an error-free information flow within the supply chain among logistics operators and providers of IT technologies and services. LEMA provides its users with three basic benefits: the integration of an organization's applications with those of its business partners, free information flow and a decrease in the time necessary for the processing of information about such logistics processes as parallel offer processing and freight schedule acceptance. The LEMA logistics standards are available for the customers of Logistics.com and other enterprises willing to benefit from an open and standardized business platform. The

company is currently looking for support from standardization organizations in order to broaden its standards users group.

The third example concerns services of a predominantly logistical character. Damco is one of the world's largest forwarding services and supply chain management services providers, offering transport, customs clearance and warehousing services as integral elements of its business solutions. The company's scale of operations allows it to manage a large number of sellers, offer the best rates and be up to date with changes in procedures and regulations. The supply chain integration services offered by the company help its customers to react properly to sudden market changes at a minimum level of investment risk and operating costs. The company runs offices all over the world, which allows its customers to explore the opportunities associated with new markets and the practical application of the integrated solutions offered. From warehousing and distribution services through procurement and quality management, the company is able to organize a necessary supply chain relatively quickly and provide its customers with a speed advantage. Damco's warehousing facilities and management tools ensure economical distribution based on the application of the best in their respective classes: tools, processes and systems optimizing product flows, service quality and logistics costs. The company's auxiliary services include the following: procurement process management, inventory management, raw materials supplies, advance delivery notifications, advanced network transparency, labelling, marking, receipt confirmation, suppliers management, picking and packing operations, reverse logistics, quality warranty, control and support for flexible supply chain models.

3.2.2.3 Coordination in Supply Chain Integration

Coordination plays a significant role in the successful integration of a supply chain. Depending on the type of coordination focus and the type of mutuality existing between supply chain participants, it is possible to distinguish four types of coordination in supply chains. They are presented in Fig. 3.4.

Each of the aforementioned types of coordination is characterized by a different set of objectives and tasks. For example, (Simatupang et al. 2002):

- The coordination of logistics synchronisation is responsible for ensuring alignment between logistics process activities to deliver products and services to fulfil customer needs and wants;
- The coordination of information sharing attempts to realize the coherency of information, while actors cooperate with one another and follow rules of diffusing information across borders;
- Incentive alignment attempts to provide various mechanisms to distribute benefits and risks associated with logistics functions to motivate independent actors in order to achieve supply chain profitability;

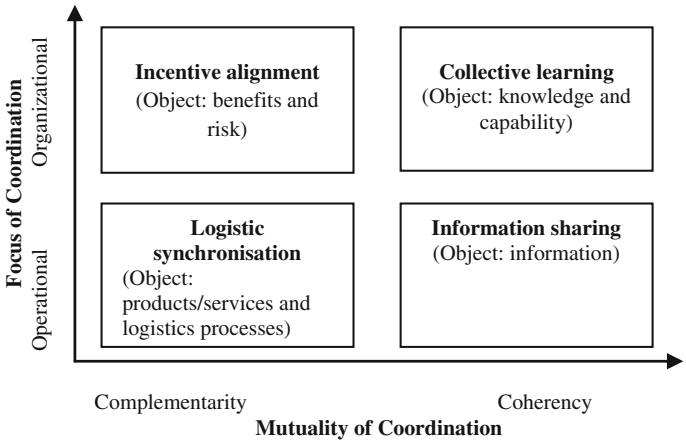

Fig. 3.4 Types of coordination in supply chains

- The coordination of collective learning deals with how to tackle the coherency problem of initiation and diffusion of knowledge across borders.

The measures of coordination performance in supply chain integration can be divided into categories: operational and financial. Operational performance can be measured by means of the following: customer service, inventory velocity, speed of responsiveness, product quality, product availability, lead-times. Financial performance measures include cash conversion time, logistics cost, net asset returns, total inventory days of supply.

3.3 Integration in Virtual Organizations

One of the most fascinating examples of the application of integration theory is the existence of virtual organizations and teams. Irrespective of the various forms such virtual organizations take—an issue which will be discussed below—it is possible to find that the knowledge of integrating processes is of key importance for such organizations. An adequate level of unification in virtual organizations determines not only their operational effectiveness, but also how customers evaluate the products such organizations create.

3.3.1 The Concept of Virtual Organization

Problems with integration are particularly visible in virtual organizations (VO). In such organizations processes of virtual integration and disintegration occur. Virtual

integration requires an adequate technical infrastructure which constitutes a necessary base for all knowledge management processes. The concept of virtual organization was used for the first time in the 1980s (Mowshowitz 1986). The meaning of this concept is not without ambiguity.

Literature concerning the subject of virtual organizations stresses that such an organization constitutes relationships between various entities-participants, and a basis for the existence of a virtual organization is the possession of necessary resources, competencies, means of production, markets, etc. It is also frequently stressed that virtual organizations depart from the integration of internal processes. It is generally believed that such organizations are established for a single specific opportunity and consequently their duration is limited. A virtual organization is an organization which uses information technologies in order to coordinate and integrate activities undertaken by the various firms which make up its constituent parts. Some researchers claim that a virtual organization is established for a particular purpose, for example to improve the performance of certain activities, to increase the possibilities of entering new markets or acquiring new customers, or to take advantage of various opportunities. A virtual organization "embraces a variety of ways of working together, including virtual teams within organizations (intra-organizational) and interorganizational collaboration" (Kasper-Fuehrer and Ashkanasy 2001, p. 236).

Because a virtual organization can appear in different forms, it is also described in many different ways. For example, according to Koźmiński (2005), a virtual organization is one of the structural forms of an enterprising organization (besides a joint venture, alliance, and franchise). He uses the notion of an enterprising organization and distinguishes it clearly from bureaucratic organizations. Such organizations are based on human capital. Situational power in them results from knowledge. Their primary value is benefit maximization. Their dominant structure is a flat structure (Koźmiński 2005, pp. 168–172).

The notion of virtual organization is used with respect to supply chains and outsourcing projects. "These outsourcing networks can be classified as VOs as they are created from different organizational entities for a specific purpose and exist for a specified period of time" (Liston et al. 2008, p. 1335).

As an example of a virtual organization, "The Economist" refers to the company New York Insurance, whose primary goal was to employ as few people as possible, preferably only the owner. Employing just 5 people, the British company Virgin controls 5 % of its sales market. Such businesses focus exclusively on their key competencies. They use services provided by means of modern technologies and a network of workers referred to as e-lancers. (—)The virtual organisation, The Economist, of 23 11.2009)

Virtual organizations are associations consisting of independent economic entities established for the purpose of achieving particular goals (e.g. challenges in technical communication). Virtuality can be a feature of whole organizations or selected work teams. In practice, the notion of global virtual teams is used frequently. For example, R&D collaboration networks are global virtual teams. Their

performance depends to a considerable degree on the quality of interactions taking place between employees and facilitating knowledge exchange.

Virtual organizations are characterized by different levels of power centralization, sizes, types of operations and networks of relations. They usually require a common board of directors or at least a group of coordinators with clearly determined decision making powers. Virtual organizations have many different organizational structures. The notion of virtual organization is related to concepts such as social networks or strategic alliances.

Virtualization is facilitated by globalization (organizations compete on the international arena), new forms of employment related to globalization (conducted with increasing frequency in the form of Internet auctions) and visible unification and depersonalization (some tasks can be executed by different people, irrespective of their place of employment or residence). Virtualization is also helped by normalization which ensures that the systems of particular organizations function, are maintained and improved in a consistent manner.

The concept of virtual organization is also associated with notions of virtual employees and virtual products. Virtual employees are those who work on a common task but are located in different parts of the world, and their cooperation depends both on modern technologies and knowledge concerning project management. A virtual product is a product, service or idea resulting from cooperation between many entities.

Integration which occurs among those participants who comprise virtual organizations is of key significance. It would seem that they are united by a common goal to achieve. Integration is sometimes necessary because participants lack certain unique resources which are in the possession of another entity. On the other hand, situations occur in which no resources are lacked, but integration can facilitate the achievement of a dominant position on the market. In virtual organizations, integration is of less important with respect to internal processes (this is a separate task for each individual organization) and the major role is played by information technology, which allows not only for communication processes, but also common databases, data analyses, knowledge acquisition, etc.

3.3.2 The Importance of Integration and Its Conditions

There are a number of reasons for integration occurring between the various entities belonging to virtual organizations.

First of all, virtual organizations have common objectives, develop joint and similar practices, and have to rely on their participants' skills of cooperation. Hence the important role of competence integration in virtual organizations. The subdivision of detailed objectives from general objectives requires an adequate diagnosis of competencies. However, in virtual organizations, the processes of adjusting detailed objectives and executed tasks to competencies are frequently supervised in a centralized manner (a holistic vision of the functioning of such organizations is necessary).

Secondly, from a customer's point of view, a virtual organization needs to constitute a given whole. It should be remembered that the level of integration occurring in a virtual organization is of key importance for customers' decisions. Customers have to be convinced that the contribution of those entities belonging to an individual organization can guarantee value: that they contribute competencies and technologies which will produce a synergy effect and exert a positive influence on product quality.

Thirdly, virtual organizations have to be dynamic; it is therefore emphasized that their operational efficiency is not only dependent on skills of cooperation, because such skills constitute the outcome of a given continuous process, but also on skills of negotiation, the acquisition of new participants or partners, skills of integration and willingness to pursue compromises.

Finally, virtual organizations use integration processes to develop new products. The existence of virtual organizations is not free from barriers (in areas such as culture and communication). However, it creates additional opportunities for new product development. This process takes place not only as a result of cooperation between particular entities, but also through the possibility of reaching a larger group of customers. Virtual customer integration (VCI) offers a contemporary method of new product creation.

If virtual organizations are to be successful in terms of the completion of projects, some psychosocial, organizational and technical conditions need to be fulfilled. The psychosocial conditions include the following:

- trust at a level which enables unrestricted cooperation and knowledge sharing,
- loyalty, which is the product of cooperation and makes further development of trust possible,
- a conviction that common objectives and benefits should be pursued and achieved,
- similar expectations concerning cooperation and its effects,
- competencies enabling cooperation in virtual work teams,
- a scope of knowledge preventing the occurrence of information asymmetry.

The organizational and technical conditions include the following:

- common integrated management systems (together with determined methods of process monitoring as well as effectiveness and efficiency measurement taking),
- technical infrastructure enabling cooperation,
- determined and approved social communication methods (e.g. those concerning project teams working in different time zones),
- control mechanisms facilitating cooperation (including principles of social control related to the transparency of decision making processes).

Many researchers have observed that virtual organizations are not problem-free. (e.g. Orman 2009). Of significance is the extent to which existing levels of trust enable employees to cooperate effectively in the performance of common actions. Trust in virtual organizations increases coordination in strategic interactions (Schoorman et al. 2007). The awareness that a project is undertaken on a temporary

basis may constitute a problem for such organizations. The creation of an organization for the fulfilment of just one aim can incite participants to look for new opportunities and new partners or to maximize their benefits at the expense of the other participants.

Another problem entails the swift delivery of resources to all entities within a virtual organization (data can be sent over the Internet, but production materials cannot). There is no doubt that difficulties can occur with the integration of particular entities and the subsequent coordination of cooperation and with the creation of a single coordinating team.

For example, individual operations can be developed within virtual organizations, but attempts to build a global leadership ensuring the execution of long-term strategies are not always successful. Virtual organizations allow the development of customer relationship operations, but this is not necessarily the case with communication infrastructure (Orman 2009).

The ephemeral nature of virtual organizations may result in situations in which not all entities have access to knowledge, therefore hindering integration.

The function of control becomes altered in virtual organizations; they do not possess "a span of control," as it is referred to in traditional management. The supervision of employees located in different places is difficult and can be exercised only indirectly by means of information provided by co-workers or an internal communication system (subordinates and business partners providing information about operations currently undertaken).

Employees frequently work on their own or in small groups and have a limited access to knowledge. The absence of control mechanisms can cause difficulties with integration processes. If a virtual organization's competencies perform such an important role, then, as has been previously mentioned, it should be assumed that competence integration will be an important success factor within such organizations. However, this is not simple integration requiring the unification of competencies or their particular components. Competence integration has a complex character requiring the combination of processes carried out by many entities of different structures and cultures. This considerably hinders the achievement of a satisfactory level of integration.

3.3.3 Integration Risk

A few sources of risk exist in virtual organizations. Risk can result from the following (Alawamleh and Popplewell 2011):

(a) Lack of trust, and consequently the lack of possibility for developing social capital. Trust is one of the fundamental organizational values, the absence of which is a serious obstacle to the building of virtual organizations.
(b) Defective and inadequate agreements; a situation can prove particularly threatening if a contract is perceived to be unfair, which can result from the

intentional actions of one of the parties involved. The lack of clarity in concluded agreements (which may not necessarily be written ones) is one of the reasons for insufficient cooperation.

(c) Ontological differences, which are caused by the very nature of virtual organizations. These differences hinder communication processes. Various terms or words can be understood or interpreted differently.

(d) Business partners' heterogeneity undoubtedly hinders cooperation and integration processes. The lack of homogeneity results not only from different cultural factors, but also the existence of different information technology systems.

(e) The existence of various organizational structures determining scopes of control, reporting relationships, positions, hierarchies of power, etc. The existence of different structures constitutes an obstacle for the initial stage of integration because it is organizational structures that influence employees' behaviours and attitudes towards work.

(f) Lack of communication: researchers generally agree that communication determines the course of organizational processes, but it is especially important in virtual organizations. The development of communication methods and habits is absolutely indispensable in virtual organizations.

(g) Cultural differences: cultural differences hinder communicative integration and process integration. There can be no doubt that the various standards, convictions, values and principles of behaviour within an organizational culture are of key importance from the point of view of integrating different organizations.

(h) An organization's simultaneous participation in a number of projects: in this case, risk to integration results from the impossibility of successfully completing a few projects at the same time. Organizations frequently lack time and resources. A situation can become even worse when different projects are antagonistic or incompatible from the perspective of pursued objectives, necessary tasks or mutual obligations.

(i) Lack of the commitment from top management: The absence of commitment or a lack of interest on the part of top managers results in obstacles to the achievement of objectives. In practice, lack of commitment is one of the reasons for the failure of many programmes (e.g. the implementation of TQM or the building of virtual organizations).

(j) Lack of knowledge concerning risk management: it is obvious that lack of knowledge about the possibility of managing risk poses an obstacle to the integration process. The creation of a virtual organization requires the identification and analysis of risk as well as the determination of risk reaction thresholds and risk handling methods.

(k) Poor selection of partners: this can even lead to conflicts at the very beginning of cooperation. A bad choice of partners results in a situation in which it is difficult to ensure consistency between objectives, strategies and basic competencies.

(l) Location factors: locations are directly related to risk, not only with respect to distance but also the existence of various legal regulations applicable to

business activities. The distance between partners causes many communication problems and increased costs in logistics.

Obtaining partners for a virtual organization carries an inherent risk with regard to integration. It can also prove costly for several w reasons. Firstly, it is frequently the case that no information is available concerning a partner's reliability. During the process of establishing a virtual organization occurs many dynamic and changeable processes occur, for example new requirements or circumstances. Secondly, a developing cooperation has to deal with many limitations. Organizations are characterized by different cultures, structures, and work methods. Finally, lack of trust and differences in expectations come to the fore. Overcoming such barriers requires a considerable commitment of time and financial resources. Thirdly, a decision to select a partner-participant depends not only on hidden competencies or held resources, but also the results of previous projects and cooperation skills (Camarinha-Matos et al. 2009).

Taking all of these issues into account, the following assumptions can also be made:

- the greater the level of development and growth within an organization, the more likely it is to be faced with problems concerning trust and decision making skills. the more partners, the greater opportunities for temporary alliances and various social games,
- a decision to establish a virtual organization can be based on unverified knowledge.

There is no doubt that risk is inherent in the establishment of every organization. However, it should be noticed that risk in a virtual organization depends on the organization's level of development. Furthermore, the integration process is also not only dependent on whether integrating entities have the same rights and expectations, but also scopes of influence and power. This can be further complicated by circumstances in which an outside entity joins the virtual organization for different reasons. An organization which is to integrate with an already existing entity behaves differently to an organization which is the initiator of establishing a virtual organization. In the former case, the undertaken risk depends on the current economic situation and also on the legal status of an organization already established (its autonomy level after integration).

A virtual organization's life cycle comprises many phases. The most important of these include the following (Păcuraru 2012):

- Identifying cooperation needs and defining operational objectives.
- Looking for partners: this phase usually consists of a selection of partners from a larger population of organizations. This process is oriented towards the selection of key competencies required by the virtual organization.
- Contracting: following the selection of partners, cooperation principles are determined through a contracting process.
- Acting: the process of cooperation implementation.
- Dissolving the virtual organization; dissolution is effected when the virtual organization has reached its goals.

The aforementioned life cycle of a virtual organization does not differ from the life cycle of a social group. In descriptions of the integration process, attention should be paid to the particular stages of the life cycle. For example, the first stage is usually preceded by the acquisition of information about the existence of the need for the establishment of a virtual organization. The quality, detail and precision of such information determine what type of partners should be searched for. It is possible that many integration and disintegration processes will have already occurred at this preliminary stage of establishing a VO because the information is verified. In order to confirm its validity, a firm can enter into various temporary alliances, use cross-functional information verification methods or compare it to information from other sources. The process of partner selection is of crucial importance. Various VO establishment manuals advise their readers to choose selection criteria and ensure their objectivity. The integration problem which occurs in the first stage consists of a lack of information about the required form of cooperation. The best solution, which is also used in recruitment processes, is to select key competencies on the basis of already completed projects. In this context, the following question usually arises: which competencies, situations and circumstances enable the achievement of success?

At the contracting phase, the integration level usually depends on the strengths of negotiations or the extent to which this process is perceived as equitable (equity is a condition for the appearance of trust and consequently of capital). This phase of acting can be divided into the following stages: the stage of developing cooperation principles; the stage of determining standards, common objectives, and behavioural principles; the stage of effectiveness when an organization achieves its optimum level of operation; and optionally the stage of storm, when particular entities fight against one another or defy effective cooperation principles. The dissolving phase determines the course of integration within a new project. In this phase, attempts can be made to prevent the process of organizational disintegration. Various interest groups can look for opportunities to serve their own interests at the expense of other entities.

3.3.4 Integration Possibilities

There are many possibilities of integrating virtual organizations, for example by way of reducing the number of risk sources. The following measures can be used in the process of integrating virtual organizations:

a. various types of integration,
b. the idea of social capital,
c. traditional methods of management by objectives.

With respect to its different types, integration can occur within the normative, functional, communicative or cultural spheres. Those factors should be taken into consideration which are known to have the biggest influence on the particular integration types. For example, functional integration is facilitated by programming of particular functions and roles in such a way as to prevent their mutual exclusion,

the existence of employees' competencies adjusted to their functions, the determination of decision making powers or the harmonization of activities. It should be ensured that employees fulfilling different functions depend on one another but simultaneously enjoy a necessary degree of autonomy allowing them to undertake quality-focused initiatives.

The application of the idea of social capital is based on the conviction that such capital should be constructed purposefully and its existence is to create opportunities for acquiring a competitive advantage. There are three basic definitions of social capital. These refer to trust, cooperation and social networks, respectively. The key factors of social capital include the following: trust, a sense of community and belonging, unlimited cooperation, democratic decision making, a sense of common responsibility and social standards (Bugdol 2010).

The process of building social capital in virtual organizations can include the development of trust as well as the creation of social networks or principles of cooperation. However, it should be remembered that these three elements are fully dependent on one another and that too much focus on too many elements of social capital can prove to be ineffective. It is much easier to aim for the so-called key elements of capital and create conditions for the development of common standards and trust among virtual organizations, to ensure proper communication and to build a sense of community and responsibility in a purposeful manner. The process of trust development will now be examined in closer detail. . In virtual organizations, it is much easier to hide errors or disguise problems and much more difficult to manage conflicts. Hence trust performs a vital role in virtual organizations. Trust in virtual organizations is referred to as "swift" in order to highlight its fragility and temporary character. Swift trust can both appear and disappear easily. Hence the importance of trust in virtual organizations.

In order to build and maintain trust within a virtual organization or team it is necessary not only to apply tried and tested methods, but also to attempt to use the potential inherent in such an organization or team. Such potential is, however, sometimes referred to as a weakness.

Firstly, cultural differences can appear to offer an enormously valuable source of trust. Cultural differences can constitute a basis for the development of a mutual learning programme. A greater degree of cultural heterogeneity increases the probability of the occurrence of conflicts. A reduced sense of coherence can lead to a lower level of satisfaction. However, the differences between results achieved by a heterogeneous group and those of a homogeneous group are not always significant (Staples and Zhao 2006). Traditional teams are characterized by a threat of the occurrence of conflicts based on demographic criteria. Age, sex and other categories do not play such a negative role in virtual organizations.

Secondly, it is necessary to take advantage of the possibilities of direct communication. Some firms make the mistake of resorting to direct communication methods only when a project is well advanced (Crowston et al. 2007).

Thirdly, the level of trust is influenced by collective awareness. Therefore, employees' convictions and their awareness of performing work that is useful, both for themselves and for their organization is so important. Other important factors

include a common vision, mission, and cultural values. It appears that the specific character of tasks executed by virtual organizations and teams strengthens their sense of community. They work frequently on specialist and unique projects requiring extensive knowledge.

If virtual organizations are integrated by means of the strengthening of trust, it is necessary to remember that trust depends to a considerable degree on ethics. . In particular, short-term relations with other business entities—partners in joint ventures—do not create opportunities for the development of mutual trust. On the one hand, virtual organizations' success depends on the development and maintenance of trust, while on the other hand trust develops with considerable difficulty. In order to illustrate such situations, Jones and Bowie (1998) have introduced the concept of the paradox of virtual organizations. In order to strengthen trust, organizations introduce a range of formal safety measures. The introduction of various forms of control and strict cooperation procedures destroys the very idea of a virtual organization and constitutes a threat that an organization could become a mechanical system, capable of only executing predetermined tasks, and unable of creative undertakings.

The traditional methods of management by objectives are extremely useful in the integration processes which take place in virtual organizations. This is so for two major reasons. Firstly, joint objectives management is a means of achieving a social integration stimulating other types of integration (e.g. operational, communicative and normative integration). Secondly, objectives management results in the occurrence of an internal tasks structure and the division of strategic objectives into tactical and operational ones. Tasks are allocated to the particular people and entities that make virtual organizations. Objectives management requires the development of a reaction plan (how to react to new challenges, needs or circumstances) and the optimization of determined objectives (which reduces the possibility of the occurrence of conflicts of interest).

3.4 Integration in Process Management

3.4.1 Process Management and Integration

The Essence of Process Management Process management is a contemporary management concept which focuses on processes. A process is understood as a set of tasks which transform inputs into outputs. Process management is considered to be the result of an enterprise's evolution in the field of management. There are three stages in this evolution (da Silva et al. 2012):

- *Functional*. When an organization is structured functionally and only recognizes processes within organizational departments or units, then functional management of functional process ensues.
- *Transversal processes functiona*. When the organization is structured functionally, but recognizes cross-functional processes, from demand to delivery

offered or from customer back to customer, there is functional management of cross-functional processes.
- *Horizontal processes*. When processes come to be the main concept and dimension guiding management, then there is process management of cross-functional process.

An organization's implementation of the process management concept means the introduction of many new practices. The most important of these include the following:

- cross-functional processes are determined and disclosed in the organization,
- Formal responsibility is introduced for cross-functional process management,
- customer requirements are taken into consideration in process improvement,
- information systems are designed and implemented with respect to the requirements of the cross-functional processes,
- performance management systems are designed for the processes,
- the organization allocates resources to the processes,
- personnel management elements such as payroll or career paths are subject to the process convention.

