Customer Relationship Management

9

Martin Gersch

9.1 CRM: Terms and Fundamentals

9.1.1 Object of CRM

The term customer relationship management (CRM) emphasizes the use of Information Technology (IT) for targeted analysis, planning and makeup of business relationships with individual purchasers/customers (business relationship management). CRM is a management concept as well as a technological concept that utilizes application systems to support business processes for business relationship management (Laudon et al. 2010; Leußer et al. 2011).

As part of comprehensive development, the economic expectations in regard to usefulness of available microdata (Kroenke 2013; Shapiro and Varian 1998; Zerdick et al. 2001), are changing as a result of the information technological (r) evolution and digital convergence taking place for years now, particularly in regard to the ability to compile, evaluate and link data as well as use it commercially. In this sense, CRM is a specification of the approaches on the use of information technology (Mertens 2010) for companies in regard to potential and existing business relationships to individual purchasers/customers.

9.1.1.1 CRM: New IT Conditions for Old Ideas?!

Neither the fundamental ideas of business relationship management nor the concepts and methods that go with it are really new. They have been in use for a long time, sometimes without explicit names and sometimes in conjunction with evolving catchwords (e.g. business relationship management, relationship management, one-to-one marketing) (Bruhn 2007; Gersch 1998; Helmke et al. 2008; Hippner 2006; Sexauer 2002).

M. Gersch (✉)
School of Business & Economics, Freie Universität Berlin, Berlin, Germany
e-mail: martin.gersch@fu-berlin.de

For centuries now economic actors have suspected the different values of customers, observed different behavior in individuals, formed implicit or explicit customer groups and taken these assessments into consideration when designing their strategies and sales policy instruments. It has been possible for a long time as well to apply evaluations of available data with statistical methods to forming groups with similar properties in regard to selected criteria and/or forming and testing assumptions about the effect of strategies and sales policy instruments (**market segmentation**, Freter 2008).

However, the following aspects have changed the basic conditions, requirements and prospects of success of business relationship management so fundamentally that the **CRM euphoria** observed for a while becomes absolutely understandable:

More intensive competition with inherent pressure on the companies induces the companies to keep looking for potential improvement that could lead to competitive advantages. It was no later than the studies of the 1990s (Peppers and Rogers 1997; Reichheld and Sasser 1990; Reichheld 1993) that revealed the different meaning of customers, in regard to costs as well as to revenue, and explained a greater awareness in science and in practice in regard to differentiated analysis, planning and control of the relationship to individual customers using terms such as "**relationship management**" and "**business relationship management**."

Dramatically fast-paced developments in information technology beginning the 1990s (Laudon et al. 2010) as well as particularly the use of the internet beginning in 1995 in conjunction with terms such as "electronic business" and "electronic commerce" (Gersch 2010) changed the basic conditions and possibilities of business relationship management in many ways. Examples of changes or completely new potentials that promoted greater attention to **customer relationship management** (CRM) include:

- Digitalization and cross-linkage of service creation, transaction and administrative processes with respective differentiation of data availability. The explosive growth in the use of online media (Infratest 2009; Laudon and Kraver 2010) along value-chains (Gersch 2010) as well as between individuals (employees and/or consumers: web 2.0; social networks) are relevant here.
- Increasing the availability of better technical ways to store and process mass data (explosion in performance) along with continuously falling costs for storage, evaluation and transmission of data (Weiber 2002).
- Availability of integrated CRM software systems, acting as "technological enablers" to open new ways to manage customer relationships (Leußer et al. 2011).
- Continued development of concepts for systematic and targeted use of evolving IT capacities as the framework of business relationship management, particularly for individual collection, analysis and use of data related to single customers. In combination with concepts that increase flexibility, such as modular design and "mass customization" (Pine 1993; Piller 1998, 2001), the prerequisites for customizing the offering at a cost comparable to mass production emerged successively.

9.1.1.2 Examples of Successful CRM Applications

The impressive economic success of customer relationship management can be seen in the developments of the companies stated here as examples. Some of them use other catchwords to describe their strategies, but they all base their strategies strongly on the elements of CRM described here. At the same time, it becomes apparent that the approaches can be very different. This will be discussed in this section as well:

Satisloh AG Guidance and support for sales reps of a typical machinery and equipment manufacturer using a mobile sales information system, not only facilitating more efficient preparation and reviewing of customer visits but also serving as aids for sales talks with IT-supported product configurators. Offers are put together to meet the customer's needs during consultations. The strategic goals of the supplier's business relationship management are taken into consideration, e.g. in regard to individual goals with the customer or special conditions (Weidner 2007).