Process managers have to deal with three groups of tasks which can be regarded as the integration of process management in time. These groups are: process design (the organization and initiation function), everyday regular process management (the realization function), and finally the promotion of process development and organizational learning (the improvement function).

The Integrating Role of Processes in an Organization Because of their nature, processes can exert an integrating influence on a number of the components in an organization's management system (Fig. 3.5).

The integrating role manifests itself through, for example, the integration of functional areas or resources and hierarchical integration, taking into consideration an organization's strategic and operational levels. Performance measurement performed within the scope of process management is important for integration, and in particular performance indicators characteristic for this type of management.

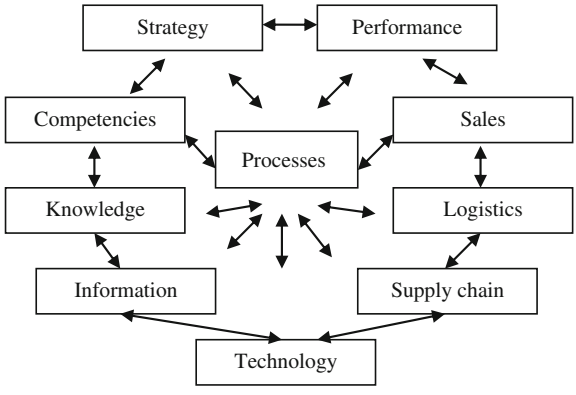

Fig. 3.5 The integrating role of process elements. Adapted from Storch et al. (2013)

According to a proposal included in the balanced scorecard, such indicators can refer, for example, to the financial, internal, knowledge/growth, and customer performance areas. Even if performance indicators are analysed in their particular groups, it is obvious that when combined, they present a comprehensive impression of the consequences of decisions made in an organization's different operational areas. For example, customer-related indicators can constitute a reflection of the results of activities performed in the areas of marketing, R&D, production or logistics. It is at this point that the essence of the process approach becomes apparent. The final shape of a process performance indicator cannot reflect fragmentary actions, but it should include synergy and cohesion characteristic for the application of various resources in the realization of processes.

Obviously, progress of integration in the scope of process management depends on the phase of its implementation in an organization. Integration will be more limited in the case of the management of functional processes, slightly more extensive in the case of the management of cross-functional processes, and most advanced in the case of the management process, where the functional dimension practically disappears (Storcg et al. 2013).

3.4.2 The Process Approach as a Principle of Quality Management

The process approach in management is one of the eight key quality management principles identified in the ISO 9000 standards. As proposed by the International Organization for Standardization, the process approach principle remains in close relationship with the system approach to management. The process approach principle assumes that (Quality management principles 2009) "a desired result is achieved more efficiently when activities and related resources are managed as a process".

The key benefits of following the process approach principle include the following (Quality management principles 2009):

- lower costs and shorter cycle times through effective use of resources,
- improved, consistent and predictable results,
- focused and prioritized improvement opportunities.

The practical implementation of this principle requires the following (Quality management principles 2009):

- systematic definition of the activities necessary to obtain a desired result,
- establishing clear responsibility and accountability for managing key activities,
- analysis and measurement of the capability of key activities,
- identification of the interfaces of key activities within and between the functions of the organization,
- focus on factors—such as resources, methods, and materials—that will improve key activities of the organization,

- evaluation of risks, consequences and impacts of activities on customers, suppliers and other interested parties.

At the same time it should be emphasized that using the process approach principle as the only approach to management can constitute a source of sub-optimization: that is a situation in which the optimization of one of the processes causes deterioration in the results of the other processes or the whole organization. Table 3.3 presents examples of potential threats related to the optimization of individual processes.

The problems identified in Table 3.1 can be avoided, at least in part, through following the process approach principle together with the principle of the system approach to management. This principle is defined as (Quality management principles 2009): "identifying, understanding and managing interrelated processes, as a system contributes to the effectiveness and efficiency of the organization." The main benefits of applying this principle include the following (Quality management principles 2009):

- integration and alignment of the processes that will best achieve the desired results,
- ability to focus effort on the key processes,
- providing confidence to interested parties as to the consistency, effectiveness and efficiency of the organization.

The practical implementation of this principle requires the following (Quality management principles 2009):

- structuring a system to achieve the organization's objectives in the most effective and efficient way,
- understanding interdependencies between the processes of the system,
- structured approaches that harmonize and integrate processes,
- providing a better understanding of the roles and responsibilities necessary for achieving common objectives and thereby reducing cross-functional barriers,

Table 3.3 Potential threats related to the optimization of individual processes in an organization

Process to be optimized/optimization objective	Other processes/consequences
Procurement/lower delivery costs	Production/lower quality of finished goods
Sales/revenues maximization	Product realization planning/deterioration in product realization timeliness
Design and development/lower technical production costs	Production/deterioration in product reliability and durability
Product realization planning/maximum utilization of production capacity	Infrastructure/increased number of failures
Production/increased efficiency	Quality inspection/increased non-compliance costs
Infrastructure/decreased number of failures	Production/longer duration of inspections and lower efficiency

- understanding organizational capabilities and establishing resource constraints prior to action,
- targeting and defining the operation of specific activities within a system,
- continually improving the system through measurement and evaluation.

The activities which integrate processes include, among other elements, the understanding and application of the sequence of processes and their interactions (Figs. 3.6 and 3.7).

The use of a sequence of processes results in their integration by means of the input-output relationship. Outputs from some processes constitute inputs for other processes. For example, if we assume that process A is a production planning process and its output is a weekly plan, then simultaneously it is an input for process B, which can be a production process, or process C, which can be a procurement process. In this sense, integration can have an informative, material or analytical character.

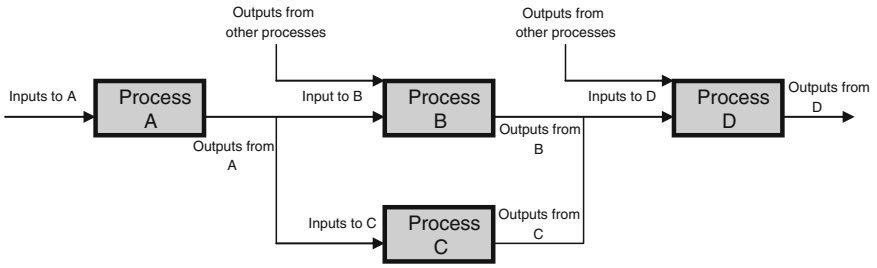

Fig. 3.6 A process sequence diagram. Adapted from Guidance (2004)

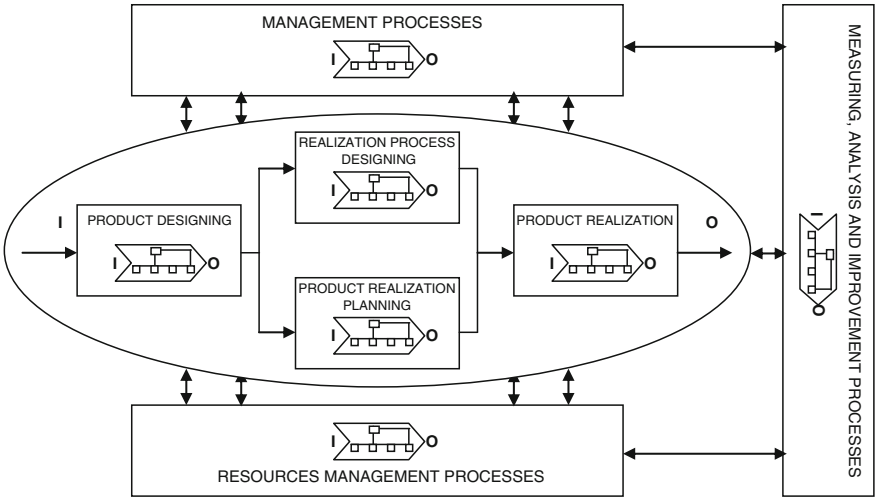

Fig. 3.7 A process interaction diagram. Adapted from Guidance (2004)

Interactions between processes illustrate relationships between the particular process categories. Picture 2 presents such process groups as management processes, realization processes and resources management processes, as well as measurement, analysis and improvement processes. The joint management of a sequence of processes and their interaction increases the probability of achieving an organizational balance, eliminating conflicts of objectives, optimizing the utilization of resources, fulfilling the requirements of both internal and external customers and other stakeholders, and preventing the occurrence of the sub-optimization effect.

3.5 Integration in Total Quality Management

Total quality management is defined as a management style and philosophy oriented around the concept that all employees take responsibility for quality. It is a management theory which takes into consideration employee commitment, continuous improvement, measurement as well as the application of adequate quality techniques and documentation (Dale 1999). TQM is a method of improving an organization's effectiveness and adaptation capabilities, which fulfils the requirements of both internal and external customers, and involves practically all employees and divisions in an organization's operations (Oakland 1995). TQM can be considered as an integrated management concept. Fundamentally, it is a holistic concept applicable to a whole organization and all systems included in it. Its scope is not limited to social or technical issues. In practice, the implementation and subsequent maintenance of TQM requires analysis of an organization's projected method of functioning. Already at the very beginning of TQM implementation, integration problems occur related to the adjustment of particular organizational functions to the quality principles. An example of such integration is a connection between TQM and R&D activities. However, integration problems also concern existing databases which are frequently distributed and established via a range of methods and techniques. The application of TQM can facilitate different types of integration (which will be presented on the basis of the eight quality principles). The TQM concept has to be integrated with other concepts, methods and techniques used in an organization. Total quality management shares many elements with the concepts of reengineering, knowledge management, the kaizen philosophy, lean management, internal marketing, and corporate social responsibility. Self-assessment models used in quality-focused organizations are also integrated models. These are composed of criteria which create potential and those which determine the social and economic results achieved by an organization.

3.5.1 Selected Integration Problems

Any practical application of the TQM concept requires its integration with research and development activities. TQM is a quality-focused concept. However, various problems including technological limitations, lack of competencies in managers, disregard for trend analyses, failure to search for new and innovative solutions, etc. mean that quality is not always innovative in character. An ideal situation would be one in which innovation accompanies quality, but such an ideal is not always achievable. Existing research results indicates that TQM is in practice strongly oriented towards quality, but not necessarily towards innovativeness. On the other hand, research and development practitioners take quality into account. However, the relations between R&D and quality are weaker than those between TQM and quality. Research and development activities are more acutely focussed on searching for innovative solutions (Prajogo and Sohal 2006). Hence what is required is a strong correlation between TQM and R&D.

Integration between TQM and R&D is one of the many examples of functional integration. In practice, TQM frequently causes changes not only in R&D, but also in the management of human resources, processes, projects, marketing activities, etc. Integration problems are not only limited to particular functions. Of no less importance is detailed integration, for example integration occurring in the area of data application. The best example of this is product quality data. Companies usually make use of statistical data obtained from measurements of processes, results of customer satisfaction research and all information obtained from employees (such data are collected by means of questionnaires, surveys and system documentation reviews of, for example, corrective and preventive measures undertaken). However, acquired information may not be sufficiently analysed in detail and, more seriously, it may not undergo integration, which can result in bad decision making. This constitutes a violation of one of the TQM principles, according to which decisions are made on the basis of facts. Therefore, literature on this subject recommends the integration of TQM with performance measurement (PM) (Pun 2002).

Another important element of TQM is process integration, especially where some activities are performed by external organizational units or specially hired contractors, as well as integration occurring between organizations, especially multicultural ones located in different countries. The experiences of numerous firms would suggest that the TQM concept is interpreted in many different ways and among organizations there can be considerable difference with respect to applied philosophies, practices, tools, methods and techniques.

TQM is a holistic concept which has a positive impact on social integration. There are several reasons for this. Firstly, TQM is characterized by an ability to assimilate various management methods and techniques. Thus there is a possibility of implementing TQM even if employees are accustomed to using different styles and approaches. TQM not only uses classical tools of quality improvement such as cause and effect diagrams, correlation diagrams, histograms, block diagrams, Pareto-Lorenz analysis or collective lists, but also group working methods (e.g.

brainstorming, value analysis) and lean management methods (e.g. SMED—Single Minute Exchange of Die).

Secondly, TQM strengthens an organization's social potential by using team work and motivating people to care about quality. Employees who work in different teams, including quality circles, learn how to cooperate with others and share a common goal of quality improvement. Such cooperation facilitates both social and normative integration (cooperation improves various systemic procedures).

Thirdly, TQM uses the technique of empowerment. The delegation of powers and authority, the elimination of fear and the broadening of autonomy favour vertical integration (among particular levels of an organizational structure).

Fourthly, TQM organizations willingly apply a range of self-assessment models. The very process of self-assessment leads directly to organizational integration and indirectly to social integration. Self-assessment models are strongly integrated. A failure to satisfy certain criteria prevents the fulfilment of others (these relationships will be discussed in a further part of the text).

Finally, a summary of the quality principles shows that their selection is not accidental but constitutes a systematic management concept. The quality principles result from good practices and the recommendations formulated by TQM forerunners, including Deming. The relationships between the TQM principles and the types of integration are presented Table 3.4.

3.5.2 The Integration of TQM with Other Management Concepts

Total quality management has much in common with the concepts of reengineering, knowledge management, the kaizen philosophy, lean management, internal marketing, and corporate social responsibility. In principle, the relationships between the aforementioned concepts and TQM are extremely strong, and this has led some researchers to claim that TQM is an element of kaizen and knowledge management or that CSR is a development of TQM. Management practitioners assume correctly that TQM is useful only if it is integrated with other management concepts and methods. This has resulted in a large number of relatively successful attempts at such integration. The integration of TQM with other management ideas comprises both radical concepts such as reengineering and concepts that are close to TQM such as knowledge management.

The creators and main promoters of reengineering, Hammer and Champy (1986), declared that TQM and reengineering were not in fact identical, but that they could supplement one another. Subsequent research has confirmed the veracity of this opinion. It showed that integration between TQM and BPR (Business Process Reengineering) was possible, *because they both inhere in long-term strategic planning and the realization of a common vision* (Hill and Collins 1999). In practice, organizations using TQM were also interested in reengineering, hence the need for the integration of both concepts.

Table 3.4 The TQM principles and integration

TQM principles	Integration factors	Dominating integration types
Principle 1—customer focus	A continuous process comprising product planning and design, verification of requirements, product realization, product improvement	External integration comprising customers and employees, communicative integration
Principle 2—leadership	Determining an organization's mission and vision, quality planning, determining superior quality goals	Social integration, subsequently cultural integration
Principle 3—people's involvement	Empowerment, employee participation in implementation teams, rewarding quality	Social, cultural and communicative integration
Principle 4—process approach	Determining processes, measuring processes, determining goals, analysing stages, applying the quality chain concept	Operational integration, in particular process integration
Principle 5—system approach to management	Searching for relationships between processes and systems (e.g. between a technical system and a social system, which will determine quality)	Operational (process, structural goal-oriented), systemic, normative and functional integration
Principle 6—continual improvement	Participation of all employees in product improvement	Social and operational, in particular structural, integration
Principle 7—factual approach to decision making	Analysing data, measuring processes, examining effectiveness	Operational integration
Principle 8—mutually beneficial supplier relationships	Evaluating suppliers based on the same criteria, involving customers in the quality improvement process, applying the same standards along the whole supply chain	External, operational (in particular process), normative integration

Source Authors' own research

TQM can be successfully integrated with knowledge management. The importance of the learning process had already been stressed by the pioneers of TQM. E. Deming stressed the significance of education and self-teaching, while P. Crosby paid attention to the education of management and employee teams. After the concept of knowledge management (KM) had found wider acceptance, researchers started to look for elements common to TQM and KM, as well as factors influencing the process of knowledge management implementation in organizations (Ju et al. 2006). They studied the extent to which TQM constituted a foundation for the implementation of KM (Adamson 2005). Knowledge management processes are an integral part of the European Foundation for Quality Management (EFQM) model. Knowledge management can be considered a basis for quality improvement. Within the continual quality improvement process, knowledge should be collected, adapted to already existing resources, archived, and reused. The processes of mutual learning and knowledge sharing (in either explicit or tacit forms) are very important.

Available literature on this subject and everyday management practices do not clearly identify relationships between kaizen and TQM. Kaizen, or rather its selected elements such as kaizen workshops, constitute a part of the TQM concept; some authors even claim that kaizen is identical with TQM (Webley 1996). Management practice indicates that kaizen is not only a management philosophy, but also a form of arranged programme comprising the following strategies: just-in-time, TPM, six-sigma, Poka-Yoke and kanban, which require customer focus, discipline, small work groups, networking, automation, and group empowerment.

TQM can be perfectly integrated with the lean management principles. People interested in TQM resort to the achievements of the lean management concept in the hope of reducing costs and improving operational effectiveness. Similarly to kaizen, areas of overlap exist between lean management and TQM (possibly because of the strong connections between them). For example, advocates of lean management, who correctly refer to the positive results of the application of this concept, frequently stress that LM is not a management method but a unique philosophy which offers a way of thinking and dealing with problems. As a result, they regard TQM as a constituent element of lean management. According to the advocates of LM, lean management is a comprehensive business system, comprising advanced organizational management techniques such as TQM, just-in-time, and total preventative maintenance (Kennedy and Weidner 2008). The obvious connection between the concepts of lean and TQM is the use of the process approach, the emphasis on wastage reduction, continual quality improvement, and customer focus (see more in the table below).

Both TQM and internal marketing (IM) perceive the role of an employee-customer in similar ways. In practice, organizations using IM create an "internal market" in which their departments are transformed into business units individually controlling their operations and expenditures. Employees are treated like internal customers, the aim being to fulfil their needs and ensure increased motivation.

TQM can be fully integrated with the concept of corporate social responsibility. As a management concept, TQM is unique in that it emphasizes the necessity for an organization's cooperation with its environment, its responsibility for this

environment and its support for various social initiatives. Various self-assessment models (e.g. MBQA, EFQM) indicate the necessity for applying the principles of social responsibility. TQM stresses the importance of the following elements: financial responsibility for activities undertaken by managers, auditors' internal and external independence, protection of shareholders' and partners' interests, social responsibility (ethical behaviours, equal development opportunities, and provision of product information), involvement in local communities (participation in education, philanthropy, sport, medicine). Supporters of the integration of both concepts claim that the implementation of TQM will not necessarily support CSR; in order to do so, CSR needs to be clearly included in TQM programmes. This is possible because both concepts share common philosophical roots (Ghobadian et al. 2007). Just like TQM, CSR can have a positive impact on morale and deliver a sense of satisfaction and employee commitment. What unites the two concepts is the measurement of social outcomes, as well as economic results (Table 3.5).

According to the literature available on this subject, the problem of TQM's holistic dimension has been raised by several authors, including Zink (1995, 2008). TQM's functional assumptions include the conviction that various activities can be integrated within a common quality-oriented concept. For this reason, one research direction offers an attempt to integrate various management concepts. Taking into consideration the aforementioned relationships and connections between TQM, reengineering, internal marketing, kaizen, lean management, and knowledge management, it is possible to conclude that many common areas exist, such as the process approach, the internal customer concept, continuous quality improvement processes, responsibility for social capital, team work and the use of quality tools and techniques (Bugdol 2011). In the process of integrating TQM with other management concepts, it is important: (a) to make a decision concerning the order in which TQM and other concepts are implemented; and (b) to make a decision concerning the selection of those elements which are common to different management concepts.

With regard to point a.: Describing integration processes, it is necessary to emphasize that various approaches to the integration of management concepts can exist. For example, after implementing TQM, some firms become interested in lean management or reengineering. However, it is not a mistake to start with the implementation of reengineering and continue with TQM later. Some organizations, especially those in debt or subject to bankruptcy proceedings, require swift, radical changes, which can be provided by reengineering, and only later should they initiate the process of a gradual and continuous quality improvement, which is the domain of TQM.

With regard to point b.: The most interesting analyses are those which reveal with great precision the methods of integrating TQM. For example, some firms are able to integrate value analysis (VA) activities with TQM, using a set of similar elements characteristic for both TQM and VA. These elements include team work (cost, shortage and function analyses are conducted in teams), customer focus and continuous improvement.

Table 3.5 TQM and other management concepts

Management concepts	Common features	Different features
Reengineering	Use of social capital, continuous quality improvement, appointment of process owners, measurement of processes, emphasis placed on competencies, external customer focus, use of team work methods (e.g. quality circles in TQM; reengineering teams and steering committees in reengineering)	Reengineering's radicalism, focus on basic issues and speed of change (changes in TQM are gradual), approach to structures (reengineering is related to process structures, while in TQM there structural changes are minimal or non-existent), other requirements related to employee competencies (reengineering emphasizes process analysis and improvement, while TQM uses the system approach), different role of managers (reengineering results in a decrease in middle management, while organizations using TQM believe that such managers provide the main driving force behind changes)
Knowledge management	Significance of social capital (in particular one of its components, i.e. trust), education comprising individuals, suppliers and sellers, transmission of knowledge among individuals, data processing, statistical analyses, use of information and knowledge both by employees and people from outside of an organization, intellectual property security, knowledge integration, collection, selection, development, adjustment, archiving	KM's treatment of knowledge as a strategic resource (KM puts more stress on knowledge codification and integration processes as well as socialization processes and the transformation of tacit knowledge into explicit), continuous improvement process and management by facts (KM pays more attention to the development of culture, which is to support knowledge creation and sharing within an organization), greater emphasis on innovativeness and creativity in (in TQM, the measurement of customer needs is more important)
Kaizen	Process approach, use of the PDCA cycle, necessity of maintaining a high level of commitment amongst all employees, process improvement (conducted in an evolutionary rather than revolutionary manner), continuous quality improvement process, process evaluation based on quantitative indices (measurable objectives and process indices are also introduced in quality systems), use of empowered work teams	Kaizen focus on continuous quality improvement programmes, while in TQM, quality improvement is a direct or indirect objective (quality improvement can be achieved, for example by investing in an organization's social potential)

(continued)

Table 3.5 (continued)

Management concepts	Common features	Different features
Lean management	Use of the same quality tools (e.g. SMED, Poka-Yoke, SPC), need for employee commitment and continuous effort, team work and empowerment, rejects handling procedures (similar or identical procedures), continuous learning, customer focus, process approach (process monitoring, process measurement, goals), continuous attempts to lower quality costs, close cooperation with suppliers	Lean management pays greater attention to sources of wastage than TQM (defects, excessive and unnecessary processing, overproduction, waiting time, redundant operations and transport, unnecessary inventories)
Internal marketing	Integrating action of TQM and IM, implementation of the idea of the internal customer, reduction of control and introduction of marketing and quality audits, strengthening of an organization's social system, emphasis on employee satisfaction	Comprehensive character of TQM, vision of an organization as a system of interdependent elements, emphasis on quality, not only on internal marketing
Corporate social responsibility	Measurement of social outcomes and economic results (organization's image, influence on environment), people management practices (investment in social capital), taking into consideration social responsibility principles in business activities, undertaking social activities which do not result from formal duties	Objectives of both concepts (TQM only indirectly refers to corporate social responsibility)

Integration possibilities

Source Authors' own research

3.5.3 The Integrating Role of Excellence Models

Models of excellence used by quality-focused organizations comprise external assessment activities and self-assessment conducted by employees themselves. There are many different models of excellence developed for the purposes of various quality competitions (e.g. the standards for the Polish Quality Award competitions). However, the most popular examples of such paradigms include models for the European Foundation for Quality Management (EFQM), the Malcolm Baldrige Quality Award (MBQA), and the Common Assessment Framework (CAF) in the field of public administration. The given criteria for excellence models are inter-connected. For example, the EFQM model's criteria addresses the creation of an organization's potential (leadership, employees, partnership, resources, processes, products and services), together with criteria constituting results with respect to customers, employees, society and business activities. It is assumed that particular criteria are inter-related, and an organization's potential should contribute to the achievement of economic and social objectives. For example, leadership should exert influence on human resources management, strategy, resources and processes. Well-managed potential should contribute to the achievement of required economic and social results. The criteria can be divided into sub-criteria and elements (concrete activities undertaken within the scope of particular criteria).

The integrating role of excellence models is not only dependent on the rearrangement and precise definition of an organization, or on specifying how and according to which criteria it is to be managed. On the basis of previous experience, it can be concluded that excellence models influence integration processes in the following ways:

a. demonstrating through empirical documentation the relationships between particular criteria,
b. exerting an indirect influence on the various systems making up an organization and facilitating their integration,
c. strengthening an organizational values system.

With regard to point a.: Numerous studies have confirmed the occurrence of direct relationships between the criteria of various excellence models. For example, research into the effectiveness of the MBQA model demonstrates that quality improvement results are chiefly dependent on process management and human resources management. Furthermore, strategic planning is strongly related to data analysis (Lee et al. 2003). Strong leadership influences people management; commitment is influenced directly, while work satisfaction is influenced indirectly (Calvo-Mora et al. 2005).

With regard to point b.: Curkovic et al. (2000) divided the MBQA model into three systems and allocated particular TQM elements to each of them. The TQM operating system was allocated to the MBQA operating system, consisting of human resources development and process management; the TQM strategic system was allocated to the MBQA strategic system, comprising leadership, strategic planning

and customer focus; the TQM information system was allocated to the MBQA information system including all information necessary for the operation of the other two systems. Additionally, TQM application results were measured. Measurements were taken with respect to costs of quality control (i.e. costs of inspections and tests), absenteeism, defects and rejects, as well as total supply costs. The research revealed positive relationships between all systems (Curkovic et al. 2000).

With regard to point c.: Experience resulting from the application of the EFQM model (e.g. Robinson et al. 2005) indicates increases in trust, work satisfaction, external customer satisfaction and product quality. Excellence models have a positive impact on ethical and organizational values. During the course of self-assessment procedures, various teams are established spontaneously. In small organizations, one team evaluates all criteria of a model, while special teams are established for the evaluation of specific criteria in larger organizations. Joint work on the collection of relevant data, the verification of sourced material or the determination of a scale for assessment are perfect opportunities for team integration.

3.6 Conclusions

The system theory has many practical applications. It is extremely useful in decision making processes because it presents the potential consequences of decisions which can occur in various systems. The system theory can also be used in practical tasks such as supplier selection. Product quality usually depends not only on selected suppliers, but on the shared impact of individual components comprising a product. The system theory can be applied in organizational improvement processes. Self-assessment models used in organizations are characterized by a system structure. Such models are based on the assumption that there is a relationship between an organization's potential and its social and economic results. They also reveal relations between criteria generating potential and those generating results. Furthermore, the system theory can be also used to analyse the reasons for failures in quality programme implementation. Relationships between causes, consequences and results are taken into consideration in order to determine the factors which have brought about failure. . The majority of studies into TQM implementation failures indicate that there is no single dominant failure factor. Errors are most frequently located in an organizational system (e.g. incorrect process identification), social system (e.g. lack of commitment, an excessive overload of new duties) and economic system (e.g. limited resources for quality programme implementation). The socio-technical system theory is currently used in research on the utilization of production robots. The newest generation of so called collaborative robots can work together with people on many production operations.

It has been shown that the theory of integration and disintegration is immensely useful in analysing the processes of establishing and managing virtual organizations. Analyses can comprise the particular life cycle stages of virtual organizations (the identification of cooperation needs and operational objectives, establishing

partnerships, contracting as a means of implementing cooperation, the dissolution of a virtual organization). Not only does this theory allow for detailed analysis of such organizations' particular life cycle stages, but it also facilitates the understanding of the integration of resources, competencies, processes, and structures. More detailed analyses can cover many variables such as scopes of knowledge and power or motives for establishing virtual organizations.

The application of TQM influences various types of integration. However, the optimum level of organizational integration is possible only when the TQM concept is precisely defined, its key elements are identified, and its principles are recognized and implemented. The application of TQM incurs the risk of disintegration, because as a holistic concept, TQM comprises a varied range of methods and techniques. For many management practitioners, the very idea of TQM is something subjective and vague. Therefore, a much greater role in integration processes can be performed by assessment/self-assessment models. A considerable amount of research into the usefulness of self-assessment models has shown that quality award winners achieve very good financial results. The most popular measures include the inventory turnover ratio, the net profit rate, the market share, and Tobin's q ratio which concerns the change of an organization's market value over time (e.g. before and after the implementation of a self-assessment model). Improvement in the functioning of organizations may be observed in relation to customer satisfaction, sales, return on assets, sales revenues, market share and employee efficiency (Cazzell and Ulmer 2009).

References

Adamson I (2005) Knowledge management—the next generation of TQM. Total Qual Manag Bus Excell 16(8/9):987–1000

Alawamleh M, Popplewell K (2011) Int J Prod Res 49(20):6041–6063

Bugdol M (2010) Wymiary i problemy zarządzania organizacją opartą na zaufaniu. Wydawnictwo UJ, Kraków

Bugdol M (2011) Zarządzanie pracownikami-klientami wewnętrznymi organizacjach projakościowych. Difin, Warszawa

Calvo-Mora A, Leal A, Roldán JL (2005) Relationship between EFQM Model criteria: a study in Spanish universities. Total Qual Manag Bus Excell 16(6):741–770

Camarinha-Matos LM, Oliveira AI, Sesana M, Galeano N, Demsar D, Baldo FJ (2009) A framework for computer-assisted creation of dynamic virtual organisations. Int J Prod Res 47 (17):4661–4690

Cazzell B, Ulmer JM (2009) Measuring excellence: a closer look at Malcolm Baldrige national quality award winners in the manufacturing category. J Technol Manag Innovation 4 (1):134–142

Champy J, Hammer M (1986) Reengineering w przedsiębiorstwie. Neuman, Warszawa

Crowston K, Howison J, Masango Ch, Eseryel UY (2007) The role of face-to-face meetings in technology-supported self-organizing distributed teams IEEE. Transa Prof Commun 50 (3):185–203

Curkovic S, Melnyk S, Calantone R, Handfield R (2000) Validating the Malcolm Baldrige national quality award framework through structural equation modeling. Int J Prod Res 38(4):765–791
da Silva LA, Damian IP, de Padua SI (2012) Process management tasks and barriers: functional to process approach. Bus Process Manag J 16(5):762–776
Dale BG (1999) Managing quality. Blackwell, Oxford, p 15
Ghobadian A, Gallear D, Hopkins M (2007) TQM and CSR Nexus. Int J Qual Reliab Manag 24 (7):704–721
Griffin RW (1996) Podstawy zarządzania organizacjami. PWN, Warszawa
Guidance on the concept and use of the process approach for management systems (2004). http://www.iso.org/iso/en/iso9000-14000/explore/transition/9001_2000approach,html. Accessed 3 Jan 2014
Hill FM, Collins LK (1999) Total quality management and business process reengineering: a study of incremental and radical approaches to change management at BTNI. Total Qual Manag 10 (1):37–45
Huang MC, Yen GF, Liu TC (2014) Reexamining supply chain integration and supplier's performance relationships under uncertainty. Supply Chain Manag Int J 19(1):64–78
ISO 9000:2005. Quality management systems -fundamentals and vocabulary, ISO. Geneva
Jacher W (1976) Zagadnienie integracji systemu społecznego. PWN, Warszawa
Jones TM, Bowie NE (1998) Moral hazards on the road to the virtual corporation. Bus Ethics Q 8 (2):273–292
Ju T, Lin B, Lin Ch, Kuo HJ (2006) TQM critical factors and KM value chain activities. Total Qual Manag Bus Excell 17(3):373–393
Kasper-Fuehrer AC, Ashkanasy NM (2001) Communicating trustworthiness and building trust in interorganizational virtual organizations. J Manag 27:235–254
Kennedy FA, Widener SK (2008) A control framework: insights from evidence on lean accounting. Manag Account Res 19(4):301–323
Koźmiński A (2005) Zarządzanie w warunkach niepewności. PWN, Warszawa
Lee SM, Rho BH, Lee SG (2003) Impact of Malcolm Baldrige national quality award criteria on organizational quality performance. Int J Prod Res 41(9):2003–2020
Liston P, Byrne J, Heavey C, Byrne PJ (2008) Discrete-event simulation for evaluating virtual organizations. Int J Prod Res 46(5):1335–1356
Lovell H (2005) Supply and demand for low energy housing in the UK: insights from a science and technology studies approach. Housing Stud 20(5):815–829
Mowshowitz A (1986) Social dimension of office automation. Adv Comput 25:335–404
Naslund D, Hulthen H (2012) Supply chain management integration: a critical analysis. Benchmarking Int J 19(4/5):481–501
Oakland JS (1995) Total quality management: text with cases. McGraw–Hill, New York
Olla P, Atkinson Ch, Gandceha R (2003) Wireless system development methodologies: an analysis of practice using actor network theory. J Comput Inf Syst 44(1):102–111
Orman LV (2009) Virtual organizations as electronic services. Commun Assoc Inf Syst 24:701–718
Păcuraru RO (2012) Virtual organizations. Econo Manag Finan Markets 7(4):695–702
Piotrowski W (2007) Organizacje i zarządzanie: kierunki, koncepcje, punkty widzenia. W Piotrowski W, Koźmiński A (eds) Zarządzanie. Teoria i praktyka, PWN, Warszawa
Power D (2005) Supply chain management integration and implementation: a literature review. Supply Chain Manag Int J 10(4):252–263
Prajogo DI, Sohal AS (2006) The integration of TQM and technology/R&D management in determining quality and innovation performance. Omega 34(3):296–312
Pun KF (2002) Development of an integrated total quality management and performance measurement system for self-assessment: a method. Total Qual Manag 13(6):759–777
Quality management principles (2009) International organization for standardization, Geneve (References (3.5))
Ritzer G (2004) Klasyczna teoria socjologiczna. Zysk i S-ka Wydawnictwo, Warszawa

Robinson HS, Carrillo PM, Anumba CJ, Al-Ghassani AM (2005) Review and implementation of performance management models in construction engineering organizations. Constr Innov 5 (4):203–217

Romero F (2010) The social dimension of the integration of manufacturing systems: the role of institutions. Int J Comput Integr Manuf 23(8/9):806–818

Schoorman FD, Mayer RC, Davis JH (2007) An integrative model of organizational trust: past, present and future. Acad Manag Rev 32(2):344–354

Simatupang TM, Wright AC, Sridharan R (2002) The knowledge of coordination for supply chain management. Bus Process Manag J 8(3):289–308

Simon AT, Satolo EG, Scheidl HA, Di Serio LC (2014) Business process in supply chain integration in su gar and ethanol industry. Bus Process Manag J 20(2):272–289

Staples D, Zhao L (2006) the effects of cultural diversity in virtual teams versus face-to-face teams. Group Decis Negot 15(4):389–406

Sterman JD (2000) Business dynamics: systems thinking and modeling for a complex world. Irwin/McGraw-Hill, Boston

Stoner JAF, Wankel Ch (1992) Kierowanie. PWE, Warszawa

Stonebraker PW, Liao J (2006) Supply chain integration: exploring product and environment al contingencies. Supply Chain Manag Int J 11(1):34–43

Storch LA, Benitez Nara EO, Kipper LM (2013), The use of process management based on o systemic approach, Int J Prod Perform Manag 62(7):758–773

Svensson G (2003) Holistic and cross-disciplinary deficiencies in the theory generation of supply chain management. Supply Chain Manag Int J 8(4):303–316

Sztompka P (2002) Socjologia Znak, Kraków

Upadhyaya KT, Mallik D (2013) E-learning as a socio-technical system: an insight into factors influencing its effectiveness. Bus Perspect Res 2(1):1–12

Webley P (1996) The implicit psychology of total quality management. Total Qual Manag 7 (5):483–492

Zink JK (1995) Total quality management as a holistic management concept. Springer, Berlin

Zink JK (2008) Human factors and comprehensive management concepts: a need for integration based on corporate sustainability. In: Zink K (ed) Corporate sustainability as a challenge for comprehensive management. Physica-Verlag—A Springer Company, Heidelberg, pp 231–255

Chapter 4
Integration of Standardized Management Systems

In this chapter, the authors discuss the specific character of integration between standardized management systems, and the first section considers how such systems might be classified. The authors go on to present the major requirements of the following management system standards: ISO 9001, ISO 14001, ISO 27001, OHSAS 18001 and ISO 22000. This is followed by a description of the concept of integration and its methodology, which is primarily achieved through the presentation of the concept of an integrated system, the reasons for system integration, and strategies and methods of system integration which include the approach based on the PAS standard. Finally, the authors attempt to identify the essence of integration at the stage of system implementation, together with the potential consequences of integration processes.

4.1 Standards of Management Systems

4.1.1 Classification of Standards

When examining those standards which could constitute a foundation for the development of management systems, we should consider how best they might be classified. Three basic areas of criteria can be established in classification processes:

- the objective of a management system developed in terms of a given standard,
- the application of a standard as the basis for the organizational development of a business area,
- The universality of a given standard.

On the basis of these criteria, we can distinguish the major—that is, the most popular—standards for management systems, which are presented in Table 4.1.

M. Bugdol and P. Jedynak, *Integrated Management Systems*,
DOI 10.1007/978-3-319-10028-9_4

Table 4.1 The classification of the major management system standards

Criterion	Types of standards	Examples
Objective	To ensure product/service quality	ISO 9001, ISO/TS 16949, TL 9000, AS 9100
	To ensure food safety	HACCP, BRC, IFS, ISO 22000
	To reduce an organization's operational risk	ISO 14001, OHSAS 18001, ISO 27001, ISO 22301, ISO 28000, ISO 31000
	To improve an organization's results and image	ISO 26000, ISO 50001
Business area	Quality management	ISO 9001, ISO/TS 16949, TL 9000, AS 9100
	Food safety and hygiene management	HACCP, BRC, IFS, ISO 22000
	Environmental management	ISO 14001
	Occupational health and safety management	OHSAS 18001
	Information security management	ISO 27001
	Business continuity management	ISO 22301
	Supply chain security management	ISO 28000
	Risk management	ISO 31000
	Social responsibility management	ISO 26000
	Energy efficiency management	ISO 50001
Universality	Universal	ISO 9001, ISO 14001, OHSAS 18001, ISO 27001, ISO 22301, ISO 28000, ISO 31000,
	Sector-related	ISO/TS 16949, TL 9000, AS 9100, HACCP, BRC, IFS, ISO 22000, ISO 26000, ISO 50001

As can be seen from the table, the same standards can belong to various groups, depending on the adopted classification criterion. In a subsequent part of this chapter, we will focus on a few of the aforementioned standards characterized by their applicability in relation to integration processes.

4.1.2 The ISO 9001 Standard

Certain standards, which support the development of quality management systems, are addressed to organizations representing particular sectors of the economy or other fields of activities. However, currently the most popular and universal quality management standard is ISO 9001. This standard can be applied by any organization which is able to define its internal customers, irrespective of which branch of the economy or the public sector it belongs to. Although the standards from the ISO

9000 series did not initiate the management systems standardization process, they became with time the leading components of this process.

The ISO 9000 series standards were originally invented by the ISO/TC 176 technical committee. Currently, within the framework of this committee, 81 countries participate in the continuous development of the standards and 21 countries have observer status (International Organization for Standardization 2009b, p. 2). The first edition of the ISO 9000 series standards was released in 1987; subsequent editions were published in 1994, 2000 and 2008. A new edition of the standards is currently being prepared and its publication is expected in 2015. The participation of representatives from many countries in the development of the ISO 9000 series standards has created a range of new opportunities. These concern: the impact of cutting edge technologies, the identification of good practices, market needs, and the knowledge of a versatile group of experts and practitioners. Those managers of organisations who decide to opt for the ISO 9000 as a model for a quality management system can benefit in a number of different ways. Such benefits result, among other things, from the implementation of the quality management principles, which constitute the essence of the concept of managing an organization in accordance with the ISO 9000 standards. The principles of the process approach and the system approach have been discussed in Chap. 3. The additional six principles are presented in Table 4.2.

The benefits indicated in Table 4.1 are potentially available for all organizations interested in the application of the ISO 9000 standards. Simultaneously, it is worth noting that managers are also motivated by their own objectives in implementing the aforementioned standards. Such objectives can include the following (International Organization for Standardization 2009b):

- demonstration of an organization's ability to manufacture products which meet quality requirements,
- improvement of the quality of services provided,
- development of an organizational culture focused on continuous improvement and effective control over production,
- fulfilment of formal requirements imposed by key customers,
- improvement of management processes in terms of customer relations.

Some researchers also emphasize that an additional important justification for the implementation of quality management systems can be their use in risk management processes (Williams et al. 2006). According to these authors, the classical five stages of a quality management system: that is, policy development, planning, implementation, monitoring and reviewing, bear strong correlation with the "chronology" of risk management processes. Quality management systems enrich the possibilities of risk management through the development of databases and useful statistics, focusing management activities on key processes and managing both organizational and cultural changes.

A general model of a quality management system consistent with the ISO 9001 standard is based on an approach characteristic for Deming's PDCA cycle.

Table 4.2 The selected quality management principles and the benefits resulting from their application

Management principle	Key benefits	Consequence of implementation
Customer focus	Increased revenues and a higher market share thanks to rapid and flexible responses to opportunities Increased effectiveness of assets utilization in order to strengthen customer satisfaction A higher degree of customer loyalty	Examining and understanding customer needs and expectations Ensuring that the organization's goals are correlated with customer needs and expectations Communicating customer requirements within the organization Conducting measurements of customer satisfaction and improvement activities Managing customer relationships in a systematic manner Ensuring a balanced approach to fulfilling the requirements of customers and other interested parties
Leadership	Motivating people by means of organizational goals and plans is simplified Organizational activities are subject to evaluation and adjustment Internal communication between the given hierarchical levels	Considering the requirements of all parties which have an interest in the management processes Establishing a clear vision of the organization's future Establishing goals with respect to aims and performance measures Developing and maintaining organizational values and ethical standards Strengthening the role of trust and eliminating fears Providing employees with necessary resources, training and freedom in the workplace Inspiring and motivating employees; recognizing their achievements
Commitment	Motivation and commitment of employees Innovativeness and creativeness in determining objectives Employees' responsibility for achieving their individual objectives Employees' willing participation in the continuous improvement processes	Employees' awareness of the importance of their input and role in the organization Employees' identification of internal barriers Employees' acceptance of responsibility for problems and their solutions Evaluating employees based on their performance of tasks and achievement of objectives Employees' actively seeking out opportunities to broaden their competencies, knowledge and experience Employees' willingness to share knowledge and experience

(continued)

Table 4.2 (continued)

Management principle	Key benefits	Consequence of implementation
		Employees' openness in discussions of problems and potential solutions
Continuous improvement	Competitive advantage thanks to the improvement of organizational skills Harmonization of improvement activities at all hierarchical levels Flexibility allowing rapid responses in relation to opportunities that arise	A consistent approach to continuous improvement at all organizational levels Training of employees in continuous improvement methods and tools Effecting continuous improvement in respect to individual products, services, processes and systems Establishing objectives and measuring the effectiveness of their achievement Identifying and confirming improvements
Factual approach to decision making	Information support for decision making processes Improving possibilities of documenting decision making effectiveness as a result of access to reliable data Improving possibilities for reviewing results and changing decision making options	Ensuring that data and information are adequate and reliable Ensuring access to data for all interested parties Analysing data and information by means of validated methods Decision making and taking measures on the basis of factual analyses which support experience and intuition
Mutually beneficial relationships with suppliers	Increasing possibilities for creating value for both interested parties Increased flexibility and speed with respect to joint reactions to changes in the market and customer expectations Optimizing costs and use of resources	Establishing relationships which balance short-term growth plans and long-term mutuality Combining partners' know-how and resources Identifying and selecting key suppliers Open and clear communication Sharing of information and plans for the future Establishing common development plans and improvement activities

Source Adopted from Quality Management Principles (2011)

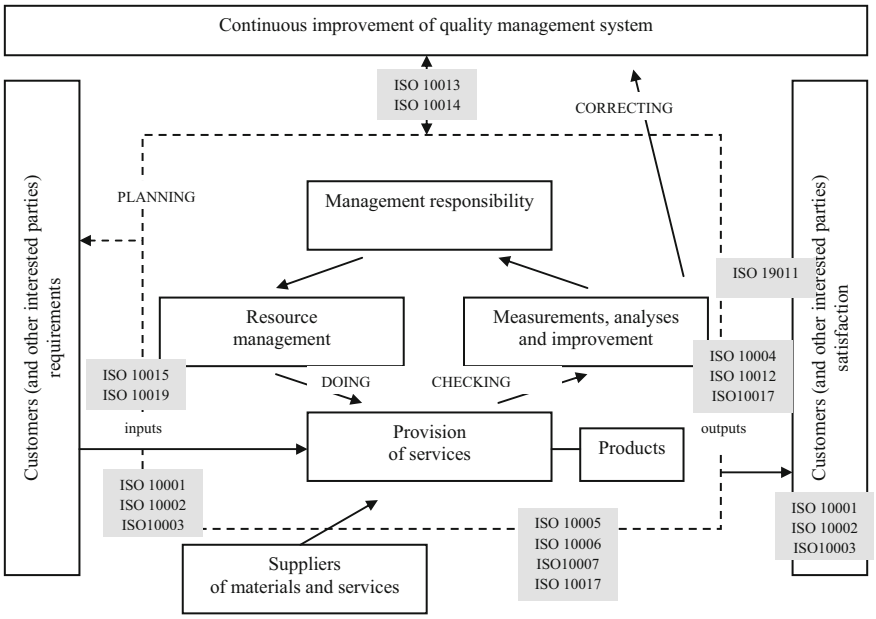

Fig. 4.1 The application of the selected standards developed by the ISO/TC 176 committee in quality management and the process approach. ISO 10001–Quality management. Customer satisfaction. Guidelines for codes of conduct for organizations. ISO 10002–Quality management. Customer satisfaction. Guidelines for complaints handling in organizations. ISO 10003–Quality management. Customer satisfaction. Guidelines for dispute resolution external to organizations. ISO 10004–Quality management. Customer satisfaction. Guidelines for monitoring and measuring. ISO 10005–Quality management systems. Guidelines for quality plans. ISO 10006–Quality management systems. Guidelines for quality management in projects. ISO 10007–Quality management systems. Guidelines for configuration management. ISO 10012–Measurement management systems. Requirements for measurement processes and measuring equipment. ISO 10013–Guidelines for quality management system documentation. ISO 10014–Quality management. Guidelines for realizing financial and economic benefits. ISO 10015–Quality management. Guidelines for training. ISO 10017–Quality management. Guidance on statistical techniques for ISO 9001: 2000. ISO 10019–Guidelines for the selection of quality management system consultants and use of their services. *Source* adopted from International Organization for Standardization (2009b)

Figure 4.1 illustrates this approach, which includes the possibility of adapting other ISO standards with respect to particular management functions.

As was previously mentioned, the ISO 9001 standard is to be reviewed in 2015. On the basis of the newly drafted version of the standard, the following planned key changes can be identified (ISO/CD 9001 2013):

- the structural arrangement of the standard's requirements is to change; these requirements will be included within the following items: context of organization, leadership, planning, support, operation, performance evaluation, improvement,

- considerable emphasis will be placed on the need to identify an organization's key stakeholders and their expectations,
- in relation to requirements, the need for risk analysis (e.g. during the course of planning processes) will be emphasized,
- the number of formal requirements related to the creation of formal documents and records will be reduced.