Audi AG CRM as a component of decided campaign management in which e.g. customers considered relevant and attractive are targeted for involvement when a new vehicle is introduced. Selected customers are invited to special events before the vehicle is launched and are kept updated throughout the course of the campaign. CRM includes not only supplier measures, it also coordinates corresponding dealer activities.

Last.fm Internet radio services such as Last.fm and, as bandwidth increases, other internet-based media offerings (like tape.tv or Putpat), especially for movies, take advantage of forming "affinity groups." Based on the music, clip and/or movie preferences they have demonstrated as well on their observed digital behavior, customers are assigned to groups of persons with similar traits. This information can be used very successfully e.g. to customize the core offering and utilize "cross-selling" or "up-selling" potentials, and it can be used for targeted communication policy and use of data by third parties. The following explanations will expand on this.

Amazon Largest E-commerce company in the world (by revenue). The company expanded its original assortment of books and media long ago and now offers a nearly complete range of products through mail-order (incl. furniture, fashion and food). It also has marketplace and community functionalities. Recommendations from other customers based on their past purchases (e.g. verbal recommendations "Customers who bought this item also bought. . ." or star ratings and comment/blog functionalities) are particularly well known. This is only the use of customer data that is perceived by the customers. Amazon actually applies a broad range of the CRM potentials described here.

Otto Rapid growth to become second-largest E-commerce company in the world (by revenue). The company took central approaches formerly used in traditional business models and consistently adapted them to new technologies. These approaches include the analysis of multi-channel customers who are especially economically attractive as well as the formation of customer affinity groups on the basis of behavior data—generated from various online and offline contact channels—relevant to purchasing and used in an appropriate combination.

Google, Facebook & Co Wide-ranging collection and subsequent linking of differentiated personal master data and usage data on the most varied applications and services. This forms the foundation for differentiated user profiles. One use for these profiles is e.g. to offer services tailored to an individual's needs via the platforms and, as a non-monetary service in return, to generate microdata on the persons. The user profiles can also form the basis for targeted offerings to third parties. As Eric Schmidt, CEO of Google stated: *"We know more or less who you are, what you are interested in and who your friends are"* Unknown (2010)

To examine the focus of this contribution, the **capital goods sector**, the possibilities that CRM offers will be explained using primarily German pharmaceutical wholesalers as an example. This industry has been using the information gained from its central position in the value chain for decades to target its business relationships with pharmacies. It is important to point out that its core service (supplying the common assortment to pharmacies, particularly prescription medications (Rx)) cannot be digitalized.

9.1.2 Subtasks of CRM

Publications on customer relationship management commonly subdivide the topic to operative, analytical, strategic and communicative CRM (as examples for others: (Hilbert 2009; Hippner and Wilde 2008; Hippner 2010; Laudon et al. 2010; Leußer et al. 2011; Rentzmann et al. 2011). Figure 9.1 provides a systematic overview and shows the relationships between the subtasks of CRM.

9.1.2.1 Operative Customer Relationship Management
Operative customer relationship management (oCRM) includes all of the operative support services required to perform business processes related to business relationship management of a company. These include particularly the following aspects:

- **Linkage and coordination of all corporate divisions with customer contact:** Operative CRM is comprised of all areas that, as so-called "front office", have direct contact with the customer. This typically includes sales and services, whose activities are in turn usually supported by their own specialized application systems (e.g. sales or service information systems). In addition to the
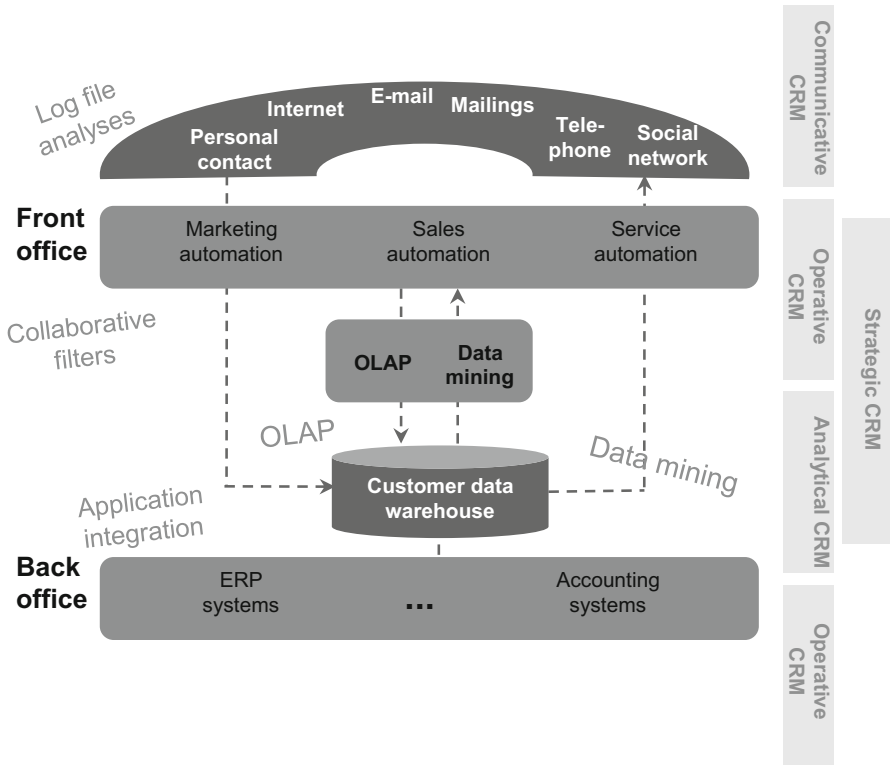
Fig. 9.1 Subtasks of customer relationship management. Source: Based on Hippner and Wilde (2008)