It can therefore be concluded that the aforementioned changes are intended to adjust the structure of this standard to those of previous standards, which will facilitate integration. Analysing subsequent amendments to the ISO 9001 standard, we can identify the following stages: quality control, quality assurance, quality management and finally total quality management. Furthermore, the management concept implied by the provisions of the planned new editions of the ISO 9001 standard can be termed "management for quality", where quality is the result of the process management of an organization's different areas.

4.1.3 The ISO 14001 Standard

The issue of an organization's sensitivity to its environment has been addressed for as long as management sciences have been in existence. In this respect, the term 'environment' is understood in accordance with a definition included in the ISO 14001 standard, as the surroundings in which an organization conducts its activities. These include air, water, earth, natural resources, flora, fauna, human beings and the mutual relationships which exist between them. Within the process of developing environmental management standards, we can distinguish a number of significant events, or milestones, which have led to the determination of current priorities and dominant solutions. Such milestones include the following (Jedynak 2011): climate conferences, international environmental obligations, documents from international organizations, and subsequent editions of standards. The most important of these is the ISO 14001 standard, published for the first time in 1996. This standard specified requirements related to the implementation of an environmental management system across a range of different organizations. The adopted model for an environmental management system was based on the principle of continuous improvement, and the basic task of the system itself was understood as support for activities related to environmental protection, as well as the reduction and prevention of pollution. The version of the standard currently in effect was published in 2004.

As the implementation of environmental management systems in organizations is currently on a voluntary basis, it is interesting to study the reasons behind management boards' decisions to implement such systems. Among these reasons, the following can be distinguished (International Organization for Standardization 2009a, Jedynak 2011):

- the intention of reducing operating costs, due to effective implementation of the concept of pollution prevention, which includes minimizing the consumption of materials and energy,
- the need to comply with legal regulations and avoid potential fines for non-compliance (it should be noted that the costs incurred through the imposition of fines for environmental "offences" have been on the rise. Furthermore, more effective measures have been introduced for the collection of such fines.),
- a willingness to foresee and also to influence the shape of future regulations which, as a result of proper organizational culture and ecological awareness, enables an organization to adjust its development plans to adapt to such regulations ahead of its competitors,
- a willingness to provide a "positive response" to interest in an organization's activities and products expressed by customers, suppliers, shareholders and other stakeholders. Sometimes it is an organization's customers that directly demand the implementation of an environmental management system.
- a willingness to improve an organization's relationships with environmental protection authorities and to shape its positive image by promoting the "existence" of an environmental management system,
- the search for non-traditional sources of funding an organization's activities (e.g. cheaper credits for ecological investment projects, government and EU subsidies),
- stimulating employees' commitment by increasing their ecological awareness. Research conducted in EU countries shows that values related to environmental management are a very effective driving force in employee motivation processes.

However, the reasons listed above for implementing environmental management systems within organizations indicate the need to minimize environmental risks. This is both directly related to reducing the likelihood of negative environmental impacts and indirectly to the failure to achieve a package of objectives that are shared by organizations implementing environmental management systems. In inter-organizational relationships, where one partner evaluation criterion is risk related to a partner's activities (for example, evaluations conducted by banks or insurance companies), organizations use environmental management systems to reduce such risks, while simultaneously increasing their "environmental reliability".

As, in principle, ISO 14001 is the only significant international standard to include environmental management system requirements, the subsequent discussion in this chapter will be based on the principles of this standard as well as related concepts. These requirements are divided into the six groups that are presented below (ISO 14001 2004).

General Requirements These are split into two key issues: firstly, establishing, documenting, implementing and continuously improving the environmental management system, and secondly, determining and documenting the scope of such a system. The elements of the first set of requirements clearly concern the life cycle of an environmental management system. Fulfilment of the latter involves deciding the

operating areas within an organization in which the environmental management system will apply.

Environmental Policy The obligation to establish an environmental policy rests with senior management. The policy should comply with the scope of the system which has previously been agreed and should meet seven specific conditions. According to the most important of these conditions, an environmental policy must include a commitment to continuously improve operations and prevent pollution, and be obliged to comply with all current legislation and other regulations relating to environmental issues. One purpose of an environmental policy is therefore to reflect the senior management's opinions on the importance of the environment within the activities conducted by their organization.

Planning The general requirement concerning planning activities comprises three sub-requirements. The first of these concerns environmental aspects, in other words those elements of operations, products or services that may affect the environment, rather than remain outside it. The standard obliges an organization to implement a procedure whose objective will be to identify existing environmental aspects and determine significant environmental aspects. Analysis of these aspects clearly cannot be a one-off event, but has to be performed on a regular basis.

The third requirement applies to legislation. In this respect, an organization should also develop a procedure to: (1) identify and create access to applicable legislation and other requirements relating to environmental aspects, and (2) determine relationships between legislative and environmental aspects.

The third requirement concerns objectives, tasks and programmes. An organization should determine its own environmental objectives and tasks, which are to be assigned to particular employees and hierarchical levels, based on an analysis of the content of its environmental policy, environmental factors and legislative and other requirements. Programmes, which are the tools for achieving objectives and executing tasks, should, as a minimum, include the following: extent of responsibility, essential resources and deadlines for relevant tasks and objectives.

Implementation and Operation

This requirement comprises seven detailed sub-requirements.

The first, which is referred to as "resources, roles, responsibilities and powers", concerns the responsibility of managers to ensure that the various categories of resources necessary at each stage in the life cycle of an environmental management system are available. One special requirement in this respect is the necessity of appointing the management representative for environmental management issues who will coordinate system operations.

The second sub-requirement relates to the management of human resources and, in particular, to ensuring sufficient competence, qualifications and awareness in those persons whose work for an organisation may have an environmental impact.

The third requirement concerns the development of a procedure to identify the principles underlying an organization's internal and external channels of communication.

The next requirement ensures identification of the mandatory documents in an environmental management system the purpose of which is to determine the methods of formally implementing system-related activities.

This is supplemented by the fifth requirement, which defines the structure for formal monitoring of documentation for an environmental management system.

The key sixth requirement concerns the governance of activities that relate to significant environmental aspects. For this purpose, an organization should establish a supervisory procedure for such aspects, and determine operating criteria and the provision of information based on an organization's internal procedures and suppliers' requirements. The final part of the requirement clearly illustrates that an environmental management system can be an important tool in creating relationships between an organization and its suppliers.

The final sub-requirement in the area of implementation and operation is "emergency readiness and response". An established procedure should enable an organization to identify potential dangerous situations and emergencies that may have a negative environmental impact, and to develop operational scenarios for each of these.

Verification

Fivesub-requirements exist in relation to verification. They apply to the following elements:

- monitoring and evaluating activities using a documented procedure and key characterizations of operations that have a potentially significant environmental impact,
- periodic and documented assessment of an organization's compliance with any legislative and other requirements it has agreed to follow,
- handling of any irregularities and implementing preventive and corrective measures,
- monitoring records, including those demonstrating compliance with requirements and documenting achieved results,
- performance of internal audits.

Management Review Management review has been given the status of a separate requirement in the ISO 14001 standard. This emphasises its role and significance in establishing the underlying conditions of an environmental management system and determining the ways in which these can be improved. The following analysis features are characteristic of environmental management and are implemented in management reviews: (1) the results of internal audits and assessments of an organization's compliance with legislation and other requirements, (2) communication with external, interested parties, including complaints procedures, (3) the effects of environmental activities.

4.1.4 The ISO 27001 Standard

The increasing importance of information resources within the activities of modern organizations results in the simultaneous demand for both security and the protection of such resources. As with other fields of organizational management, special standards have been developed for information security purposes and these standards can be applied when developing a management system. One pioneer in the creation of information security standards was the British Standard Institution, which developed its BS 7799 standard in 1995. However, it is now the ISO/IEC 27001 standard that is the most important reference point for information security management systems. The application of this standard in an organization usually arises from the following circumstances (Jedynak 2011):

- an increasing number of threats related to the loss of information, resulting in the organization's "openness" to its environment,
- the creation of new types of information loss, particularly within the global information space of the Internet,
- the organization's desire to demonstrate its compliance with relevant legislation, for example laws relating to personal data protection, and to avoid penalties and fines for violating confidentiality,
- the organization's desire to improve its competitiveness by convincing its customers of transaction security or the need to comply with requirements concerning information security as specified by customers,
- the organization's desire to protect its know-how and to prevent its disclosure to competitors,
- the organization's desire to increase its employees' awareness of information security issues.

The primary organizations that should be interested in implementing professional information security management solutions include the following:

- organizations where information security is of the utmost importance with respect to their business activities and reputation, for example organizations in the financial, IT, health care and public sectors,
- organizations that process information on behalf of their customers, mainly subcontractors of IT services.

The ISO/IEC 27001 standard identifies the following key areas as relevant to information security in an organization (ISO/IEC 27001 2005, 2013):

- a security policy, which needs to be established and periodically reviewed,
- an information security system, in particular one determining responsibilities, powers, relationships and coordination principles as regards contact with interested parties both inside and outside an organization,
- organizational assets management, including the appointment of people responsible for specific assets and the use of information classification principles and procedures,

- human resource information security related to the periods before, during and after employment,
- physical and environmental security related to the use of asset protection measures and equipment,
- communication and operations management related to the establishment of essential procedures and responsibilities, monitoring the activities of party service providers, the performance and testing of planning activities, the application of coding principles, the establishment of electronic data security procedures, the protection of computers and computer networks, the security of exchanging information,
- access control management, including establishing an information access policy, management of access rights, the promotion of good information security practices among users, the control of access rights to network services, the control of access to applications and operating systems, the protection of mobile hardware,
- information systems security, including determining security control requirements, priorities related to the use of cryptographic techniques, the control of extension and support processes, the control of system sensitivity to threats,
- management of information security incidents, including reporting incidents and weaknesses as well as educating employees and improving procedures,
- continuity management and operations comprising establishing processes to ensure the continuity of internet security operations as well as developing and testing of a continuity of plan,
- compliance management, particularly with respect to legal requirements and regulatory compliance reviews.

The new edition of the ISO/IEC 27001 standard contains a number of new or updated themes and concepts that are very similar to those planned for introduction in the ISO 9001 standard. These are presented in Table 4.3.

As is evident from the table, an information security management system can fulfil an important role in limiting the operational risk facing an organization. Interestingly, some requirements in the ISO/IEC 27001 standard refer to the necessity of operational continuity management, which is the domain of other standards.

The British Standard Institution provides examples of organizations that have implemented and certified management systems based on the ISO/IEC 27001 standard as well as examples of the subsequent benefits achieved by these organizations (BSI Case Study Capgemini UK 2014, BSI Case Study Constain Group 2014, BSI Case Study Fredrickson International 2014). For example, Capgemini attained the following benefits: improved security for Capgemini UK and its clients, badge on the wall proof of best practice to potential and existing clients, increased security awareness and buy-in among management and staff, enhanced security documentation and reporting. In turn, Constain's benefits included the following: higher levels of customer satisfaction, reduced waste and greater energy efficiency, an embedded safety culture and lower accident rate, effective joint ventures and

Table 4.3 New or updated concepts in the ISO/IEC 27001 standard published in 2013

New/updated concept	Explanation/meaning
Context of the organization	The environment in which the organization operates Understanding the context helps to determine the various requirements of interested parties and to develop a package of objectives
Issues, risks and opportunities	Replaces preventive actions
Interested parties	Replaces stakeholders
Leadership	Requirements specific to top management The leadership function has primacy over the other managerial functions within the standard
Communication	There are explicit requirements for both internal and external communications
Information security objectives	They are now to be set at relevant functions and levels
Risk assessment	Identification of assets, threats and vulnerabilities is no longer a prerequisite for the identification security risk
Risk owner	Replaces asset owner This is a new organizational function emphasizing responsibility for risk management
Risk treatment plan	The effectiveness of the risk treatment plan is now regarded as being more important than the effectiveness of controls
Controls	Controls are now determined during the process of risk treatment, rather than being selected from Annex A This is a much more flexible approach
Documented information	Replaces documents and records
Performance evaluation	Covers measurement of system and risk treatment plan effectiveness
Continual improvement	Methodologies other than PDCA may be used

Adapted from British Standard Institution (2013)

partnerships, greater protection of commercially sensitive data, and minimized impact from business disruption. Finally, Fredrickson benefited from the following: greater security awareness across all levels of the organization, shorter second-party system security audits, enhanced customer confidence and perception of the organization.

4.1.5 The OHSAS 18001 Standard

It is impossible to unequivocally identify what are the decisive, causative factors in the creation of occupational health and safety standards. However, based on management sciences, it can be assumed that development of these standards results partly from ergonomic trends and as a response to the need to define the tools used

to manage corporate social responsibility and the application of validation strategies.

The first edition of what is now the most popular international standard, OHSAS 18001, was published in 1999. The organizations participating in the development of this standard primarily included certification bodies and standards institutions representing many different countries, as well as other interested entities from all over the world. In 2007 the British Standard Institution published a new edition of the OHSAS standard, which replaced the 1999 edition.

The following elements can be distinguished among the primary reasons for applying the OHSAS standard (Jedynak 2011):

- the need to fulfil legal requirements relating to occupational health and safety and the awareness that this task can be facilitated by the implementation of an occupational health and safety management system,
- the desire to increase the employees' trust in an organization and the degree of their identification with an organization,
- the desire to increase growth in customers', insurance companies' and state inspection authorities' trust in an organization as well as to improve an organization's public image by demonstrating a responsible and innovative approach to OHS issues,
- the desire to improve actual working conditions and consequently work efficiency,
- the desire to reduce the rate of health-related absences,
- the desire to reduce the rate of work-related accidents and injuries and associated costs (downtime, insurance costs),
- the awareness of better opportunities for acquiring state subsidies for modernization projects,
- the desire to achieve the full dedication of all employees concerning the issue of occupational health and safety and consequently the development of a safety culture.

Although all of the above reasons for implementing OHS management systems are important, it appears that the most essential are those related to costs. However, any cost-based decision to implement an OHS management system should be of a comprehensive nature, i.e. it should take into consideration the following cost categories when determining the total cost of occupational health and safety:

- the costs of compliance with OHS regulations,
- the costs of implementing, maintaining and improving an OHS management system,
- the costs of insurance,
- the costs of work-related accidents,
- the costs of occupational diseases,
- the costs of absences related to health and working conditions,
- the costs of reduced work efficiency,
- the costs of reduced product and service quality.

Organizations that have implemented the OHSAS 18001 standard observe a relationship between organizational compliance with the standard's requirements and the rate of work-related accidents. They also notice that full compliance with OHS regulations leads to the development of management systems that are fundamentally consistent with this standard. The requirements defined in the standard and which apply to OHS management systems are divided into the following categories, which are discussed below (OHSAS 18001 2007).

General Requirements
This requirement refers only to an organization's obligation to establish and maintain an OHS management system.

Commitment of Senior Management and an OHS Policy
The first part of the requirement emphasizes that strong and visible leadership on the part of the senior management is a key factor for success in implementing and ensuring the effectiveness of an OHS management system. The complement to this requirement is the senior management's duty to ensure the necessary resources, to plan the system and to carry out regular reviews. One interesting fact with regard to OHS policy is that the standard requires it to be agreed upon with employees and their representatives. An OHS policy should express an organization's undertaking to perform six activities, the most typical of which are: (1) preventing work-related accidents, occupational diseases and near misses; (2) pursuing continuous improvement of OHS, and (3) meeting the requirements of legislative and other regulations applicable to organizations. Furthermore, this requirement obliges employers to provide employees with real opportunities for participation in the processes that take place within an OHS management system.

Planning
The requirement related to the planning function within an OHS management system comprises the following four sub-requirements:

- a general requirement concerning the necessity of developing and documenting an organization's operational plans to achieve OHS objectives,
- the establishment of a procedure to identify and provide access to currently applicable OHS and other legal requirements,
- determination of quantified general and detailed OHS objectives where possible,
- determination of operational plans to achieve objectives, which, as a minimum, include a specification of responsibilities, necessary resources and deadlines.

Implementation and Functioning
This general requirement comprises ten detailed sub-requirements related to the following:

- the hierarchy of responsibilities and powers, including the necessity of appointing a management representative for OHS issues;
- ensuring the availability of the resources that are required during each stage of the life cycle of an OHS management system;

- the provision of training courses, raising employees' awareness of potential hazards, and the advantages of eliminating such hazards, ensuring necessary, documented OHS competencies, motivating employees to commit to OHS;
- both internal and external OHS-related communication with all interested parties;
- monitoring of system documentation (this requirement specifies what documents should be held by an organization and how their storage should be supervised,
- occupational risk management, in particular the necessity of developing a procedure for identifying hazards and assessing related occupational risks. The analyses should result in the planning of actual organizational and technical solutions aimed at preventing and reducing such risks;
- the organization of work and activities related to significant hazards. The principles for planning and performing these activities must be formalized;
- prevention and contingency plans for an immediate response to work-related accidents and major emergencies. The standard envisages detailed requirements concerning communication in emergency situations, the provision of assistance to accident victims and regular drills of emergency procedures;
- purchasing. This requirement concerns the compliance of purchasing procedures with OHS regulations;
- subcontracting. This requirement concerns extending the application of OHS regulations to also cover subcontractors' employees.

Verification as Well as Corrective and Preventive Measures

The section concerning the assessment and improvement of OHS management systems includes the following four sub-requirements:

- the first concerns monitoring OHS by acquiring feedback on the current state of affairs;
- the second requirement is related to the investigation of work-related accidents, occupational diseases and near misses. The standard emphasizes that the results of investigations conducted by external organizations are as valid as those produced by internal investigations;
- the third requirement obliges organizations to carry out internal audits. The characteristic feature of OHS management systems is that audit results should determine whether a system is effective in encouraging the full participation of employees and whether it allows an organization to comply with current legislation;
- the fourth condition relates to the monitoring of irregularities and the implementation of corrective and preventive measures.

Management Review

Management reviews should take into consideration changes in circumstances that may affect OHS requirements and the results of analyses of work-related accidents, occupational diseases and near misses.

Continuous Improvement
While this requirement comprises a single sentence obliging organizations to implement solutions that will ensure the continuous improvement of OHS management systems, its highlighting by the standard's authors compared with other requirements demonstrates the vital importance of continuous improvement.

As is evident from the discussion above, the structure of the OHSAS 18001 standard is not compatible with other management system standards, which may lead to a reason for its amendment in the near future.

4.1.6 The ISO 22000 Standard

ISO 22000 is the sole example of a standard addressing a particular branch of industry, namely the food processing sector, in this chapter. The globalization of production operations, which is also present in the food processing sector, has led to a situation in which the application of many different food safety standards can create problems and increase operating costs. This situation forms the origin of the need for global harmonization of requirements within food safety management systems. The development of the ISO 22000 standard is a response to this need (Surak 2007). The ISO 22000 standard was published by the International Organization for Standardization in 2005. Its authors made the following assumptions when developing the standard (Surak 2007):

- the standard will be used by all organizations within the food production chain,
- the standard will incorporate the five steps and seven principles of HACCP,
- it must be possible to use the standard as a set of requirements for third-party audits,
- the standard must ensure validation, verification, implementation, monitoring and management of food safety control processes,
- the standard will be focused on food safety alone.

The authors also wanted to ensure the maximum possible compatibility of the standard with the ISO 9001 standard, and to avoid the deficiencies which occurred in the implementation of the HACCP standard, i.e. the lack of certain management process instruments.

It appears that the key attribute of the ISO 22000 standard is the intended scope of organizations which should apply it. These exist within the food chain or are a collection of organizations participating in product manufacture or distribution processes from farm to the final consumer (see Fig. 4.2).

Benefits which organizations can derive from implementing the ISO 22000 standard include the following (Arvanitoyannis and Varzakas 2009):

- optimized allocation of resources within all organizations participating in a supply chain,
- more effective communication among suppliers, customers and other interested parties,

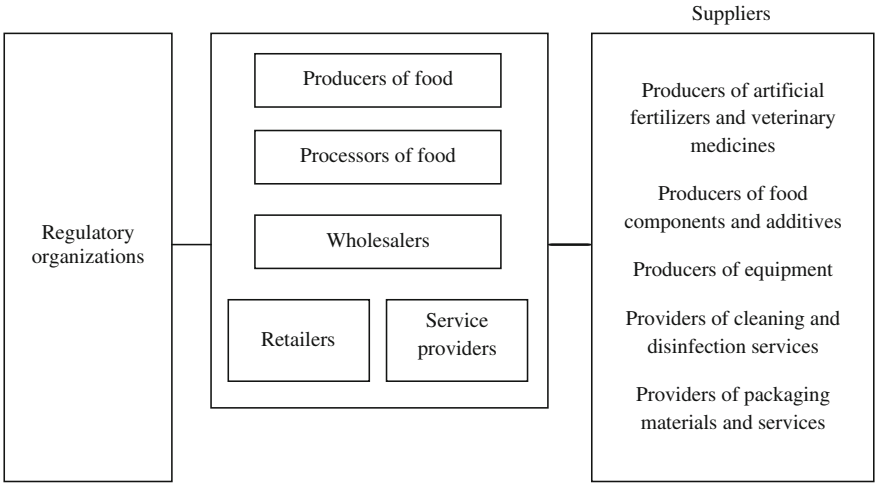

Fig. 4.2 The food chain. Adopted from (Surak 2007)

- incident prevention awareness,
- improved quality of management system documentation,
- increased trust in an organization inside and outside the food chain,
- facilitated harmonization of operations with national standards (in the case of international firms),
- replacing a product focus with a systemic approach.

According to the ISO 22000 standard, food safety assurance is possible due to the following four key elements (ISO 22000 2005):

- interactive communication (both internal and external),
- system management,
- a prerequisite programme,
- the application of HACCP principles based on the Codex Alimentarius.

The ISO 22000 standard comprises eight chapters, with only Chaps. 4–8 dedicated to management system requirements. A summary of these requirements is presented below.

The Food Safety Management System
This part of the standard specifies general requirements as well as issues relating to monitoring documentation and records.

Management Responsibility
Management responsibility is covered by eight detailed requirements related to the following: commitment, establishing a food safety policy, undertaking planning activities, determining responsibilities and powers, appointing a food safety leader, ensuring effectiveness of the communication process, incident readiness and management reviews.

Resources Management
There are four detailed requirements related to resources management: availability of resources, human resources management, infrastructure management and working environment development.

Planning and Realizing Safe Products
These requirements include the following: general requirements, a programme of preliminary requirements, an analysis and risk assessment, the establishment of operational programmes of preliminary requirements, the establishment of an HACCP plan, updating preliminary information and documents related to both types of plans, verification of planning, an traceability system and the monitoring of irregularities.

Validation, Verification and Improvement of a Food Safety Management System
The requirements applicable to this area comprise the following:

- general requirements,
- validation of measurements and controls,
- supervision of monitoring and measurements,
- verification of a system by means of tools such as audits, evaluations of individual verification results and analyses of such results,
- improvement in the form of continuous activities and updates.

A characteristic tool used in food safety management systems based on ISO 22000 is a programme of preliminary requirements. This type of programme usually comprises the following issues (Surak 2007): (1) a production plant together with the structure and layout of buildings and operating areas, (2) air, water and electricity supply systems, (3) external waste disposal services, (4) the usability and availability of maintenance and cleaning equipment, (5) the inspection of purchased materials, (6) pollution prevention measures, (7) pest and vermin control, (8) employees health and hygiene issues, (9) environmental monitoring, (10) chemical inspection, (11) glass and plastic materials inspection, (12) searching for and recalling products from the market, (13) complaints handling procedures, (14) labelling, (15) employee training and competencies.

The ISO 22000 standard is highly compatible with ISO 9001, however, as:

- it does not allow any exceptions to its requirements,
- full compliance with legislation is required,
- an organization has to prove that food safety is ensured by achieving objectives,
- an organization has to establish crisis management procedures,
- an organization's needs are precisely defined by programmes of preliminary requirements,
- programmes of preliminary requirements lead to the use of various management instruments,
- a food safety hazard analysis must be carried out during the product realization planning stage,
- an organization has to establish product recall procedures,

- the traceability system obliges an organization to monitor product components and ingredients from direct suppliers through production processes to product delivery to consumers,
- in the case of products that are not subject to specific safety regulations, all hazards must be eliminated or reduced to an acceptable level.

4.2 Concept and Methodology of Integration

An important trigger for integrating normalized management systems was the adoption of the Malcolm Baldridge National Quality Award criteria in 1997 for organizations' successful completion of the process of integrating performance management systems (Karapetrovic and Willborn 1998). Since this time the organizations responsible for developing standards have also become the recipients of requests for management systems integration.

The Concept of an Integrated System

For the purpose of further discussion, it is important to review what is meant by an integrated management system. We should start by defining a system. According to one definition, "when parts, resources, activities or processes perform interdependently within a unity, this unity is viewed as a system" (Karapetrovic and Willborn 1998). One of the factors that best define a system is a system's objective or objectives. The objectives can thus be used to define not only a system as such, but also its conventional limits. A proper determination of a system's objectives leads to the following activities (Karapetrovic and Willborn 1998):

- Assessing the objective taking into consideration the objective of the organization, its long- and short-term strategies, as well as its feasible capacity.
- Designing the set of processes, resource requirements, technology, timing and interrelationship of these in order to meet stated objectives.
- Obtaining human, material, financial and other resources, and provide training, hiring and out-sourcing as required.
- Deploying resources as planned when performing the processes and monitoring performance,
- Proceeding with processing as planned, checking progress and implementing corrective/preventive measures,
- Assessing the output of individual processes against suitable criteria,
- Comparing the final output of the system against the original objective and its individual requirements and characteristics. Analysing any deviations and potentially redesigning the system, including its stated objective.

A framework model of a system which is derived from determining objectives is presented in Fig. 4.3.

However, an integrated management system is one that combines management systems by applying an employee focus, a procedural view and a systemic

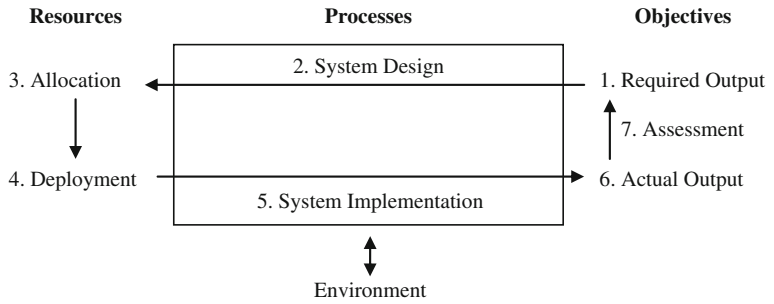

Fig. 4.3 Framework of a system derived from a well-stated objective. Adapted from Karapetrovic and Willborn (1998)

approach, and that makes it possible to implement all relevant management standards practices into one single system. Integration generates "a system of the systems", with the objective of using the existing synergies among those standards/systems when developing and implementing a managerial system (Satolo et al. 2013). One characteristic feature of an integrated management system is that, unlike non-integrated systems, it ensures an organization's compliance with all applicable international and local standards and regulations.

It should be noted that the development of integrated management systems is usually the result of the existence of visible and strong interrelationships between one management system and other systems which appear in different forms and directions. These interrelations may possess either an internal or external dimension. For example, an organization's quality management system may have interrelationships with various other management systems such as environmental management systems, OHS management systems, etc. In the external dimension, this type of system maintains interrelationships with the quality management systems of other organizations, e.g. customers and suppliers. The internal dimension of an integrated management is, of course, easier to develop.. This does not mean, however, that such practices cannot be applied externally, e.g. within the scope of supply chain management. It must be emphasized that the creation of an integrated management system may involve the integration of systems alone, the integration of standards or the integration of both systems and standards. According to some researchers (Karapetrovic 2002), organizations interested in operating an integrated management system may primarily pursue the integration of standards, which results in the creation of generic management system standards, or the adaptation of intrinsic management system standards and their adjustment into integration requirements. Furthermore, in view of the current practices related to the integration of standardized management systems, only clear differences between the comprehensive integration of systems and the integration of audits alone are highlighted. Taking into consideration the four variables stated, we obtain the following four integration options:

- In the case of the integration of standards for complete management systems, a generic management system standard, which means a relatively low level of integration.
- In the case of the integration of standards related to audit procedures alone, a generic audit system standard, which also indicates a relatively low level of integration.
- In the case of the integration of complete management systems, an integrated management system, which is the highest possible level of integration.
- In the case of the integration of internal audit systems based on different standards, an integrated audit system, which is a sign of a relatively high integration level, but only with respect to audits.

Reasons for Integration

The potential for integrating standardized management systems alone does not explain why organizations would pursue such integration. Identifying these reasons is very important because, on the one hand, it reveals managers' motivation and on the other, because it may constitute a basis for evaluating the effects of implementing an integrated management system. The major reasons for the introduction of an integrated management system are (Khanna et al. 2010): customer pressure, improved image, improved competitiveness, continual improvement, cost-reductions, documentation sharing, eliminating redundancies, the creation of synergies and improvement in employees' awareness. As is evident from the list above, there is strong diversification in the reasons for integration.

Strategies and Approaches to Integration

Strategies and approaches to the implementation of integrated management systems do not need to be homogeneous.

For example, according to the first typology, we can distinguish the following approaches to integration (Satolo et al. 2013):

- integration focused on systems approach:, an integrated management system enables a high and uniform degree of integration of the management systems throughout all the levels of organization, based on the identification of the stakeholders and their requirements
- integration focused on a techno-centric approach: an integrated management system matches common elements of the management systems, aligning documentation, and operational procedures based on the need to meet external demands.

Table 4.4 presents an even wider set of approaches to integrated management systems.

Of the approaches mentioned above, it is the systems approach that deserves particular attention. The very nature of this approach determines its holistic role in integration processes. Moreover, it reduces the risk of omitting any stakeholders who are interested in an organization's activities. This approach ensures (Asif et al. 2010):

Table 4.4 Selected methods of and approaches to management system integration

Approach/methodology	Description
Sequence of integration	Describes the sequence used to organize an integrated management system
Systems approach for integration	Business is viewed as a single amorphous system that changes its shape depending on the prevalent stakeholders and objectives to be achieved
Stepwise approach to organizing an integrated management system	Integration can be carried out in a stepwise manner where it proceeds from partial to complete integration
Integration at various hierarchical levels	Integration needs to cover activities at all hierarchical levels in the organization
Integration through a generic management standard and auditing	Integration is carried out initially through the creation of a generic management standard to support integration. It is further augmented by auditing the integrated management system
Other means to facilitate integration	Integration could be facilitated through audits, business performance measurement, and business excellence models
Integration through a total quality approach	Use of integrated resources to achieve the satisfaction of all stakeholders while operating in the context of a total quality culture
Enhancing the management system standards	Organizations could integrate and enhance the existing and prospective MS standards through three different approaches: ascension, augmentation and assimilation
Integration of augmenting standards	Integration of augmenting standards enhances the performance of the overall quality management system. This requires integration of both structure (such as PDCA) and contents (such as processes, resources and objectives)
Process embedded design of integrated management system	Integrated management system is designed around the core processes focusing on stakeholder requirements. The transformed core processes are then integrated with mainstream management systems to form one composite and holistic integrated management system

Adopted from Asif et al. (2010)

- that relevant stakeholders are identified upfront and their requirements are determined when designing the integrated management system,
- that no stakeholder is adversely affected in an attempt to benefit others—for instance, the interests of the wider community are not sacrificed in an attempt to fulfil the needs of stakeholders.

A framework model of the system approach to integration of management systems is presented in Fig. 4.4.

The introduction of the systems approach to the integration of standardized management systems is inseparable from the need to apply meta-management of sub-systems. Meta-management of integration is characterized initially by identifying stakeholders as the primary focus of the business enterprise. Furthermore, all

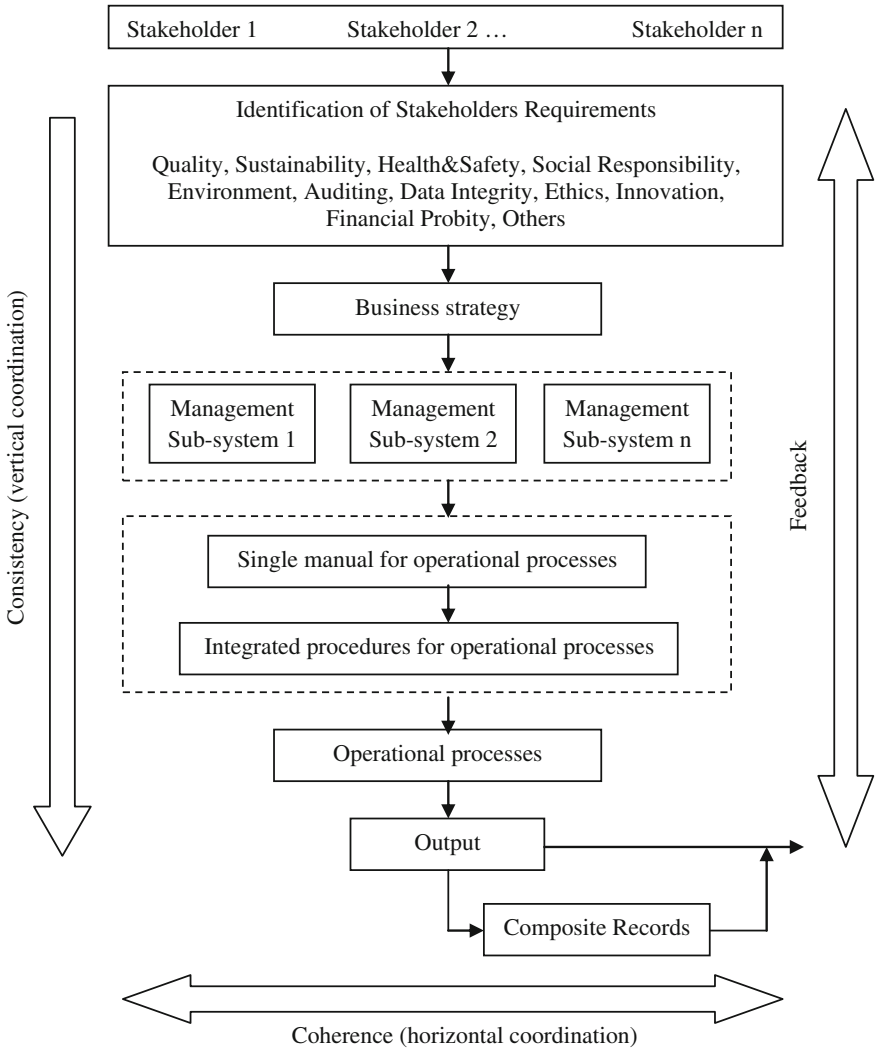

Fig. 4.4 A framework model of the systems approach to the integration of management systems. Adopted from Asif et al. (2010)

management sub-systems should be considered as having a supportive role with respect to the business management system. Finally, the meta-management approach promotes double-loop learning.

Approach to Integration in PAS 99:2012

PAS 99 is the most popular and useful standard for integrating standardized management systems. It was released for the first time in 2006 and its current version was published in 2012. The essence of this standard is to adopt the

assumption that management systems have common elements which can be managed in an integrated way. PAS 99 can be applied by organizations which are implementing the requirements of two or more management system standards. At the same time, it should be noted that achieving compliance with the PAS 99 standard does not automatically entail compliance with the standards of management systems undergoing integration because such systems are characterized by their own individual specific requirements which are not shared with other systems. The standard's authors identify the following major advantages as resulting from its application when implementing management systems (PAS 99 2012):

- improved business focus,
- a more holistic approach to managing business risk,
- less conflict between individual management systems,
- reduced duplication and bureaucracy,
- more effective and efficient internal and external audits,
- simpler facilitation of the requirements of any new management system standard that the organization wishes to adopt.

The philosophy of applying the PAS 99 standard is illustrated in Fig. 4.5.

Figure 4.5 presents the essence of integration for the following selected management systems: quality management systems (QMS), environmental management systems (EMS), occupational health and safety management systems (OH and SMS) and other management systems (OMS).

It is much easier to identify the common requirements of management systems undergoing integration if the structures of requirements specified within standards are the same or very similar. In this respect, the approach applied in PAS 99 is based on the convergence of management system standards. It is increasingly the case that such standards are characterized by the structure of requirements as presented in Fig. 4.6.

The sequence of the requirements presented corresponds to the PDCA cycle. The authors of PAS 99 are right to note that most contemporary management system standards represent a risk based approach. Risks could have positive or negative impacts upon objectives (PAS 99 2012). Implementation of an integrated management system increases the likelihood that opportunities will be grasped and the impact of threats reduced. Risk management by means of an integrated

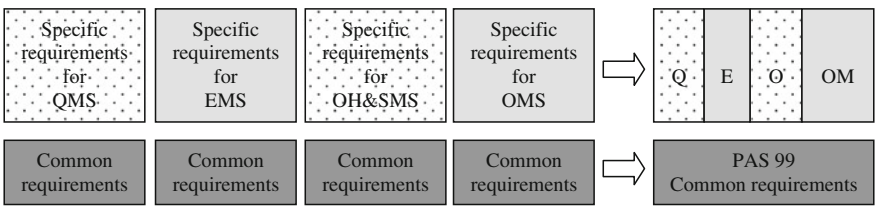

Fig. 4.5 The philosophy of applying the PAS 99 standard when integrating management systems. Adopted from British Standard Institution (2013)

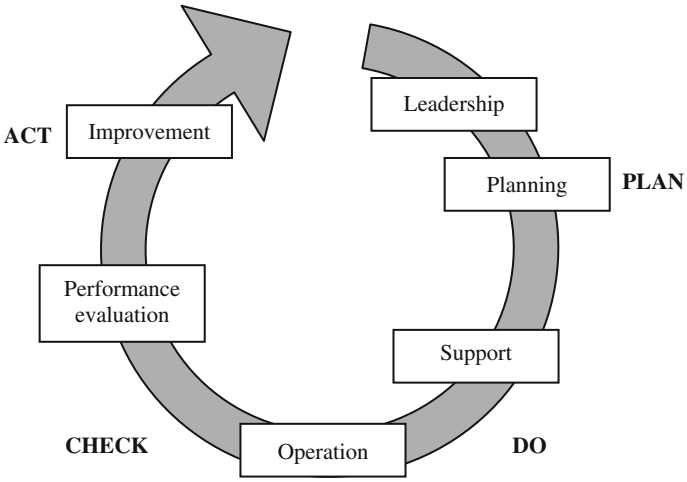

Fig. 4.6 The framework structure of requirements in management systems undergoing integration

management system is oriented towards decision making processes, which ensure both the implementation of an organization's policy and facilitate the fulfilment of stakeholders' expectations.

4.3 Integration in the Implementation Process

There are different approaches towards implementing an integrated management system. However, the most important are those that emphasize the procedural sequence adopted by an organization's management. The following approaches to the implementation process can be distinguished based on empirical research comprising observation of practices followed by organizations who have implemented integrated management systems (Karapetrovic 2002):

- First QMS, then other system,
- First EMS, then other systems,
- Simultaneous QMS and EMS, then other systems,
- Common integrated management system core, followed by modules.

The first approach is very frequently employed because of the considerable popularity of quality management systems. Many organizations therefore start by implementing this management system alone. It is relatively easy to implement further requirements, for example those of EMS or OH and SMS on the basis of the ISO 9001 requirements. Such integration initially involves complementing the scope of existing practices that are related to the fulfilment of common requirements and subsequently implementing the individual requirements of another standard.

The second approach is similar to the first one. The only difference is the order in which particular standards are implemented. This order is determined by the underlying reasons for EMS implementation (usually corporate guidelines related to a CSR policy).

The third approach comprises an organization's simultaneous implementation of both QMS and EMS requirements, and thereafter the requirements of other standards. It should be noted that this approach is based on the assumption that an organization can expect expects a form of synergy effect from the initial stage of implementing the management systems. At first the implementation process comprises the common requirements of QMS and EMS; this is followed by the implementation of their respective individual requirements and, finally, the requirements of the remaining standards.

The fourth approach, which is similar to the third, starts by identifying and designing the common elements of an integrated management system. The subsequent stage comprises the incorporation of function-specific modules. Compared with the other approaches, this approach has the following advantages (Karapetrovic and Willborn 1998):

- establishment of an integrated and optimal performance management system from the start,
- more comprehensive involvement of all interested parties,
- reduced use of multiple resources,
- implementation of synergy effects from the total development of all systems,
- harmonization and unified problem solving from the start of the project,
- improved cost effectiveness,
- increased flexibility and potential for including other systems.

It should be emphasized that the PAS 99 standard, which has been discussed above, can be implemented using any of the four approaches. However, this standard's philosophy is best adjusted to the third and fourth approaches.

4.4 Consequences of Integration

Benefits Resulting from Integration

Research into the implementation of integrated management systems indicates that this to management approach can generate a number of benefits. For example, the following positive consequences of the implementation of integrated management systems have been identified based on a review of proposals put forward by various authors (Satolo et al. 2013):

- reduction in costs (9 responses),
- reduction in bureaucracy (9 responses),
- elimination of redundancy (8 responses),
- improvement of effectiveness and efficiency (8 responses),

- harmonisation of documentation (7 responses),
- simplification of standards and requirements (4 responses),
- competitiveness (4 responses),
- alignment of resources and objectives (7 responses),
- compliance with regulations (4 responses),
- improvement of the work environment (3 responses).

The results of research carried out into India's manufacturing organizations suggest that a different list of benefits arise from the implementation of an integrated management system. These benefits are as follows (Khanna et al. 2010):

- reduction in duplication of policies, procedures and work instruction,
- reduced costs,
- synergy between systems,
- time saving,
- simplified documentation,
- fewer procedures and less paperwork,
- multi-functional audits,
- improved decision-making process,
- greater transparency,
- clearer responsibility,
- better-structured processes,
- enhanced effectiveness,
- higher awareness and acceptance,
- improved communication,
- improved image with customers,
- competitive advantage.

The above list of benefits implies that integrated management systems have a considerable impact on the conditions of the organizations which have implemented them. A positive impact can be observed, for example, in the internal structures of the organizations which participated in the research. Furthermore, benefits appear in market-related areas and relationships with the environment. Such benefits have organizational, economic, effectiveness or efficiency dimensions. They contribute to an increase in the productivity and effectiveness of the processes performed. It is also possible to note close correlations between the benefits of implementing an integrated management system and the aforementioned reasons for such implementations. This confirms the positive intuition and foresight of many managers who are able to correctly define the actual benefits of potentially risky undertakings.

Difficulties of Integration

The implementation of an integrated management system in an organization is neither a simple nor neutral process. Many difficulties have to be overcome before the benefits above can be achieved. These difficulties are identified in the same way as the benefits, i.e. on the basis of an analysis of opinions presented by authors specializing in the topic of implementing integrated management systems. The major difficulties identified in their responses are as follows (Satolo et al. 2013):

- difficulty in finding common issues (6 responses),
- lack of experience (6 responses),
- legal compliance (4 responses),
- interpretation of standards (3 responses),
- barriers to changes (2 responses),
- time restrictions on implementation (2 responses),
- ignoring interrelationship between stakeholders (2 responses),
- lack of understanding of benefits (2 responses),
- lack of top management support (1 response),
- insufficient integration of standards (2 responses).

Some of the difficulties relate to objective problems, such as lack of knowledge and experience amongst those people responsible for integration. Others are problems that are typical for all such undertakings, such as a lack of motivation and commitment or traditional barriers to changing processes.

Services Related to Integration

The growth in the number of organizations interested in implementing or improving integrated management systems has been accompanied by the activities of numerous firms offering commercial services related this market segment. A few selected examples of such services are presented below.

Example 1. A service comprising a training course which introduces its participants to the issue of integrated management systems. A training firm offers introductory courses during which participants can learn the following:

- the meaning of an integrated management system,
- understanding the nature of an integrated management system when based on management system standards,
- the role of managers in developing an integrated management system,
- describing the difference between an integrated and combined management system,
- what other management system models are available, for example EFQM,
- planning the necessary steps to implement an integrated management system,
- combining the requirements of ISO 9001, ISO 14001 and OHSAS 18001.

Example 2. A service comprising a training course in effective implementation of integrated management systems. One consulting and training firm offers this type of training course. The syllabus comprises the following topics:

- understanding the requirements of ISO 9001, ISO 14001 and OHSAS 18001,
- interpreting ISO 9001, ISO 14001 and OHSAS 18001 clauses,
- planning an integrated management system set-up,
- developing each element of the ISO 9001, ISO 14001 and OHSAS 18001 requirements,
- effective implementation for each integrated management system requirement of the,
- monitoring and maintenance of the integrated management system.

Example 3. A service comprising a training course in auditing integrated management systems. A training firm offers a course for auditors of integrated management systems. Course participants can learn the following:

- understanding the difference between a single and integrated management system,
- recognizing the benefits of auditing multiple management systems at the same time,
- introducing an integrated approach to your business,
- confident planning of and conducting an integrated management system audit,
- reporting findings and providing guidance on corrective measures,
- helping an organization achieve more efficient audit processes.

Example 4. A training course in the certification of integrated management systems. One of the leading international certification bodies offers a service certifying integrated management systems. In describing the course, it emphasizes that certification of integrated management system can offer significant benefits, including:

- less disruption and duplication of effort,
- the potential for the client's management team to record a single assessment event,
- receipt of a single executive summary from a certification body following an inspection in which the certification body will highlight system improvements and any compliance issues which the client may face,
- integrated management certification service which is designed to take into account any future management system requirements which the client may have.

The examples of services presented above demonstrate their adjustment to various needs and various stages in the life cycle of integrated management systems. These services are targeted at different groups of potential buyers. In the case of training services, their target groups are managers, specialists and internal auditors. The certification service is targeted at organizations which have implemented more than one standard of management systems. In general, the common feature of these services is the promotion of an integrated approach to management and related benefits. The provision of these services may also be considered to be a factor in reducing the number and extent of difficulties related to implementing integrated management systems, including those discussed above.

4.5 Conclusions

An analysis of the content of this chapter provides the basis for the following conclusions:

1. Integration can apply to a large number of different standardized management systems related to various areas of an organization's activity. However, the

susceptibility of a system to integration depends to a large extent on the degree to which particular standards coincide.
2. Management system standards are similar to one another so far as the structures of their requirements are concerned. The currently observed phenomenon of the convergence of management system standards facilitates the integration of systems.
3. The integration of standardized management systems should occur within a broader context, taking into consideration the following aspects: stakeholders' requirements, an organization's general strategy, its functional strategies and hierarchy.
4. In practice, the integration of management systems can be facilitated through the implementation of the PAS 99 standard, which allows for the identification of the common requirements of management system standards and for the search for integrating solutions.
5. Various approaches can be adapted to the integration of management systems depending on the sequence of their implementation. However, the most advanced solutions are offered by the simultaneous approach, the common integrated management system core, and finally the modular approach.
6. If carried out properly, the integration of standardized management systems can bring an organization a number of benefits in areas which include effectiveness or operating costs.
7. A successful implementation of integration requires the crossing of many barriers which can be social or content-related in character.
8. Organizations intending to integrate their management systems can take advantage of various forms of professional assistance such as training, consultancy or certification services. The use of such services can have a positive impact on the awareness and knowledge of management and employees with regard to the intricacies of integration processes.