customer-related data generated from the operative business, relevant customer-related data is usually considered from all of the other direct channels to the customer (so-called "touch points"). It is already apparent that such customer contacts generally occur through a wide variety of media, only some of which are available as digitalized data and capable of integrated application systems.

- **Integration of customer-related data in a customer data warehouse:**
  In most CRM application concepts, a so-called customer data warehouse takes over the central technical functions of mining, aggregating and providing the data on the individual customers gained from the various business processes and corporate divisions (Becker and Knackstedt 2011). A data warehouse is a corporate-wide concept. It is a logically central storage space that provides a uniform and consistent data base to help specialists and managers from all relevant divisions and levels in decision making. This data pool is stored and managed separately from the operative databases (Gabriel et al. 2009). Separating data analysis from the operative systems ensures that daily business is not hindered by the vast processing power required for analysis applications (Hippner et al. 2006). Because of the steep integration challenge (Sect. 9.2.2.1)

and the necessity to overcome technical, syntax, semantic and pragmatic standards between the application subsystems (Gersch 1998), partially redundant data storage usually has to be accepted (Schelp 2010).

- **Coordination of all corporate divisions with customer-related data and linkage to back office application systems:** In addition to the direct customer touch points, there are many other corporate processes in which data on individual customers that may be relevant to business relationship management is generate or used. Some examples: accounting, with data on individual payment behavior and payment references; managers, with their personal contacts to the customer's employees; and/or logistics and production area, with information on availability of goods and current production planning. When a comprehensive CRM approach is applied (Sect. 9.3), these business processes are also tied into the CRM concept. To avoided isolated solutions, the CRM system has to be linked to the company's central back office application as well (Helmke et al. 2008). Depending on the company's IT system architecture, these are usually ERP (enterprise resource planning) systems, production planning and control systems (especially in the manufacturing industry) and/or inventory control systems (retail) (Mertens 2009).

9.1.2.2 Analytical Customer Relationship Management

Analytical customer relationship management (aCRM) uses the data aggregated in oCRM and evaluates them in regard to specific problems and decisions. Ideally, the fundamental ideas of a continuous learning process can be realized with the aid of technical support (Hippner et al. 2006), a process coined "learning relationship" by Peppers and Rogers back in 1997. Because of the rapid technological development described earlier, there has been a dramatic increase since the beginning of this century in the fundamental options of collecting and analytically preparing microdata. Especially "cloud computing" as well as "in-memory" opportunities make technical (not organizational and/or legal!) performance and capacity restrictions virtually obsolete (Laudon et al. 2010).

In addition to the creation of standard reports for specialists and managers in customer relationship management mentioned earlier, "KDD" or "data mining" and "OLAP" applications are used for aCRM to generate information relevant to problem solving and decision making from the data stock of the customer data warehouse.

KDD stands for "**knowledge discovery in databases**" and designates the process required to detect previously unknown and potentially useful correlations in large quantities of data (Düsing 2010). Data mining is often interpreted as a step in comprehensive KDD, which includes the entire process as well the preparation and evaluation of data (Gluchowski et al. 2008). **Data mining** in this interpretation focuses completely on the actual discovery of previously unknown structures and correlations, using selected analysis methods that will be referred to later (Sect. 9.1.1.2).