References

Arvanitoyannis IS, Varzakas TH (2009) Application of ISO 22000 and comparison with HACCP on industrial processing of common octopus (Octopus vulgaris). Int J Food Sci Technol 44 (1):58–78

Asif M, de Bruijn EJ, Fisscher OAM, Searcy C (2010) Meta-management of integration of management systems. TQM J 22(6):570–582

BSI Case Study Capgemini UK (2014) British Standard Institution

BSI Case Study Constain Group (2014) British Standard Institution

BSI Case Study Fredrickson International (2014) British Standard Institution

International Organization for Standardization (2009a) Environmental management. The ISO 14001 family of international standards

International Organization for Standardization (2009b) Selection and use of the ISO 9000 family of standards

ISO 14001 (2004) Environmental management systems—requirements with guidance for use

ISO 22000 (2005) Food safety management systems—requirements for any organizations in the food chain
ISO/IEC 27001 (2005) Information technology—security techniques—information security management systems—requirements
ISO/IEC 27001 (2013) Information technology—security techniques—information security management systems—requirements
ISO/CD 9001 (2013) Quality management systems—requirements
Jedynak P (2011) Znormalizowane systemy zarządzania. Modele, funkcje, wymagania, Wydawnictwo Uniwersytetu Jagiellońskiego, Kraków
Karapetrovic S (2002) Strategies for the integration of management systems and standards. TQM Mag 14(1):61–67
Karapetrovic S, Willborn W (1998) Integration of quality and environmental management systems. TQM Mag 10(3):204–213
Khanna HK, Laroiya SC, Sharma DD (2010) Integrated management systems in Indian manufacturing organizations. TQM J 22(6):670–686
British Standard Institution (2013) Moving from ISO/IEC 27001:2005 to ISO/IEC 27001:2013. The new international standard for information security management systems
OHSAS 18001 (2007) Occupational health and safety management systems—requirements
Quality management principles (2011) http://www.iso.org (accessed: 10 April 2014)
PAS 99 (2012) Specification of common management system requirements as a framework for integration
Satolo EG, Calarge FA, Miguel PA (2013) Experience with an integrated management system in a sugar and ethanol manufacturing unit. Manag Environ Qual (Int J) 24(6):710–725
Surak JG (2007) A recipe for safe food: ISO 22000 and HACCP. Qual Prog 10:21–27
Williams R, Bertsch B, Smith M, Visser R (2006) Quality and risk management: what are the key issues? TQM Mag 18(1):67–86

Chapter 5
Integration in Different Organizational Situations

This chapter discusses selected issues related to crisis management, changes and social games. Each sub-chapter identifies relationships between different types of crises, changes or social games and integration processes which mainly occur in the social or interpersonal area. The discussion addresses relationships between crisis and integration as well as conditions necessary for the emergence of social integration during crisis. Special attention is paid to top management, in terms of appropriate attitudes and forms of behaviour, as well as communication strategies and mutual learning processes which can develop between those responsible for crisis resolution activities. Crisis management cannot be limited to just one group of actions (e.g. maintaining channels of communication with the environment). Therefore, the chapter stresses the importance of systemic crisis management: that is, management which is based on a comprehensive set of activities undertaken within a social, technical, organizational or economic system (Table 5.1).

The section entitled "Integration in organizational change" presents conditions for effective change implementation. Effective changes are those which are consistent with planned objectives. On a basic level, effective changes do not result in a deterioration in organizational integration and may lead to greater integration among people, structures or processes. As with crisis management, it is necessary to ensure that changes take into consideration the appropriate allocation of resources and the integration of identified product realization processes with human, financial or technical resources. This section highlights several selected areas of research which address relationships between changes and integration (e.g. organizational merger processes, the integration of quality management systems with management concepts or social integration processes). The role of technological changes is identified at the end of this sub-chapter. The sub-chapter on games describes factors facilitating games played by various stakeholders. A brief review of basic games reveals that each game consists in the alternate application of various integrating and disintegrating strategies. Additionally, the discussion considers the player's role in integration (in accordance with Michael Maccoby's typology) and top management in local government organizations. The focus on local government

M. Bugdol and P. Jedynak, *Integrated Management Systems*,
DOI 10.1007/978-3-319-10028-9_5

Table 5.1 Crisis-related activities

System	Activities	Limitations
Technical and operational	Ensuring alternative means of providing supplies. Maintaining crisis warehouses. Securing machinery (e.g. during a flood, machinery is raised towards the roof of a building). Securing work-in-progress. Developing alternative means of key processes organization	Technical and operational solutions are frequently very expensive and not always possible to implement
Social	Using services of temporary employees. Ensuring quick responses of crisis teams. Implementing preventive measures (e.g. determining competencies necessary in crisis situations, training in crisis situation resolution). Securing alternative means of communication	A serious limitation is the changeability of human behaviour
Economic	Insurance coverage for property, commercial transactions and employees. Undertaking preventive activities (e.g. safeguarding one's own "financial house," alternative means of access to financial resources)	Resources allocated for prevention are not used in everyday operations
Market	Maintaining a continuous and open communication with customers. Making attempts to cooperate with competitors (in selected areas). Drawing conclusions from messages provided by customers. Conducting analyses of how communication is received. Creating alternative distribution networks. Developing a PR strategy for crisis situations	Reliability of information, weakness of research methods

Source Author's own research

organizations is of significance because the majority of town or city mayors and province governors have to integrate the interests of a disparate range of groups as a result of the structure of local government organizations.

5.1 Integration During Crisis

One of the more interesting areas of research concerns the relationship between crisis and integration. Extreme disintegration can be equivalent to a crisis. However, when a crisis occurs, processes of integration and disintegration most often occur in those parts of an organization which are not usually affected by such processes during periods of non-crisis. A strong integration of a single selected

social group functioning within a larger organization or a single entity within a virtual organization can also cause a crisis.

5.1.1 Crisis and Its Types

For some time, strategic crisis management has been considered an important element of successful business. This perception has mainly been carried on a rising tide of existential threats, including natural disasters or global terrorism. There are various interpretations of the notion of "crisis management." These result from, firstly, the existence of different types of crisis and secondly, the fact that crisis management can aim at preventing crises (e.g. by establishing contingency procedures) or taking advantage of opportunities resulting from global or financial crises. When promoting their services, some consultancy firms claim that crisis management decreases operating costs. This can easily be proved by estimating losses incurred as a result of a crisis, or expenditure on new organizational solutions implemented following a crisis. It is generally believed that employee crisis training, contingency planning and establishing crisis teams allow an organization to avoid losses and prevent threats to life and health.

A crisis is an event which is unexpected and sometimes unpredictable. Researchers generally agree that a crisis is a turning point in the activities of any organization; a crisis can have either positive or negative consequences. A crisis can be defined in terms of the following factors (Xu and Li 2013):

- it usually entails serious consequences,
- it is an unexpected event,
- those people managing a crisis are exposed to time limitations
- it constitutes a threat to an organization's fundamental values.

Crisis management is a set of various methods, principles, procedures and operational tools which have been developed to allow an organization to deal with crisis situations in the most effective manner. Crisis management cannot be limited exclusively to management procedures, although such procedures often refer to behaviour, communication and prevention. Effective crisis management requires the integration of psychological, social-political, and technological-structural factors (Pearson and Clair 1998). There are many different types of crises. For example:

- natural crises—caused by floods, tsunamis, earthquakes or other natural disasters,
- external crises—caused by external factors, for example terrorist attacks,
- organizational-technological crises—caused by unplanned and unexpected failures in technological processes or poor and destructive work organization,
- personnel crises—caused by poor management, bad employee selection, improper employee competence evaluation, but also family or personal situations,

- leadership crises—occurring when managers are unable to lead, motivate or maintain a necessary level of employees' commitment,
- cultural crises—resulting from a decline of values, excessive cultural diversification, rejection of standards, cultural disintegration, etc.

With respect to duration and impact, it is also possible to distinguish the following types of crises:

- sudden crises—occurring suddenly without any warning signs (their duration can vary greatly),
- long-term crises—lasting from a few months to even a few years,
- moderate crises—which do not destroy an organization, but disturb its natural rhythm,
- acute crises—the consequences of which can be dire for an organization.

Due to interdependencies between financial and economic systems, crises can be contagious: that is, they can occur first in one system or sector and subsequently spread across the whole economic system.

When considering the concept of integration, it is impossible to ignore the range of integration opportunities that are created by different types of crisis. Natural crises are usually related to social and network integration. Employees form social groups, usually for the purpose of achieving a sense of security and in order to effectively manage an emergency situation. Network integration involves establishing various systems between organizations which are cooperating on the resolution of a crisis situation (these can be governmental organizations, non-governmental specialist consultancies, suppliers or customers).

A leadership crisis can lead to the integration of social groups functioning within the same organization. Sometimes these are groups of people who are dissatisfied with weak leadership, intending to save their organization. In some cases, however, the aim can be simply to seize control.

A cultural crisis is one of the worst types of crises. Its resolution takes a long time. At the initial stage, the integrating effect is usually achieved due to the introduction of strict procedures or the strengthening of control. A cultural crisis frequently necessitates the application of normative integration methods.

An evaluation of the sources of a crisis is also important for integration processes. Natural crises for which employees bear no responsibility can serve as a force for unification. The same, however, cannot be said of crises resulting from poor management. For example, the notion of a turnover crisis is sometimes used in management practices. Employees dissatisfied with working conditions or interpersonal relations leave an organization at the first opportunity.

All crises are inter-related. A leadership crisis is a crisis of decision making; a cultural crisis can contribute to the emergence of an identity crisis, etc. It is also impossible not to mention a crisis of trust, which is a common phenomenon in contemporary organizations. Employees do not trust their supervisors because the latter exist as if they were beyond the reach of the former. Managers are too deeply

involved in defending their own positions or implementing strategies. They are therefore not able to inspire trust.

A crisis is a situation when traditionally accepted or formal methods and standards of management fail. It is a situation when it becomes increasingly difficult to foresee the consequences of performed actions. A crisis should be a temporary phenomenon. It is assumed that every crisis can be overcome and will eventually reach a conclusion. However, in the case of organizations, a crisis can be the beginning of the end. A crisis also occurs in the event of a decline in ethical qualities or values. Then customers' trust in the firm is a determining factor in its reputation and sometimes even its survival. This is also true of trust in the values held by the firm.

5.1.2 Integration Versus Crisis. Conditions of Integration

Many interesting relationships occur between integration and a crisis situation. Firstly, it should be remembered that a crisis changes interpersonal relations and can cause disturbances in interactions among employees. Such disturbances can continue long after the end of a crisis. Therefore, social and particularly emotional integration plays such a significant role in crisis management. A crisis cannot be perceived as lacking in a solution. It is a perfect opportunity for an adjustment of behaviours and the development of new relationships between particular stakeholders. A crisis reveals these positive and negative behavioural qualities which have so far remained hidden.

Secondly, the effectiveness of social integration depends on its entry level, that is, on the existing level of integration before the occurrence of a crisis. For example, it is known that a low integration level can be a reason for a crisis. A crisis can frequently be resolved by means of predetermined management procedures, but disturbances in interpersonal relations still remain. These cause a reduction in efficiency and result in dysfunctional behaviours (Kahn et al. 2013). This can happen if procedures have not been developed in compliance with the adopted principles (they were prepared too quickly, without any participation on the part of interested employees, or they were not practised or improved). Furthermore, negative consequences will be intensified if procedures have been developed in a poorly integrated environment or a climate of distrust. Thirdly, a crisis can be a perfect opportunity for social integration because in time of crisis people are frequently forced to cooperate irrespective of existing prejudices or antagonisms. Therefore, a crisis situation can bring people closer together, especially when "everybody feels they are in the same boat."

And finally, a crisis is a source of integration. This happens, for example, in financial markets where a crisis can facilitate the integration of financial systems. The economic crisis of 2008 revived the discussion of monetary integration.

For social integration to occur during a crisis, many conditions need to be fulfilled. The authors, however, highlight only the most important of them. Firstly,

top management has to express relevant attitudes and behaviours; secondly, an organization has to have a well developed communication strategy; thirdly, as part of the social integration process, it is necessary to take into consideration both mutual learning processes and opportunities offered by other entities participating in the resolution of crisis situations (e.g. governmental organizations providing assistance to businesses).

5.1.2.1 The Role of Management in Crisis Management

Lalonde (2004) identified three archetypes of crisis managers: collectivists, integrators and reactives.

In their activities, collectivist managers take into consideration existing needs (e.g. those of a local community). They are flexible in their behaviours and are capable of adjusting to particular situations. They aim at maintaining direct communication and establishing social consultations, taking into consideration the current objective. Collectivist managers delegate decision making powers, are aware of how to build strong teams, and follow the collective style of management. This management style does not necessarily entail a departure from hierarchical structures. According to Lalonde, such managers deal very well with crises and strategic planning. There are three sub-types of collectivist managers:

- humanists oriented towards satisfying the needs of their customers or colleagues,
- pragmatists who execute all tasks, taking into account existing needs and continual collaboration,
- anti-conformists favouring best practices, sometimes at the expense of established policies and procedures, convinced that such actions are appropriate and more efficient.

Integrators are mainly oriented towards the application of best practices. Their vision and objectives include the needs of customers and employees. Their behaviours are described as process-centric and rationalizing with regard to both the delegation of powers and the mobilization or use of resources (Olejarski and Garnett 2010). In strategic planning, they take into account the processes of power delegation and task team building on the basis of a set of identifiable skills. Integrators are managers who try to take into account an organization's needs and its employees' skills. Their goal is to ensure that already held competencies will be utilized at a time of crisis. Integrators are generally effective in their activities, but may sometimes fail, mainly because they lack a sense of urgency, which results from their emphasis on best practices (Olejarski and Garnett 2010). Integrators can be divided into the following types:

- mobilizers who possess outstanding strategic planning skills,
- experts who verify implemented strategies and are skilled in reporting and initiating innovative solutions,

- peripheries who take into account normative requirements and respect the need for concrete planning and competencies which are necessary in crisis management.

Reactive managers are spontaneous and react quickly to problems as they occur. Their style of work exerts pressure on other members of an organization to react fast. Their activities do not include any operational plans.

The division proposed by Lalonde (2004) and described in detail by Olejarski and Garnett (2010) is in fact applied to local communities, but it can also be used successfully to describe production or service firms. It is worth noting that integration skills are a characteristic of both collectivist and integrating managers. Collectivists use techniques leading to the integration of employee groups. They are able to integrate various pieces of information or data into a single coherent strategy. They take resource allocation decisions after considering particular needs, a method which is consistent with the principle of the process approach used in quality management. Their management style is characterized by clarity. They maintain direct relationships with other people, while simultaneously ensuring that all possible channels of communication are available at any stage. Thus collectivist managers are capable of maintaining a transparent communication structure. Such a management style facilitates communicative integration.

Integrating managers are different from their collectivist counterparts (their cooperation with others is not so close), but their role is to maintain a proper level of integration by ensuring the availability of best key competencies necessary at a time of crisis. Their behaviours facilitate social integration due to the application of various competencies or the delegation of powers.

In discussions concerning different archetypes, management styles or types of leaders, it should be remembered that the effectiveness of various management tactics depends on a number of factors, for example, the quality of leadership. Are employees sufficiently convinced that their leaders possess the knowledge necessary to tackle various types of crisis? Social psychology assumes that during crisis, people need authorities or specialists in particular fields. They need experts they can trust. Is it possible, however, to consider all managers to be experts?

For management's activities to be effective, a number of conditions have to be fulfilled. Bearing in mind the length of this text, just a few selected issues can be highlighted.

Firstly, the typical power distance between employees and their superiors cannot be too large. Research indicates that a high power distance can constitute an obstacle for overcoming crisis situations (Koc 2013). However, differences emerge between the behaviours of people who deal with a crisis situation without knowing the results of their efforts, and those who are already aware of the effects of their cooperation, for example, in terms of incurred losses. In such cases, it is highly probable that integration will occur. (See the example below).

ZEW SA was a world-famous manufacturer of cathode blocks and blast furnace linings. In 1997 the company was hit be a catastrophic flood. The explosions of the graphitization furnaces resulted in huge losses which included most of the company's specialist equipment. Work-in-progress and all inventories, including expensive anthracite, were destroyed. Under such circumstances, people who had originally been in conflict with one another started to cooperate. It emerged that the fiercest opponents were able to overcome their mutual animosities and start a new stage of cooperation under the influence of a natural disaster. In this case the sources of integration were common objectives and losses incurred.

Secondly, in pursuing integration, we should take into account various stages in the course of a crisis, including activities undertaken by an organization following the conclusion of the situation. This period is usually characterized by uncertainties. For example, it is widely accepted that customers express uncertainty with respect to the quality of delivered products. The same uncertainty can emerge amongst employees. Therefore, one of the management's tasks is to reduce uncertainty. In this case, simple mechanisms adapted from quality management systems are often applied in order to motivate employees, such as informing them of the effectiveness of actions undertaken. Extremely positive results can be achieved as a result of the direct participation of all employees in quality improvement processes. Following the impact of various natural or technological crises, more opportunities for taking preventive and corrective measures become available. Joint work on quality and marketing issues is the source of social integration.

Thirdly, ensuring the same hierarchy of importance with respect to different stakeholders is vital, a point which has already been emphasized by the TQM concept. When employees are considered as important as other stakeholders, there is a stronger tendency to confirm their role in resolving an employee-related social crisis. This is less likely to occur if employees are considered to be less important or to constitute a lesser organizational asset. The following case study concerning the company Foxconn supports such a conclusion.

During the first 5 months of 2010 as many as 12 Foxconn employees committed suicide. However, the company would not accept responsibility for these tragic events. "Foxconn's failure in the crisis was due to its imbalanced stakeholder relations that failed to recognize employees as important stakeholders" (Xu and Li 2013, p. 371).

Finally, the resolution of a crisis situation is much easier if there is a high level of trust, but it can be difficult to determine the optimum level as one that is neither too high nor too low. It may sometimes occur that crisis resolution is hindered by the effect of excessive trust in competence. Paradoxically, such an effect is strengthened where an organization takes care of crisis management and organizes a range of training courses dealing with appropriate behaviours in crisis situations. Those employees who are convinced that they can completely trust managers can be quickly disappointed. The same can be said of normative trust, because it emerges that many procedures created in organizations fail to achieve their goals. Some

procedures are based on knowledge from the past or from other organizations, and refer to obsolete situations. Furthermore, in crisis situations, not everybody follows procedures and emotions can gain the upper hand.

5.1.2.2 The Integrating Role of Communication

Coombs (2007) has declared that an effective crisis response should comprise three components. Firstly, stakeholders should be instructed as to how they should behave in order to prevent any loss of health or life (how they should physically protect themselves). Secondly, it is necessary to disseminate information about a crisis itself, its causes and development. Thirdly, information which can contribute to the rebuilding of an organization's reputation is of particular importance.

Specific detailed strategies can be based on the following elements (Coombs 2007):

- denial posture—attacking the accuser; adopting the role of a scapegoat; denying that a crisis exists; attempting to separate oneself from a crisis;
- diminishment posture—justifying or rationalizing a crisis;
- rebuilding posture—apologizing; compensating; attempting to restore reputation;
- bolstering posture- e.g. ingratiation, victimage.

When implementing various communication strategies, it is important to remember:

- not to create a communication gap between what really happens and what is communicated to stakeholders,
- to ensure communicative coherence: that is, information acquired from various sources cannot function in isolation,
- to take into consideration cultural differences existing between particular countries or stakeholders' organizations (particularly in multicultural environments),
- to take into consideration diversified organizational management methods, for example, the level of empowerment can influence the style of crisis situation resolution.

The use of various communication strategies must coincide with management ethics. The denial posture does not make any sense if a crisis results from the management's unethical behaviours. The use of an apology makes sense only if a crisis results from accidents which are beyond the management's control.

Corporate communication strategies used in a time of crisis depend on value systems and on whether employees' importance as stakeholders is comparable to that of customers or owners. However, the initial level of integration is important for the effectiveness of communication during a crisis. Employees acquire knowledge about a crisis from the media, through conversations with colleagues or other external sources (e.g. the management's official announcements). Employees

react in different ways to acquired information: they can experience shame or hopelessness, or they may adopt defensive attitudes. However, research shows that the effectiveness of various communication forms depends on the level of employees' identification with their organization. During a crisis a special role can be fulfilled by internal communication. Openness and constant internal communication can stabilize a crisis situation (Korn and Einwiller 2013).

Forms of communication change during the course of a crisis. For example, it is believed that the transfer of information should not only be the domain of management, but also of other stakeholders. Lack of information can generate dangerous gossip; therefore it is recommended that information concerning the sources of a crisis and its resolution should be communicated by owners or shareholders, especially those who feel a particular responsibility for the organization because they hold a large number of shares.

One element of a communication strategy is the continual pursuit of the most appropriate methods of communication in crisis situations. Analyses of reports prepared by specialist organizations can help in identifying activities which can be considered as benchmarks, or models to be followed.

For example, in 2013 the consultancies Open Road and Populus selected Tesco as a corporation which manages its communication activities very well in crisis situations. It should be remembered that in 2013 Tesco customers were informed that its hamburgers contained horse meat. Tesco's communication strategy included an email response from chief executive Philip Clarke. At the same time, the corporation established a special website dedicated to the horse meat scandal which was regularly updated with fresh information on how Tesco was dealing with the problem (Mortimer 2013).

On the basis of various practical examples of organizations' decisions, it can be concluded that those firms which are effective in communicating with customers are much better at handling communication issues in times of crisis. A successful resolution of a crisis situation can be facilitated by an organization's confirmation of the existence of certain irregularities (confirmation as opposed to denial). In this respect, the role of social media is also of importance (Mortimer 2013).

The systemic theory is an important element in dealing with a crisis because no simple or linear relationships occur between information conveyed and the particular types of behaviour displayed by stakeholders. Customers' behaviours may be taken as a case in point. It is widely accepted that customers' past experiences of a particular brand will have a strong influence on their opinions about a given product. Research indicates that if customers had positive knowledge about a product and a crisis hit a number of manufacturing organizations simultaneously (e. g. quality-related incidents occurred), then the consequences of the crisis would not be severe and the crisis would be justified. On the other hand, lack of any additional information concerning similar events can exacerbate the consequences of a crisis (Lei et al. 2012). This, of course, can persuade companies to resort to black PR. It is companies with a good reputation that stand to lose the most in crisis situations. Research indicates that a good reputation, and the customer loyalty that ensues is not a permanent quality and can be subject to loss (Helm and Tolsdorf 2013). One

of the reasons for this is the fact that a high quality of offered services raises customers' expectations concerning quality and similar key areas of customer trust such as reliability.

5.1.2.3 Integration Through Mutual Learning and Cooperation

Literature on this subject concerns the effectiveness of existing crisis management strategies and the possibility of integration between organizational learning processes and basic crisis management principles. In spite of the varying array of opinions on this matter, it should be accepted that a crisis provides a perfect opportunity for learning and identifying those elements which can facilitate the integration of the whole organization.

Integration, which can occur in different organizational systems, has been aided by research which has mainly taken the form of various manuals, published with the intention of identifying best practices and enabling an organization to assess how prepared it is for a crisis. There are many opportunities for learning from other organizations which have already experienced similar crises, although every situation is unique.

Learning processes are also facilitated by the presence of other entities participating in crisis management. Furthermore, it should be remembered that crisis resolution requires the cooperation of many institutions. In most countries there are special state institutions whose main task is to provide assistance to local communities, including businesses, in crisis situations. In Poland, for example, every district has a crisis management centre, which fulfils the function of coordinating different entities, ensures channels of communication, provides help to victims, monitors the course of a crisis and carries out rescue operations. The cooperation of the many entities handling a crisis requires an integrated crisis management system.

Learning processes are aided by the existence of modern means of social communication. During times of crisis, the integrative function can be performed by various computer programmes developed specifically for such situations. Their task is not only to convey information to the various people and institutions responsible for crisis management. Increasingly sophisticated systems enable a swift identification of hazards and control the operation of machinery and equipment during fires, floods, and other natural disasters.

5.1.3 Crisis Management Based on the Systemic Theory

The systemic theory can be a useful tool in crisis management because it enables the appropriate organization and integration of activities undertaken (a proven relationship between among particular systems exists). The table below presents just a selection of activities which can be undertaken in particular systems. They can constitute a basis for the development of individual and customized crisis management programmes.

Crisis management is not easy. However, during a crisis, the making of many decisions becomes easier, especially if it is necessary to start from scratch. Therefore, crisis management has to include integrating activities. These can contribute to improvement in management effectiveness.

5.2 Integration in Organizational Change

Change management is closely related to integration and disintegration processes. Sometimes changes, even radical ones, are necessary when an organization has been seriously dismantled. In other cases, changes are indispensable, because integration has occurred in just one employee group or one selected group of stakeholders sharing a common goal, which can sometimes be contrary to the objectives of the whole organization. However, irrespective of the reasons for changes, researchers generally agree that in change management processes it is necessary to take into consideration the final results required. One of the planned objectives is organizational integration, ensuring cooperation between particular people and the most effective performance of tasks. (This also applies to the ensuring of cost-effective performance).

5.2.1 Types of Change and Integration Processes

Change management is "an organized process aimed at the introduction of organizational improvements. It is usually divided into two phases: improvement planning and improvement implementation. Because of mutual relations between these phases, it is possible to distinguish different models of changes." (Wawrzyniak 2007, p. 529). Changes can occur in the following types (Jick and Peiperl 2003; Koźmiński 2007):

- Developmental changes, which are aimed at improving already functioning aspects of an organization. An example of such changes is continuous quality improvement, including the use of procedures and PDCA cycles. The developmental changes are not revolutionary in nature; they are typical for firms following TQM.
- Transitional changes, which are aimed at the initiation of something new. In the transitional phase, an organization can implement new processes, services or organizational structures.
- Transformational changes, which offer the most radical innovations, related to the introduction of new management concepts or organizational cultures. Such changes are usually very dangerous; they are undertaken by organizations in very difficult financial situations. An example would be the implementation of reengineering.

- Adaptation changes, which consist in organizations' attempts to adjust to changes which have already occurred in their environment.

Furthermore, the following types of changes can be distinguished:

- Cultural changes, comprising changes in an organizational culture (e.g. as a consequence of mergers).
- Structural changes, related to changes in an organizational structure (most changes cause structural transformations).
- Personal changes, consisting in employee-related changes (this term most frequently applies to changes at various management levels).
- Ownership changes, consisting in a change of an owner, which causes subsequent structural, cultural, personal or other changes.
- Organic and forced changes, that is either changes undertaken by an organization itself or those forced by competitors, governmental policies (e.g. changes in customs tariffs) or other entities.

Processes of integration, but also of disintegration occurring during periods of change depend to a large extent on the types of changes: whether they are planned and prepared well in advance or are only adaptive in character. For example, developmental changes have a continuous nature. If a change process takes place within the scope of Deming's cycle, no real threat of disintegration occurs, because particular changes are effected over a small area (such changes can apply, for example, to one selected process or organizational unit), while all shortcomings are dealt with as they arise. Transitional changes can cause uncertainty, but they do not always lead to uncertainty, especially if their implementation does not disturb the existing organizational order. Adaptive changes need to have a continuous character. They are safe up to the level of integration on condition that events taking place in the organizational environment are properly identified. Particular attention should be given to structural changes, which have more of a destructive impact on trust than technological changes (Morgan and Zeffane 2003). Radical changes (e.g. reengineering implementation) always incur a certain degree of risk and require a high level of awareness in relation to quality and need for change.

5.2.2 Conditions for Effective Change Management

Most change implementation manuals include detailed instructions on how to carry out particular stages of change implementation. Their authors usually recommend that an organizational mission should be defined anew, those managers who are to become change leaders should be identified, proper communication strategies should be implemented and a change plan should be developed. Changes are frequently perceived in terms of a process with input and output. At the input level, an organization's readiness for changes needs to be increased. At the output level, required effects should be available (e.g. new and more efficient structures, lower

quality costs, etc.). This process has to be monitored and operationalized; in many cases, the use of validation methods is required to confirm that subsequent process stages are being carried out correctly and there are no threats to their continuation.

There are also simple recommendations concerning the fulfilment of conditions for the implementation of changes. For example, according to Manning (2012), a successful implementation of changes requires the following: strategic thinking (including a diagnosis of the environment in which such changes are to be implemented, together with the application of knowledge acquired during previous changes), leadership (including the ability to create and communicate visions and to develop vision-implementation teams), task management (including task planning, social roles planning and allocation, process monitoring implementation), relationships (comprising staff involvement, support, encouragement, and development), resources (financial, human, and other resources). Simultaneously, it is stressed that change effectiveness depends on management of emotions, skills and trust (Pollalis 1996; Manning 2012). One of the reasons for this is the fact that lack of trust hinders cooperation, prevents the provision of feedback and seriously limits the effectiveness of learning processes.

In relationships between superiors and subordinates there are four basic conditions for change implementation (Pollalis 1996; Manning 2012; Halkos and Dimitrios 2012):

a. a compelling story—because employees have to be aware of the goal and scope of changes, and to express their acceptance of innovations,
b. role modelling—because, in accordance with the theory of reference, employees need to see that their colleagues, and in particular managers, accept changes and follow the adopted directions that change has introduced .
c. reinforcing mechanisms—because behaviours depend on adopted procedures and standards and are modified by means of various motivation and recognition systems,
d. capability building—because employee competencies have to be adjusted to changes.

Various studies indicate that one of the conditions for change implementation is good relationships between superiors and subordinates (Halkos and Dimitrios 2012). Also of importance are the competencies of superiors in areas which include: the determination of a mission or change objectives, the initiation and maintenance of changes (including employee training and guarantee of necessary organizational values), the management of expectations, and the overcoming of resistance to changes. Change leaders must be visionaries, but they must also know how changes are to be successfully effected. Of importance in this context are both specific skills (leading and motivating people, creating an appropriate atmosphere for facilitating change) and opportunities (access to resources). Most management practitioners believe that within change management processes, an important role is played by managers' potential for motivating others. They highlight the significance of abilities to use motivational theories, mainly the expectancy theory and equity theory.

The implementation of any changes should be preceded by information sharing sessions or training aimed at achieving a change in attitudes towards innovations. However, few researchers have observed a completely different problem, namely the specification of limits to changes. It may sometimes be the case that, after achieving an awareness of demands for change, some people require innovations to be radical and far-reaching. Therefore, an unambiguous definition of changes is very important for preserving an optimum level of integration.

During the implementation of changes, the principle problem is to ensure the necessary organizational values of equity and trust. Recommendations given to managers usually concern the provision of employees with proper resources necessary for change implementation, the teaching of problem resolution techniques, emphasis on the strength of changes and economic effects. However, such advice is very general and not all employees feel motivated to the same degree during changes. Maintaining employees' commitment and motivation requires the assurance of interactive, procedural, informational, and distributive equity. Lack of equity usually entails a lack of trust and prevents any successful change implementation.

A serious problem occurring during change implementation is the threat of conflicting expectations in relation to changes. Managers and employees usually have different expectations concerning work, effort, usefulness of changes, methods of remuneration or motivation, etc. Thus in practice, it is not only necessary to determine change objectives, basic monitoring methods, scopes of responsibilities or powers, but also to identify the expectations of various stakeholders in order to prevent serious conflicts from arising. For example, it should be kept in mind that employees' expectations develop on the basis of their experiences.

A culture of distrust does not facilitate changes or necessary learning processes. Distrust is one of the factors which impedes changes. Kurt Lewin, the author of the field theory, distinguished forces which drive and forces which block processes of change. The fact that managers try to increase the driving forces does not mean they will be successful in change implementation, because an increase in these forces can be accompanied by an increase in the blocking forces.

It is also generally believed that change management should be related to the application of techniques which are characteristic of project management processes. Many studies have indicated that project management skills are of key importance for change implementation effectiveness (Vora 2013). Besides project management, knowledge management is of equal significance, especially in the strategic dimension and the data management area.

It is believed that most change management programmes fail for a number of reasons. Two of these are lack of employee commitment and time constraints which are too limiting to allow for change implementation. For this reason, some authors recommend that changes should be introduced in a series of phases. It is necessary to empower, enlist, and motivate employees towards change (Stanleigh 2008).

Of course, the change process has to be connected with the integration process. For this purpose, the process's input and output need to be determined. The input should include knowledge of the state of integration. The integration level can be studied

indirectly by means of sociometric tools used to analyse interactions and social ties between employees. A proper diagnosis should also be an element of the input. A comparison between the content of the input and output enables the determination of whether a change process has been introduced correctly or incorrectly.

Success in a change process depends on a number of variables, for example employees' participation in decision making concerning changes, knowledge and power sharing processes, or their initial readiness and motivation to become involved in a change process. Changes cause stress, impatience or fears about the future, but there is little opportunity to alleviate such feelings. It is believed, for example, that reduction in perceived stress can be achieved if employees are aware of change objectives and convinced of their necessity. Badly implemented changes result in reduced acceptance of innovations amongst employees, lower levels of satisfaction and trust, and a higher degree of scepticism (Bordia et al. 2011). Therefore, one of the many tasks which need to be included in a change process is the acquisition of knowledge about employees' former attitudes and behaviours. The impact of employees' motivation or the effectiveness of various incentive programmes is not entirely obvious. Some research indicates that organizational inducements are positively related to two types of employees' commitment to change—normative and affective (Shin et al. 2012).

5.2.3 Integration and Changes

The relationships between integration and changes are observed naturally in the processes of mergers and acquisitions. Researchers have noticed that the implementation of changes in this area depends, among other things, on standards and their perceived equity. However, this raises the issue of who was responsible for the creation of these standards, who managed the knowledge of change objectives and what their motivations were (Monin et al. 2013).

Another important problem is the integration of management systems (quality, environmental, OHS) and the use of integrated systems in continuous change processes. The weakness of such solutions is the lack of connections between events on the market and rather inflexible management systems. If radical changes occur suddenly (e.g. a fall in demand for particular products), it becomes necessary to introduce new technological lines and prepare new process supervision instructions. The integration of systems has to comprise not only particular items for ISO standards, but also management functions and undertaken activities. This means that the integration of planning, development, control and improvement activities is necessary. However, the integration of audits, management reviews, process monitoring, etc. is also of importance. An obvious problem is the lack of integration between quality objectives and strategic objectives.

Another significant problem is the integration of change management with performance management (Howard 2013). The organized and planned pursuit of efficiency and quality improvements will usually result in the occurrence of

changes, the intensity of which will depend on an organization's stage of development or implemented management concepts. The process of integrating change management with performance management starts with creating a strategy statement. The subsequent stages comprise the translation of the strategy (including its objectives, change measurement methods, communication, and scope of authorities). Translation of the strategy will also entail the planning of operations and processes for the monitoring of change, together with the processes of learning and improvement of the developed strategy for change (Howard 2013).

During changes effected in an organization's structure or processes, only one key process can be the subject of change at a given time. Thus at the initial stage, a disintegration process can occur. Suddenly, as a consequence of implemented changes, processes which have been properly integrated with respect to their interconnections and allocation of resources appear to disintegrate. Therefore, practitioners stress that from the very beginning, change management needs to include the integration of key, auxiliary and managerial processes. For this purpose, simple quality management tools can be used (e.g. process cartography).

A very interesting issue of practical importance, which is unfortunately overlooked, is the attempt to carry out social integration during changes. This problem was studied by Al-Bizri and Gray (2010), who noticed that "the real construction supply chain of clients, designers, specialist designers, specialist manufacturers, constructors and assemblers is not integrated into one group with a common purpose" (Al-Bizri and Gray 2010, p. 771). Social integration at all stages of product realization consists, on the one hand, in the integration of expectations, needs and objectives, but on the other hand, in the integration of held competencies and the determination of limits for possible concessions. Thus, social integration can contribute to the alleviation of stress and possible conflicts, while playing a role in cost reduction.

In particular, integration problems concern those firms which actively try to implement various management concepts. This was the case in the past with corporations such as Pacific Bell, Xerox, and Texas Instruments, which followed the principles of reengineering or total quality management when managing their change processes. It was observed that (Pollalis 1996):

- some principles of these two management concepts are similar (e.g. the use of the process approach, technological improvement),
- organizations have to learn from their mistakes,
- an important task in the change process is to determine roles to be performed by employees involved in the implementation of new programmes (the objective is to prevent a clash of interest between such roles and the creation of redundant positions or functions),
- IT technology has an important role to play in the integration process; it should support planning, decision making, and systemic thinking processes (e.g. through the integration of distributed databases),
- the most important role is played by an established and diagnosed organizational culture.

An important integrating role can be performed by change agents. One of the objectives of change management is usually the integration of documentation (e.g. documentation from two different systems), databases (by means of IT technologies), work positions and functions, as well as operations. Various processes and methods of their supervision also undergo integration. However, impulses for changes are transmitted vertically (from change initiators to performers, and from performers back to initiators). During the implementation of changes, this mode of communication is insufficient; hence the need for employees who are able to communicate the significance of changes directly to particular parts of an organization.

It should be remembered that in change management, the objective of changes is organizational (mainly social) integration, which means that it is necessary to monitor the whole change process (e.g. to carry out diagnostic examinations) and to assume that disintegration of a social system should be a temporary state. Disintegration is not problematic in itself, as long as there is opportunity for the eventual achievement of integration. However, in order to secure such an outcome, employees responsible for changes need to be aware of the scope of disintegration. A proof that change implementation has led to successful integration can be the level of person-organization fit. The term "person-organization fit" applies to consistency between values held by employees and organizational values. Person-organization fit can be complementary or supplementary. The former results from the consistency of attitudes and values held by an individual and an organization, while the latter occurs when an employee enriches an organization with a value which strengthens its integration (Kristof 1996).

Various research studies have indicated that changes have an enormous impact on employees' behaviours, attitudes and emotions. For example, changes can cause employees to worry as to whether their skills are compatible with the new work standards and principles, and therefore whether they will be able to function in the new situation. Such fears concerning new work standards and principles will have a significant influence on the integration level perceived by employees. Researchers have tried to determine the impact of changes on employees' well-being, but such findings have little value for the practice of management. The fact that a person feels well does not prove that such a person will be more efficient, or that an organization has achieved a satisfactory level of the integration of its systems. At the beginning, changes can result in lower efficiency, stress and dissatisfaction; later, however, when the change begins to take effect, efficiency rises and stress decreases (Halkos and Dimitrios 2012). Organizational changes can be either intentional (planned) or unintentional (unplanned). Planned or required changes include increased productivity, lower operating costs and higher profits, as well as better process reliability, effectiveness and efficiency. An example of an unintentional change is cynicism among employees (Brown and Cregan 2008).

Changes can disturb the previous integration level because one of the output products of a change process is a modified psychological contract. The notion of psychological contract refers to individual convictions and beliefs concerning the

conditions of relationships between employees. The key issue is a conviction that mutual expectations, promises and obligations will be honoured (Wilkinson-Ryan 2012).

5.2.4 Technological Changes

Technological changes constitute a true challenge for those dealing with integration. This problem is visible even in social and occupational adaptation processes. Adaptation requires employees to become familiar with applied technologies. Even well selected employees with highly developed interpersonal skills may prove to be inefficient, simply because they are unfamiliar with the specific nature of the dominating technological system in their new organization.

Technological changes trigger innovations of social or organizational character. It is widely accepted that changes occurring in the field of information technologies have to include organizational integration. An example of such activities is database integration, which considerably reduces process duration (e.g. the provision of administrative services). The integration of computer systems with a GPS system increases chances for social integration (e.g. some cities use systems which notify users of free parking places, thereby facilitating communication among car users).

A failure to take into consideration technological changes or an inability to deal with such changes can lead to serious operational problems (see the example below).

The Kodak Company was founded in 1880. It was considered a pioneer of technology and innovative marketing. "You press the button, we do the rest," was the company's slogan. In 1976 Kodak held a 90 % share in camera film sales and an 85 % share in the camera market in the USA. Until the 1990s Kodak had been regarded as one of the five most recognizable and valuable brands. In 1988, Kodak employed over 1,45,000 workers worldwide. Later, however, cameras were replaced by digital photography and smartphones. The company's profit fell from $16 billion in 1996 to a meagre $2.5 billion in 1999. During this time, when Kodak was doing its best to avoid bankruptcy, its biggest competitor on the Japanese market, Fujifilm, was enjoying its heyday. Both companies shared many qualities: for example they were both monopolists in their respective markets, Kodak in the USA, Fujifilm in Japan. Fujifilm initiated a stage-based change process. The first stage consisted in acquiring the largest amount of financial resources available from the market. The second stage comprised preparations for the emergence of the digital era and the development of new business lines. Both companies knew that digital photography was the future, and prospectively a very profitable business. Kodak, however, was much slower in the process of adjusting to the new technology.

One of the reasons for Kodak's defeat was the attitude of its managers, who devoted more attention to perfecting products than to the high-tech mindset of "make it, launch it, and fix it." Even after the management opted for diversification,

it took them almost a year to successfully complete their first acquisition. The Kodak Company was dogged by bad luck. Its executives were convinced that the results of chemical research would find applications in the pharmaceutical industry, but this did not happen. Fujifilm was successful in its diversification processes. For example, the company launched a line of cosmetics called Astalift. In the 1990s, Kodak attempted to maintain its "razor blade" business model. This was based on the sale of cheap photo cameras, while revenues were generated by camera film sales. The same model has been followed by Gillette, which makes money on the sale of blades, not razors. This model failed to work in the world of digital equipment. Additionally, the company's experiments with outsourcing did not generate expected results. Kodak executives decided that cheap cameras would be sold on the Chinese market, with its rapidly emergent middle class. However, this idea was soon rejected. Other attempts were also made to revive the company's profitability, for example to make money from the firm's huge portfolio of intellectual property, but without any decisive success. Between 2000 and 2003, Fujifilm implemented its biggest changes. The firm slashed labour costs and started to invest huge amounts in research and development laboratories. As with the majority of Japanese corporations, Fujifilm incorporated a long-term perspective into its strategy. The company did not surrender to the pressure to achieve high profits as fast as possible. It is surprising that Fujifilm proved to be flexible in its behaviour, while Kodak resembled a traditional change-resistant Japanese firm.

Source: The last Kodak moment? Kodak is at death's door; Fujifilm, its old rival, is thriving. Why? Jan 14th 2012.

On the basis of the experiences of firms such as Kodak, it can be concluded that technological changes require the following:

- consistent leadership (lack of consistency and frequent changes in strategies lead to the destabilization of an organization and confusion amongst employees' concerning a range of issues; lack of stability entails the loss of a sense of safety and trust in decisions made by top executives),
- quick decision making (in spite of risks, reacting quickly to what happens on the market allows for efficient change management and outperforming competitors),
- adoption of a long-term perspective (only a long-term perspective enables the assessment of changes in terms of how effective they have been; in a short-term perspective, losses become a possibility),
- concentration on key competencies (according to the cost-effectiveness principle, it is not feasible to expect one person to be capable of completing a diverse range of tasks),
- skills to invest in development and to diversify revenue sources (diversification reduces the risk of changes).

Change management assumes in advance that different levels of integration will occur in the technical, organizational and social areas. However, it has to take into account the final result of the change process, that is, integration comprising processes and people. Effective change management is always related to the ability to recognize situations which may lead to disintegration in the short term, but can

appear effective and vital over a period of time. In this sense, change management resembles solving the Rubik's cube puzzle. At the outset, everything seems to be disorganized, but after a period of time and effort a beautiful final effect can be achieved. Transformations also constitute a unique opportunity for the implementation of thorough but sometimes indispensable changes to personnel. Lack of loyalty amongst some people or groups, attempts to follow independent policies of change or disregard for changes proposed by a leader almost always leads to dangerous levels of disintegration. Thus it can be concluded that, on the one hand, integration is the objective of changes, while on the other, due to an appropriate integration level during the whole change process, it is possible to increase an organization's efficiency and effectiveness.

5.3 Integration in Social Games

Social games played by employees exert a considerable influence on social and other types of integration occurring in an organization.

A social game is a set of relationships which occur between stakeholders (usually employees), who use various social engineering techniques and manipulate other people's emotions, attitudes and behaviours in order to achieve particular predetermined objectives. A social game usually involves a group of people who are not aware of the game itself, and a player (or a group of players) who makes decisions concerning game strategy selection, manipulation of others, and who influences the course of the game depending on particular situations or acquired results.

5.3.1 Social Games and Their Facilitating Factors

Social games in an organization result from the fact that many roles are performed by each person. Use can be made of available opportunities to apply various social engineering techniques and attempt to win new positions of social standing or to keep their job. A typical social game is characterized by its objective, course, and motives. The most common game objectives include the following:

- excluding a particular employee from a group, or changing a group's composition,
- acquiring a higher social position,
- surviving in the organization,
- causing the destruction of the whole organization or a selected organizational unit,
- annoying a superior, owner or colleague,
- fulfilling one's own ambitions or needs,

- strengthening one's own social group (a group's integration is not always a positive phenomenon),
- causing the integration or disintegration of the whole organization or its relationships.

The course of a game depends on its duration (some games are one-off, short-term events, while others last for many years), the number of players—that is, employees or other stakeholders—scopes of players' powers, and the type of game. Depending on its type, a game can start with a preliminary initiation (for example, a manager asking an employee to criticise a new member of staff) or creation of a coalition (in more complex games). The players determine their roles and also shares in possible profits or benefits which the game is to generate. Every game is characterized by uncertainty, risk, and emotional tension (Piotrowski 2007). A game's motives can be positive (e.g. protection of the whole organization) or negative (e.g. elimination of a competitor who is a talented employee). Some motives are openly expressed, while others are hidden (e.g. survival in a group at any cost).

Social games need to be clearly differentiated from training games and forms of play, the objective of which is entertainment. Playing is not limited exclusively to employees' free time. In some corporations, for example in Google, employees can play table tennis, roller skate or play board or computer games. Forms of play are useful employee integration methods. Top managers very often participate in such forms of play and games. Sometimes, however, ideas for a game can prove quite inappropriate (see the example below).

During an integration event in the company T, one of the organizers proposed "a game of freckles". He poured some melted chocolate onto a table and asked the CEO and other employees to take seats around the table. The rule of the game was to hit the poured chocolate with a stick and see whose face was dirtied the most. The winner was to receive a special honour from the CEO. This honour was to lick the winner's face. The idea of such a game ruined the atmosphere of the outing at its very beginning.

On the other hand, social games played in organizations are well thought over, last for longer periods of time, and have clearly determined objectives and structures. However, people learn social games through forms of play, in particular those experienced in childhood or through working for other firms.

In discussing current usage of games, researchers mainly refer to various activities aimed at the development of occupational competencies. Most frequently, these are various computer programmes which teach users to make decisions, think systemically, cooperate and choose the most cost-effective options. Games are also used to develop occupational skills. For example, UPS uses virtual games to train new truck drivers. A separate group of games are those organized outside workplaces. These are frequently a range of specially prepared development or entertainment games organized for employees and customers (for example, Planet Pursuit Event Management organizes graffiti workshops for its employees). Recently, games which have the objective of teaching how to lead a healthy life have been growing in popularity.