On-line analytical processing (OLAP) is a software technology based on multi-dimensional data stock, intended to grant specialists and managers quick,

interactive and diverse access to relevant and consistent data (Gabriel et al. 2009). It is usually made up of relevant gages and performance indicators (e.g. sales, revenue, costs, contribution margins, market shares, regions, etc.) that are prepared and presented as a multi-dimensional data cube. Following these dimensions, the gages can—depending on the question/issue—be drilled down or rolled up, diced or sliced (Chamoni 1998; Hippner et al. 2006; Hippner and Wilde 2008). The emphasis is on dynamic and multi-dimensional analyses of historical and consolidated data stocks, which are especially well suited to verifying a priori hypotheses. The user interfaces, operated intuitively, are a particularly useful feature that enables management and technical departments—usually via data warehouse applications—to access various data sources within the company and outside of it. OLAP tools often tempt users to perform ad hoc analyses of specific problems. In contrast to tabular, statistical standard reporting, these analyses facilitate "playful" discoveries, specification and tracing of abnormalities and spontaneous questions (Hippner and Wilde 2008). When experienced users can interactively modify hypotheses with an OLAP system, the available multi-dimensional complexity quickly exceeds the limits of intuitive perception. This manual search for correlations should ideally be supplemented with the systematic discovery of new correlations in the course of data mining.

9.1.2.3 Strategic Customer Relationship Management (sCRM)

Applying the findings gained through aCRM, it is the job of strategic customer relationship management to make fundamental decisions related to business relationship management (Chaps. 4 and 5) and to then monitor its effect over time, making adjustments as necessary. Depending on where sCRM is anchored in the corporation, it can include particularly the following tasks:

- Continuous analysis and, when necessary, moving business relationship management to a different part of the organization (reflection/meta level).
- Formation, analysis, prioritization and selection of customers (or customer groups) deemed relevant.
- Formulation and specification of individual goals for each prioritized business relationship or each differentiated type of business relationship.
- Decision on individual constellation of business relationships and realized offerings, on business processes (Merzenich et al. 2011), on conditions and, when appropriate, on investments in the business relationships that affect multiple transactions.
- Coordination with other areas to create the organizational and technical conditions needed for efficient realization of individual business relationships (e.g. modular strategies or principles of mass customization).
- Decision on performing special actions related to business relationship management. These can include e.g. campaigns to acquire new customers with certain qualities, reactivation of "dormant business relationships" or active reclaiming of lost customers.

9.1.2.4 Communicative Customer Relationship Management

Communicative CRM (cCRM) implements both internal and external communication in business relationship management. With internal communication, it is essential to ensure that not only the data needed is extracted but that all of the decisions made in the course of sCRM can be applied again to all operative implementations. So the persons responsible for performing single tasks must have the proper specifications with regard to the overall customer-related strategy. This means for example that the specifications created e.g. for offerings or price conditions have to be effective for each customer at the customer touch points (e.g. sales reps or call center) as well as in the production plant. When a customer contacts the call center, these individual specifications must be applied just as they are in preparing personal conversations at different levels of the corporate hierarchy or in more or less generously handling a complaint in the service area.

External communication focuses primarily on coordination and agreement of communication of the individuals responsible for tasks and functions related to the customer. Decisions made as part of sCRM must be implemented as coordinated and agreed behavior by those responsible for tasks and functions, ensuring that, from the customer's view point, the supplier's overall communication is coherent and consistent.

Figure 9.2 gives an overview of the complex tasks of customer relationship management.

9.1.3   Goals of CRM

The main objectives of CRM are the utilization of new technical ways to support traditional **subtasks of business relationship management**. These subtasks can be characterized as (Gersch 1998):

- Analysis and selection of suitable business relationship partners (future, current and possibly former partners to be reactivated).
- Specific objectives for each separate business relationship
- Targeted design of each business relationship
- Permanent monitoring and control of the portfolio consisting of all business relationships but also of each individual relationship.