Through games, people learn how to cooperate; therefore, games perform an important role in social integration. One of the more interesting ideas for the development of cooperation skills and the performance of different functions is the technique of corporate theatre. A problem with this technique is that players frequently perform the role of spectators. Consequently, there is no objective evaluation of performances by an independent audience. Such an evaluation is frequently made by somebody who has previously used this competence development tool; frequently a specially prepared business trainer. Furthermore, the theatrical format can be an opportunity for promoting the interests of one particular social group. Through direct or indirect forms of influence, a person can prepare their role in such a way that it only develops particular skills or promotes particular behavioural aspects of a corporate culture. Besides, not all employees are willing or able to change their behaviours under the influence of enacted scenes. Organizational reality is not only different, but also more complicated.

Opinions on the usefulness of such games and plays are divided. It is believed that games are a means of building useful skills and changing employees' behaviours, but their use amongst personnel may have its limitations (Shapiro 2011).

From the beginning of their social lives, people learn particular behaviours. Games already played in a preschool can influence a person's subsequent behaviours as an employee. A considerable number of games teach decision-making, facilitate the development of cognitive skills and strengthen perception. However, there are games which teach competition, and thus do not encourage social integration (see the example below).

In "the one chair game," children walk around a set of chairs. However, the number of children always exceeds the number of the chairs by one. A child who cannot find a vacant chair after a signal given by the organiser leaves the game. This game trains people to act quickly and occupy a good position within a group without resorting to discussions or negotiations. Games of this type are imitative of corporate life, where chairs are vacant jobs. If such games are organized more frequently, particular people can create small coalitions, determine individual strategies or eliminate real or imaginary opponents.

In discussing the role of games, Orbanes (2002) writes: "Everything i know about business I learned from MONOPOLY." He is right to observe that there are some similarities between board games which require a degree of physical involvement and managerial games. Both types of games have their objectives and their players interact with one another, establish various contacts and social relationships (depending on the course of a game, a player can play alone or look for partners). People like games because "they are structured entertainment experiences" (Orbanes 2002, p. 51). In management, the following principles should be kept in mind as they would be when playing board games: (Orbanes 2002):

- Games need to have precisely defined and unambiguous roles; the use of competencies is possible where game objectives are specified and both game rules and evaluation methods are known (during games different interactions occur between players).

- Games should not be excessively complicated; it is necessary to avoid situations in which a player is not able to follow a game's rules. Over complicated games prevent people from enjoying them; such players can feel uncomfortable and inferior. In fact, games are designed to empower and enlighten people.
- Games need to have a characteristic rhythm for their particular stages: a beginning, regular flow of action, and an end. Such a rhythm is related to work organization and the proper use of an organization's resources.
- Players need to be focused on their game; if a game causes stress and fear rather than giving pleasure, this disrupts the continuity of activities. A well designed game should maximize the entertainment value.
- Games should ensure the development of hidden talents; their designs should encourage players to make use of those talents that are not used frequently in everyday life.

The aforementioned principles can be also applied to what are known as integration games. If they are to facilitate social integration, games played in organizations need to have clearly defined roles, tasks, and objectives. They should explicitly determine the principles of evaluating, motivating, and penalizing their players.

There are numerous organizational, environmental and psycho-social factors favouring organizational games. Games initiated intentionally by employees are prompted by boredom, routine, external conditions (lack of work, fear of new employees, a strong unethical integration of one group of employees), personality factors (e.g. an excessive need for achievements or power), attitudes of other people such as managers or colleagues (creating a strong internal motivation to survive, take revenge, annoy others, etc.), and the performance of many organizational roles.

5.3.2 Types of Games: Selected Examples

J. von Neuman and O. Morgenstern distinguished between zero-sum games and non-zero sum games. Zero-sum games create a situation in which the victory of any player entails a loss for another player. When an organization lacks sufficient resources, it is often the case than one person's acquisition can entail the loss of such an opportunity for another party. People fight for promotion, occupational privileges, a higher position in the hierarchy of power, participation in decision making bodies, etc. Such games do not help social integration to take place across the whole organization; instead, they only result in temporary alliances (e.g. they facilitate vertical integration within a functional structure).

In non-zero sum games, cooperation between all or a group of game participants is necessary because it entails the possibility of higher gains for everybody. Non-zero sum games are of a constructive and integrating nature. Their problem, however, is that game participants are not always able to foresee their rivals' behaviours. Therefore, of importance in such games is information (who provides

it), trust in other participants and transparency. In such situations, participants will obviously be resistant to any limitation on their ability to undertake actions. All participants have the potential to win something through involvement in non-zero sum games. The scale of their gains may, however, vary.

Koźmiński and Zawiślak (1982) distinguish between parasitic games and productive games. A parasitic game entails attempts on the part of employees to secure their own personal and particular interests, frequently at the expense of an organization's other members. A productive game is positive for an organization (its services, products, value, etc.), but it is based on activities which are provided for in formal procedures, standards or regulations.

There are many different types of games. At this point in the chapter, the author would like to refer to a few selected examples (Bugdol 2007).

A typical game called "a personal attack" is a situation in which a new person enters a group of people. The group may, for example, comprise of a single organizational unit which is dealing with a particular process or task, for whom such a person can constitute a potential threat. The group may expect the new employee to appear better and more efficient than them, which can influence dismissal decisions. Such a new person becomes a victim; he is attacked by one or more members of the group (who can cooperate or act independently of one another, usually at their boss's instruction). The subject of the attack can be the new employee's competencies, clothes, behaviour, customs or social background. A variety of this game is another activity called "an endurance attack." This can be a situation in which a manager tests a newly recruited employee's psychic endurance. The manager attacks the new employee, but when the victim does not respond (is not afraid or adopts an indifferent attitude), the game (biting remarks or taunts) come to an end. The manager then declares that it is time to stop what he himself regards as „a psychic endurance test".

"Busy holidays" belongs to the group of constructive games. An example of this game is a situation in which somebody tries to help others during holidays (e.g. by working in another country or helping those in need), but their work is a manifestation of another primary motive. Such a person works only to show off or to evoke interest, respect, admiration, pity or other emotions in others.

Another game, "the debtor," starts when a victim receives a favour (e.g. a job, higher salary, promotion, etc.) from a person who intends to take advantage of this later. Assistance given to an employee is frequently associated with a relation of interdependence. In fact, the person providing help wants to gain control over the recipient of help. Such a person wants to build structures which will subordinate the other person to his or her will. This type of scenario becomes increasingly likely under the threat of unemployment.

The game called "What will you do when you catch me?" consists in pretending to work. All shortcomings are covered up. This game is dominated by lies and deception. In extreme cases, its players can resort to sabotage. Usually short in duration, this game is initiated by employees who want to leave their organizations and/or are fully aware that they are not able to meet expected standards and requirements.

The game of "cat and mouse" is caused by an awareness of low quality, lack of knowledge concerning quality requirements or unreasonable standards. Employees work efficiently only under their bosses' direct supervision. They will exploit the absence of their supervisor for breaks or other activities.

"The flirt" is another example of an organizational game. It is characterised by mystery, risk and uncertainty. The work environment intensifies these elements. It can make a flirt more emotional, while at the same time less mysterious.

The "good cop, bad cop" game can be played in various configurations, for example between a superior who is either good or bad, the superior's assistant, also either good or bad, and an employee who is both attacked and praised. A typical game consists in the performance of two roles: the role of the good policeman who tries, for instance, to acquire as much information as possible from an employee, but at the same time frightens this person with threats such as: "you'd better tell me because the other person (i.e. the bad policeman) will treat you worse" or "you'd better do it differently (which means: I'm giving you good advice, and the other person might punish you for insubordination) and the role of the bad policeman who can, but does not have to, appear as bad, strict, punishing or bullying.

It should be noticed that games can exert a considerable influence on social integration.

Games such as "what will you do when you catch me?" or "a personal attack" are possible only when the group in which they are played is integrated enough to be able to undertake joint informal activities. In the former game, group solidarity constitutes a basis for social integration resulting from a person's intention to take revenge on somebody or a manifestation of a defensive attitude. In contrast, the latter is an attempt to block changes in the composition of a team, which does not result from concern for the integration level, but rather fear of losing possessed resources. If it does not result from concern for other people, but rather out of safeguarding personal interests, the game of "busy holidays" can be evidence for the existence of a corporate culture dominated by intense rivalry. People who wish to command respect are usually motivated by social standards developed within a given organization. Such an organization is structured around integration. If played, "the debtor" is a game which proves the existence of strongly integrated informal social groups. Their main integrating element is a sense of fear of social exclusion and loss of benefits. Such games are a manifestation of the lack of full organizational integration (a firm resembles a set of loosely related social groups with a clearly isolated power centre).

Every game is a process which can be divided into a few stages. The integration stage occurs first: people form groups and assess their opportunities, contributions and possible resources. In the second stage, group members attempt to use this integration to their advantage; they have to cooperate if they want to gain something. The next stage is disintegration, which can be caused by a number of factors, for example lack of trust or people leaving the group because of disappointments or disputes. Such disintegration is followed by a stage of even closer unification. The first negative experiences have a positive impact on the intensity of integration. It is also influenced by the duration of cooperation and the consequent relationships or

knowledge about other game players. After the group achieves the game's objectives, it undergoes the process of disintegration. However, such disintegration is never complete. Knowledge of previous behaviours and decisions results in the development of social ties among the game players.

The majority of the aforementioned games are negative in character and prove the lack of social integration. Unfortunately, such games are not always initiated for ethical reasons. There are far fewer positive games played in the work environment. Their examples include the role plays and board games mentioned above and special training programmes.

5.3.3 The Player's Integrating Role

On the basis of interviews conducted in 250 organizations, Michael Maccoby (1977) proposed the following typology of leaders (in terms of their emotional and mental characteristics): gamesman, company-man, craftsman, and jungle fighter. The gamesman is not always loyal to his organization, as he is interested in games and adventures. The gamesman feels comfortable in an organization which is going through a period of changes, is innovative, is not afraid of taking risks, and is referred to as a team-player. This is somebody who is not always fond of changes, but always exerts influence over them. The gamesman is interested in new work methods and technologies. His major goals are to achieve fame and to win; he is not necessarily interested in material gains. Maccoby (1977) was convinced that the gamesman type was the best candidate for leadership positions in the most technologically advanced American corporations.

The company man is a person who ensures an organization's stability through his personal commitment and efforts; simultaneously he lacks independence and is a conformist unwilling to take risks (such people are valuable for any organization, but they rarely win top positions in hierarchies of power).

The craftsman is a perfectionist. He focuses on his work and tries to do it the best he can. He is independent-minded and devoted to quality. The craftsman is interested in knowledge and can share his values with others.

The jungle fighter is a manipulative, often suspicious competitor. Some jungle fighters have sadistic inclinations and find pleasure in spotting the failures of other employees. Even if such people reach top managerial positions, it is usually for short periods of time.

Gamesmen perform a very important integrating role. They can unite people with different competencies in a single efficiently cooperating team. The gamesman uses the metaphor of team games and builds his team like a football coach working with his players. The gamesman can be used an example to be imitated by others. It is assumed that a considerable group of gamesmen are able to influence the attitudes and behaviours of other people. This subtype of gamesman is referred to as the master gamesman.

Nowadays the notion of being a player is used with reference to somebody who is active on the market, invests and takes risk; somebody who frequently changes fields of operation in order to maximize profits. The notion of gamesman is used to describe various innovative people, for example Haruhiko Shono, the Japanese multimedia artist who invented cybergames).

An example of a typical "player" is the leader of a local government organization. In Poland, for example, the majority of city mayors, heads of district councils, and the marshals of provinces perform the role of a "player" (this is also the case in all other European countries). Local government organization leaders:

- depend on other people, in particular their town, commune/region or district councils, voters, and controlling institutions.
- have to win the support of other people in order to hold power (this conviction can lead to political corruption).
- are not fully independent with respect to financial decision making as it is councils that approve budgets.
- cannot exercise their discretion in decisions concerning human resources management (in most countries human resources management processes are subject to legal regulations on which such leaders have only insignificant or indirect influence).
- are subject to time limitations, which result from the specified duration of their terms of office and influences decision making processes; for example, most unpopular decisions are made at the beginning of a term of office.
- are forced to fight for power against their closest collaborators, which is determined by political coalition agreements and their inability to make independent employee recruitment decisions.

Even this brief review of the qualities of local government leaders indicates that their major preoccupation—the maintaining of power—is a continuous solicitation for various people's support. Thus, leaders perform the integrating function in order to ensure power for themselves and their coalitions.

Obviously, there are considerable differences between a situation in which a leader holds absolute power (e.g. when a leader has an absolute majority of votes on a council or his strong position results from statutory regulations) and one in which a leader lacks political support.

The fulfilment of the integrating function consists in the building of a network of social relationships, the creation of a leader's personal image, and the locating of a leader's supporters within local government institutions.

Local government activists try to acquire as many supporters as possible. They develop social networks, establishing direct relationships with people from their closest circles and those holding top positions in other organizations. A unique paradox occurs in such social network development processes. Leader-players frequently assume that the larger the scope of such networks the better. However, in reality, the more people in a network, the lower its integration level.

The creation of a leader's personal image occurs by direct or indirect means. In situations where EU funds are used to finance investment projects there are frequent

attempts to disguise image-building activities as the provision of objective information.

For instance, in Poland, which is the largest beneficiary of EU financial assistance, the locations of road repair projects are marked on information boards declaring that repair works are co-financed with EU funds within a particular operational programme and that the project is supervised by the City Mayor, whose name is visibly highlighted.

The shaping of a leader's image can result in a typical quality gap between realities in terms of management quality and what is communicated to the public.

The placement of a leader's supporters in local government structures has the same objectives as the building of social networks. Indirect goals are also related to such placements. One of these is the provision of information concerning what happens in other organizations. However, people are sometimes employed in local government institutions because of pressure exerted by other people who are not necessarily supportive of the current system of power. This can lead to the creation of a hostile network.

A social player does not have to be interested in the result of a game. In fact, the course of the game itself may be of greater importance for him, together with the possibility of participating in it, and the management of a social group.

5.4 Conclusions

Integration and disintegration processes concern all management functions, occur on a regular basis during interactions between people or are conducted in a planned and organized manner (e.g. during the implementation of new organizational structures). In practice, it is necessary to remember the following basic principles:

Firstly: in managing change, one needs to use the process approach: that is, to be fully aware of the initial state of changes or the process input (which usually requires a thorough diagnosis of the whole organization), the required course of the change implementation process, and the process output or required results. At the very beginning of the process it is necessary to determine the levels of functional, normative and cultural integration.

Secondly: a crisis, even the most terrible natural disaster, should be used as an opportunity for strengthening an organization's integration. Good results can be achieved by resorting to the verified lean management tools used in process integration. It is important to refrain from activities which do not contribute to the creation of added value (e.g. internal transport for excessively long distances, machinery outages, overproduction). In crisis situations, people are more willing to accept changes; therefore, their implementation does not have to result in social system disintegration.

Thirdly: social research can fulfil an important role in change management and crisis management. In crisis periods (and a change implementation process can also lead to a crisis), people frequently make new friends, enter into new alliances and

establish new relationships. The identification of what happens in a social system between various stakeholders very frequently reveals the true arrangement of a social structure. During the normal course of an organization's functioning, an image of a social structure can be distorted by employees' conservatism, cynicism, conformism, conciliatory attitudes etc.

Fourthly: within the management process, it is necessary to identify destructive games and in the event of their occurrence, to halt them immediately or to monitor their course. In practice, an important task is to create the largest possible number of situations facilitating the occurrence of cooperative, creative or non-zero sum games.

Finally: an important role in integration processes is performed by integrating competencies between employees. Such competencies do not only manifest themselves as skills related to the establishment of social contacts or the building of social networks. In the case of managers, they emerge as typical managerial skills such as motivation and encouragement of cooperation in others, provision of managerial support etc. Such competencies should be the subject of diagnosis and development. Human resources managers are already observing the need for diagnosis of new employees' skills in relation to their ability to request help from others under difficult circumstances, especially during periods of adaptation.

The ideas presented require further detailed research and development (e.g. the use of the systemic approach in crisis management). Because of the format and objectives of this publication, the authors have not discussed all issues related to crisis management, change management and social games. More detailed analyses are available in the wide array of literature on this subject. In this chapter, the authors have omitted issues related to configuration management, risk management, and many other areas of management science. Integration and disintegration processes can be studied within many different management processes, which are the result of a large number of different integration types and management methods.

The organizational games discussed above are not only played among employees. It should be remembered that marketing games played between customers and various organizations constitute an important factor in an organization's social integration as well as its stability and successes.

References

Al-Bizri S, Gray C (2010) Management framework for technology clusters implementation. Constr Manag Econ 28(7):771–782

Bordia P, Restubog SLD, Jimmieson NL, Irmer BE (2011) Haunted by the past: effects of poor change management history on employee attitudes and turnover. Group Organ Manag 36 (2):191–222

Bugdol M (2007) Gry i zachowania nieetyczne w organizacji. Difin, Warszawa, pp 30–80

Brown M, Cregan Ch (2008) Organizational change cynicism: the role of employee involvement. Hum Resour Manag 47(4):667–686

Coombs T (2007) Ongoing crisis communication: planning, managing and responding. Sage, Thousand Oaks
Halkos GE, Dimitrios B (2012) Importance and influence of organizational changes on companies and their employees. J Adv Res Manag 3(2):90–103
Helm S, Tolsdorf J (2013) How does corporate reputation affect customer loyalty in a corporate crisis? J Contingencies Crisis Manag 21(3):144–152
Howard C (2013) Enhancing transparency through an integrated performance and change management process. PA Times 36(1):14–15
Jick TD, Peiperl MA (2003) Managing change: text and cases, 2nd edn. McGraw-Hill Companies, New York
Kahn WA, Barton ME, Fellows S (2013) Organizational crises and the disturbance of relational system. Acad Manag Rev 38(3):377–396
Koc E (2013) Power distance and its implications for upward communication and empowerment: crisis management and recovery in hospitality services. Int J Hum Res Manag 24 (19):3681–3696
Korn Ch, Einwiller S (2013) Media coverage about organisations in critical situations analysing the impact on employees. Corp Commun Int J 18(4):451–468
Koźmiński AK, Zawiślak AM (1982) Pewność i gra. Wstęp do teorii zachowań organizacyjnych. PWE, Warszawa, pp 138–139
Koźmiński AK (2007) Organizacja. W: Piotrowski W, Koźmiński AK (eds) Zarządzanie. Teoria i praktyka, PWN, Warszawa
Kristof AL (1996) Person–organization fit: an integrative review of its conceptualizations, measurement, and implications. Pers Psychol 49:1–49
Lalonde C (2004) In search of archetypes in crisis management. J Contingencies Crisis Manag 12 (2):76–88
Lei J, Dawar N, Gürhan-Canli Z (2012) Base-rate information in consumer attributions of product-harm crises. J Mark Res 49(3):336–348
Maccoby M (1977) The Gamesman: the new corporate leaders. Simon & Schuster, New York
Manning T (2012) Managing change in hard times. Ind Commercial Train 44(5):259–267
Monin P, Noordehaven N, Vaara E, Kroon D (2013) Giving sense to and making sense of justice in postmerger. Acad Manag J 56(1):256–284
Morgan DE, Zeffane R (2003) Employee involvement, organizational change and trust in management. Int J Hum Res Manag 14(1):55–75
Mortimer R (2013) Don't let your crisis management give your rivals the last laugh. Mark Week 11(28):6
Olejarski AM, Garnett JL (2010) Coping with Katrina: assessing crisis management behaviours in the big one. J Contingencies Crisis Manag 18(1):26–38
Orbanes P (2002) Everything i know about business i learned from monopoly. Harvard Bus Rev 80(3):51–57
Piotrowski W (2007) Organizacje i zarządzanie: kierunki, koncepcje, punkty widzenia. w: Zarządzanie. Teoria i praktyka, Koźmiński, AK., Piotrowski W (red.). PWN, Warszawa, pp 719–720
Pearson CHM, Clair HJ (1998) Reframing crisis management. Acad Manag Rev 23(1):59–76
Pollalis YA (1996) A systemic approach to change management. Inf Syst Manag 13(2):19–26
Shapiro M (2011) Gaming to Improve Performance? Really? People Strategy 34(3):7–8
Shin J, Taylor MS, Seo MG (2012) Resources for change: the relationships of organizational inducements and psychological resilience to employees' attitudes and behaviors toward organizational change. Acad Manag J 55(3):727–748
Stanleigh M (2008) Effecting successful change management initiatives. Ind Commercial Train 40 (1):34–37
Vora MK (2013) Business excellence through sustainable change management. TQM J 25 (6):625–640

Wawrzyniak B (2007) Zarządzanie zmianami w organizacji, w: Zarządzanie. Teoria i praktyka, Koźmiński, AK, Piotrowski W (red.). PWN, Warszawa

Wilkinson-Ryan T (2012) Legal promise and psychological contract. Wake For Law Rev 47 (4):843–873

Xu K, Li W (2013) An ethical stakeholder approach to crisis communication: a case study of Foxconn's 2010 employee suicide crisis. J Bus Ethics 117(2):371–386

Conclusions

Conclusions are presented at the end of each chapter, together with a summary of its major points and the limitations of the ideas presented. The authors are well aware that they have not discussed all issues related to integration processes. Such issues can be studied from the perspective of a range of management concepts, organizational systems and theories in the fields of economics, management or organizational behaviour.

The emphasis of this work has been on the importance of tasks related to integration and the role of integration in contemporary organizations. It is not without reason that systemic thinking and managerial competence have been the subjects of considerable discussion over recent years. This has also been the case with regard to managerial competence in relation to the integration of work teams or of organizations which are characterised in terms of a diverse organizational culture. It is also worth noting that management sciences have limited the concept of integration to vertical integration and horizontal integration.

However, in reality, integration applies to standards and functions; it comprises communication processes, but its chief component is organizational culture. Many types of human behaviour (e.g. social games) contribute to temporary and harmful integration, which eventually leads to disintegration. The ideas presented in this book require further detailed research and development.

On the basis of the studies conducted, it is possible to establish further directions for research.

Firstly, it is possible to carry out research into integration which occurs within the scope of managing processes and projects. It is acknowledged that one determinant of economic results is the organization of the product realization process and the course of the resource allocation process. However, it could be of greater interest to study the extent to which it is possible to achieve a successful integration of the various processes which comprise a particular project. Such integration is dominated not only by an appropriate organization of work (the course of processes), but fundamentally by organizational values, cultural factors, interpersonal competencies, etc.

Secondly, due to the intensive development of modern technologies, it will be necessary to conduct research into the integration of technical and social systems. As has already been mentioned, cases of "cooperation" between robots and human

M. Bugdol and P. Jedynak, *Integrated Management Systems*,
DOI 10.1007/978-3-319-10028-9

employees are becoming more prevalent, and organizations "employ" increasingly sophisticated robots.

Thirdly, the identification of positive and negative aspects of integration could provide an interesting area of research. Integration which occurs within one organizational system proves insufficient, and can be harmful as it may lead to alienation. The integration of one group of employees is inappropriate if such a group prioritises its own objectives to the detriment of the common good. Flawed integration is not only related to the phenomenon of classic social integration. The integration of just one stage in a service realization process will also result in negative results. Sub-optimization or the improvement of one sub-system does not result in the improved functioning of the whole system. Furthermore, it can be assumed that improving one sub-system can result in the reduced efficiency of the whole system.

It should be added that a great deal still remains unknown with regard to organizational behaviour. Consequently, the importance and function of integration in various forms of organizational behaviour could prove to be another fruitful area of research.

Finally, this work does not discuss issues related to integration which might occur in the Internet between organizations, portals, people or teams. This form of integration influences the development of new products, a firm's reputation, trust between businesspeople and a number of other factors which determine the functioning of an organization.

The authors would like to thank Springer Verlag and all reviewers of this work. Their comments have enabled the authors to improve and enhance the analysis presented in this book.