From an economic point of view, customer relationship management and the inherent customization of offerings have no intrinsic value. The central approaches are selective customer loyalty, securing or even increasing revenue, and improving the efficiency of activities required for this purpose (Gersch 1998). A differentiated performance analysis, often attempted with simplified cost-benefit analysis, should serve as a benchmark. This is typically intended to prove that the benefit generated by customer relationship management justifies the incurred costs (Chap. 4. To find out more about the fundamental problems of performance analysis of CRM applications, refer to Sect. 9.2.2.2).
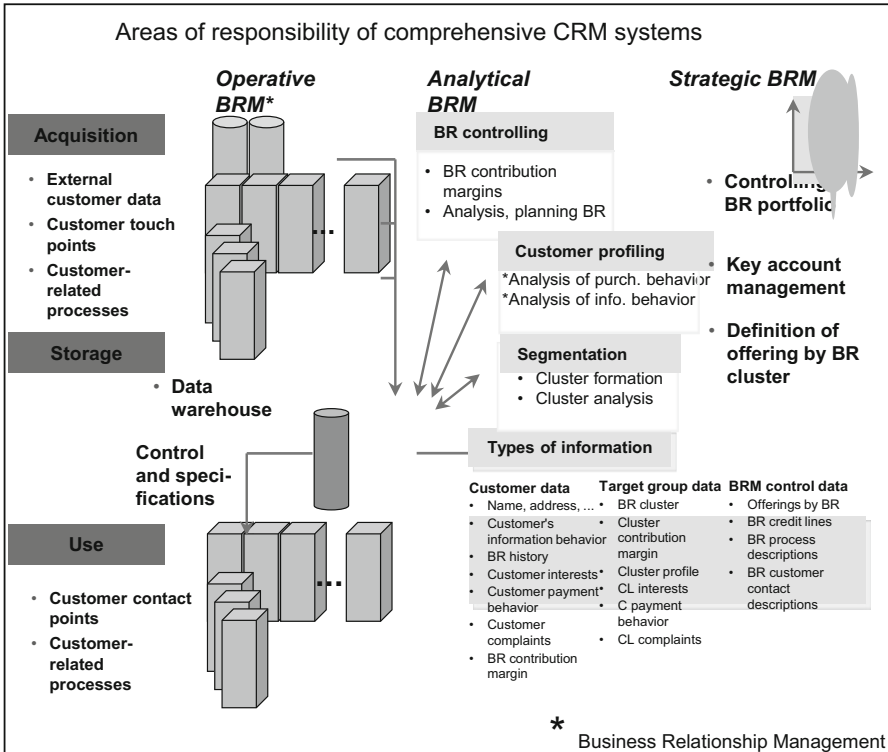
Fig. 9.2 Tasks of customer relationship management

Benefits of CRM are generally considered to be a selective increase in customer loyalty on the part of customers considered to be economically attractive as well as the chance to secure or even increase revenue. The aspects related to revenue are usually assumed to be associated with greater price willingness of the purchaser for customized bundled services, falling price elasticity for the customer over the course of the business relationship and/or an increase in the proportion of the supplier's revenue generated by customer spending (by concentrating the purchaser's procurement within one of the supplier's categories (potential for intensification) as well as by so-called "cross selling" or "up-selling", Hippner 2006; Laudon et al. 2010). If it is not possible to express this information as absolute values (for information on problems of cross-selling/cross-buying analyses, refer to Rese et al. 2008), an attempt is usually made to compare the assumed revenue developments without CRM measures as part of considerations on opportunism. Indirect benefit effects of single purchasers are emphasized as increasing customer value in addition to these direct revenue effects (Günter and Helm 2011; Hippner 2006). Indirect effects include particularly the reference potential, e.g. of opinion leaders in attractive purchaser segments, the information potential of typical customers, including lead users (Hippel 1986; Kleinaltenkamp

and Dahlke 2006), and the potential for cooperation (e.g. access to lacking resources and/or personal networks, Günter 2006).

In regard to the **costs of CRM**, the expense incurred to create the infrastructure required, the additional costs resulting from collection, analysis and evaluation of data, any customization of service creation and the offering are all considered to contribute to increasing costs (for more on overhead and costs attributed to individual customers, refer to Reckenfelderbäumer and Welling 2006). In contrast, CRM also has effects that reduce costs, e.g. more efficient communication processes, less scatter loss or potential outsourcing to regular customers of partial services provided by the supplier.

The information technology developments explained in Sect. 9.1.1 and the resulting changes in the basic conditions and the constellation options lead to the assumption that there are positive effects on both the benefit aspects and cost aspects. It is becoming increasingly interesting economically for more and more companies to investigate the potential uses of customer relationship management for their scope of activities, even in cases in which their former circumstances made it appear the CRM was not a promising course of action for them.

So the generally worded objectives of CRM are becoming a strategic option worth considering for more and more suppliers. The fundamental goals of CRM outlined here—depending on the basic conditions and the strategic direction of CRM—are specified in coordinated **subordinate targets of customer relationship management**. These targets relate e.g. to the following aspects:

- Long-term commitment of profitable customers or establishment and reinforcement of profitable customer relationships. The means to an end here is primarily to secure adequate customer satisfaction of the current and future customers deemed attractive (Hippner 2006, 2010; Hippner and Wilde 2008), the secondary intention being targeted design of additional loyalty factors (e.g. legal, technological or psychological loyalty elements) (Gersch 1998).
- Reclaiming and reinforcing former customer relationships that are assumed to be potentially profitable in the long term (Helmke et al. 2008).
- Typical subordinate goals for individual subtasks of CRM (Sexauer and Wellner 2008):
  - Improvement of customer selection
  - Addressing individual customer requests
  - Rationalization of in-house sales department and sales reps, possibly with simultaneous
  - Focus on and improved coordination of communication and sales activities
  - Effective and more efficient order processing (as well as other sub-processes of customer care and sales activities) by liberation from and/or automation of administrative routines
  - Early detection of potentially attractive new customers or of "dwindling" or "broken off" business relationships.

9.2 CRM at a Crossroads?!

9.2.1 CRM Euphoria and Disenchantment in Practice

Beginning in the mid-1990s customer relationship management became a real fashion trend in both scientific literature (especially in the marketing field and then later in information systems) and in actual practice. In retrospect, it can be labeled downright "CRM euphoria." It was one of the few IT-related topics that captured the attention of the highest tiers of management.

Actual practical experience, a wealth of reports from corporations and relevant empirical studies all show that a certain disillusionment has begun to set in (Helmke et al. 2008; Schaller et al. 2006; Sexauer and Wellner 2008). Besides the many detailed reports, the following aspects have proven to be primary **sources of this disenchantment**:

- Unrealistic expectations as to the potential benefits, along with inadequate consistency and focus on goals related to planning and realization of CRM implementation suited to the respective company.
- Underestimated complexity of CRM implementations, particularly regarding instating the technical, organizational and HR requirements for an "integrated CRM concept" to be able to achieve the desired effects.
- Difficulty of creating an adequately discriminating performance analysis of CRM plans such that it actually influences the behavior of those responsible for decision making.

Before we talk about CRM scenarios that can realistically be implemented in Sect. 9.3, the following sections will examine these challenges.

9.2.2 (Unrealistic) Expectations Versus Underestimated Prerequisites for CRM

9.2.2.1 Underestimated Prerequisites for Integrated CRM Systems
The initial description of customer relationship management emphasized that it is an "integrated concept" and an "integrated information system" (Laudon et al. 2010; Leußer et al. 2011), which becomes apparent after learning about the subtasks of CRM, particularly aCRM. Integration always has technical implications as well as organizational and HR-related implications that are at least sometimes relevant.

The **technical aspects of integration** can be vastly simplified by differentiating between "connectivity" as a fundamental requirement for linking information systems and different degrees of "compatibility"; together they form the basic prerequisite for potential manifestations of integration (Gabriel et al. 2002; Mertens 2009; Weiber and Zühlke 2005). In very general terms, integration means connecting people, tasks and possibly technology to form a coherent whole, with

Requirements for (inter-organizational) cross-linking and integration

➡ **Agreements must be made at different levels for system communication and integration**

6) Subtasks and business processes	• Coordinated subtasks and business processes as consequences of action
5) Application systems	• Pragmatic level of coinciding sequences in application systems
4) Data management	• Semantic level, e.g. product classification; customer attributes
3) Data exchange formats	• Syntax level, e.g. EDIFACT, XML
2) Transmission services/standards	• e.g. X.400, TCP/IP, FTP
1) Transport networks and hardware compatibility	• Layer 1 - 4 in the ISO OSI concept

Left side vertical labels: Specific agreement; Specific agreement; Specific agreement; EDI; Internet + XML; SOA + EAI + workflow control

Right side vertical labels: Requirements for integration; Cross-linking requirements
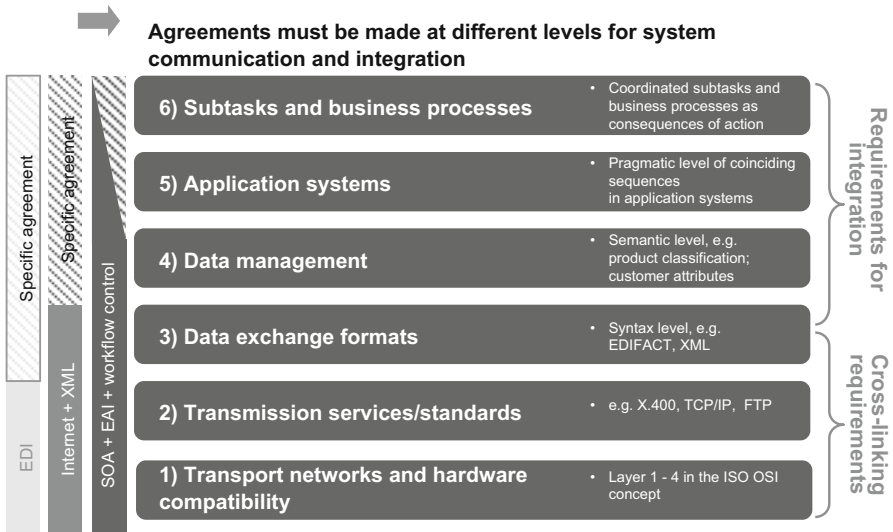
Fig. 9.3 Prerequisite for cross-linking and integration. Source: Based on Gersch (1998) and Weiber and Zühlke (2005)

the intention of combating the functional, process and departmental limitations resulting from division of labor and specialization (Laudon et al. 2010). Mertens (2009) claims that there are several dimensions to integration (based e.g. on the object of integration (data, functions, objects, processes, methods, programs), the direction of integration (vertical, horizontal, lateral) or the extent of integration (division, covering multiple functions or processes, internal or between companies). **Cross-linking** in this case means only the technical, physical link between different members of the organization, organizational units and the respective application systems used, with the objective of working in a coordinated and cooperative manner (e.g. as a network for sharing data). **Integration** is the subsequent coordination and possibly merging of technical systems, processes, structures and tasks between the various members and units of an organization and/or organizations. Beyond the predominantly technical aspects of networks, the syntax, semantics and pragmatic levels of compatibility are essential for integration to actually work (detailed information on integration: Gabriel et al. 2002; Gabriel and Beier 2003; Mertens 2009); for the **syntax, semantics and pragmatic level of compatibility**, especially Gersch (1998) and Fig. 9.3.

- The syntax level of compatibility addresses the physical nature of characters and their identification as data in the semiotic sense. This is usually assured by using formats like HTML, XML or EDIFACT to exchange data.
- The semantic level of compatibility specifies the unequivocal definition of the contents and meanings of characters and messages as the central task of data

management. It is important that terms such as "customer net price" and "customer value" always have exactly the same contents and definitions.
- The pragmatic level of compatibility deals with the coordination of action and reaction patterns as compatible business processes that can be consistently or sporadically supported by IT-based application systems.

When it comes to organizational aspects of integration, the following aspects are typically relevant particularly for operative CRM (similar to Hippner et al. 2006; Hippner 2010; Laudon et al. 2010):

- Multitude of touch points to customers with the need to be synchronized and supported.
- Multitude of contact partners, contact media and interaction channels to the customer to be integrated, usually through several functions, departments and different persons.
- IT-based information systems often only partially support these touch points, accrued customer data and the resulting customer histories.
- When customer contacts and customer-related processes are already supported digitally, it is usually with different information systems that are frequently not linked and are surely not integrated.

Sexauer (2001) was one of the first to focus on the **HR aspects of integration**. All of the technical and organizational measures can only create the conditions to provide an implemented CRM system that serves as a tool for the functionaries and decision makers. The central aspect of success is the acceptance of the CRM implications for the respective tasks and functions, especially when costs and benefits seem to be distributed unevenly amongst the functional areas. Depending on the CRM concept, this can affect not only operative tasks perceived as "pointless extra work" but can also cause detachment from the accustomed goals,—often focused on individual functions or tasks—processes and routines for achieving these goals (e.g. changing incentive payments in sales from "number of new contracts" to differentiated CRM subordinate targets, such as "number of new contracts with customers with certain properties," "compiling and maintaining customer data also available to other divisions"). So it has proven crucial to success to frame the essential change in behavior with a suitable CRM implementation strategy, consisting e.g. of appropriate training and informational measures, modification of the incentive systems in compliance with clearly defined CRM subordinate goals (as specification of a CRM target pyramid) and clear and concise descriptions of tasks and processes.

To meet the demand for implementation of the fully "integrated CRM information system"—a demand that is easy to put into words but difficult to comprehensively and consistently meet—there are many conceivable solutions, all of which require a wide range of conditions and substantial investments before the CRM idea can be thoroughly put into practice and integrated, whereby it is supported by IT:

- CRM as a function in a central system: implementation of the required CRM functionalities in a central IT system (e.g. ERP or management information system) used by all relevant departments and functionaries.
- CRM as a supplemental module: addition to a company's existing infrastructure—which has usually grown successively and is heterogeneous—initially as an autonomous CRM module, consisting of a customer data warehouse and being integrated into the existing IT landscape via import and export interfaces (overview of 63 CRM software solutions, (Hippner et al. 2009).

As explained in detail in Sect. 9.3, "selective or focused CRM applications" are most common right now. These applications concentrate on (sometimes only at first) selected functions and application systems, not lastly because it has been revealed that the technical and organizational requirements for realizing a comprehensive and integrated CRM system demand investments and modification projects that are nearly impossible to quantify—and even rough estimates are of an amount that is unacceptable in relation to the anticipated benefits. Especially established companies with an IT system and process landscape that has grown over many years and is typically heterogeneous tend to choose the route of focused implementation of a CRM strategy, possibly combining it with a successive migration strategy when replacement investments are required, thus expanding CRM integration step by step.

9.2.2.2 Problems Associated with CRM Performance Analysis

As with all courses of action, customer relationship management and the associated investments are subject to performance analysis. The performance analysis is initially an evaluation/forecast of future effects, and as implementation progresses, it increasingly takes on the character of specific targets and inspection specifications. The special problems of CRM performance analysis are explained here on the basis of the general discussion with respect to information systems (Arens 2004; Gersch 1998; Schumann 1992, 1993; Uebel 2008):

- Multi-dimensionality of goals:
  As the discussion of the goals of CRM in Sect. 9.1.3 revealed, CRM approaches typically pursue not just a single goal but several at the same time. It is not at all necessary that the various goals be equally relevant. No performance analysis can ever thoroughly consider all objectives—and surely not when there are multiple objectives with different weighting.
- Gage problems with systemization of economic effects:
  One pivotal problem is finding a suitable indicator (or multiple indicators) that enables unequivocal comparison or modification of the efficiency of alternative courses of action and constellation alternatives. Although at first glance it may seem sensible to choose revenue and costs as the relevant indicators, it quickly becomes apparent that neither on the cost side nor the revenue side can all effects of CRM be unequivocally compiled. Furthermore, the respective cost and revenue classifications are specific to each company and are

subject to interpretation (Uebel 2008). And it also wouldn't be possible to classify all of the relevant effects by cost and revenue. There are typically several effects to be recorded only qualitatively (such as resulting flexibility, greater market transparency, faster decision making, etc.) but that should at least be considered as complements.

- Abstraction of situational and individual influencing factors on CRM effects

  To substantiate the performance analysis, it has to be embedded in the specific situational circumstances of an individual company. On the other hand, comparison over a period of time and/or of multiple participants requires a certain degree of generalization. With the complexity of CRM concepts it comes as no surprise that controversy comes up again and again as to whether the measured or assumed effects in individual cases can be attributed to certain basic conditions. If this were the case, it would make a sweeping generalization impossible, specifically in regard to detailed findings. The challenge here is to choose an abstraction level that seems appropriate.

- (Lack of) consideration of linkage and integration effects:

  The challenge, closely related to the previous point, is that CRM applications are typically realized by different functional areas, departments, procedures and IT subsystems, each contributing its part from the division of labor. A suitable excerpt must be chosen for the performance analysis and the comparison of benefits of courses of action performed for this excerpt. Established functional, departmental or IT system limitations are typically applied, and available basic information (e.g. from accounting/controlling) is taken into consideration as well. It happens regularly that reciprocal effects have to be ignored, between segments examined separately as well as between subsystems considered and not considered in the analysis.

- Observance of benefit effects distributed geographically, time-wise and/or institutionally:

  Both positive and negative effects of potential CRM implementations typically occur at different times and are sometimes delayed. Seen from the cost side, this can be considered by factoring in one-time and current expenses (e.g. total cost of ownership with CRM systems, Laudon et al. 2010), but it is much more difficult e.g. when the resulting revenue is considered. In this context it is important to emphasize that the success of CRM can be observed only over the mid to long term (Hippner 2006). Which revenue effects are implied and which proportion is attributed to a CRM system? The ramifications can be seen in different locations and throughout the institution, which in turn leads to identification, evaluation and attribution problems. If advantages and disadvantages become apparent in different areas of authority (possibly at different times and with the attribution problems described), this will usually lead to analyses being discussed with a great deal of controversy.

- Uncertainty and innovation problems:

  It must be kept in mind that CRM systems, like all information systems, have no objective, ex ante specifiable value (Picot et al. 2003; Uebel 2008). This means that really only specific implementations of CRM systems have effects

that can be compared, or hypothetical scenarios and those based extensively on assumptions have to be accepted. Then there is grave uncertainty about the actual occurrence of assumed effects as well as about the actual development of assumed conditions or the occurrence of surprises. This problem becomes even more critical with innovative implementations of CRM systems that are not "only" substitutive improvement of existing processes, structures and services but actually form and justify new ones. The limitations of attempting to quantify potential effects quickly become apparent, and it can be claimed that actual uncertainty is concealed by "pseudo-precision". On the other hand, competing project proposals will in practice have to consider comparison figures/indicators (depending on the method applied, e.g. internal discounting, project contribution margin or ROI).

- Necessity of comprehensive consideration and solution of attribution problems:
  As already mentioned, CRM implementations are not restricted to technical realizations, they also require organizational and HR changes and adjustments. So performance analysis may not single out isolated aspects. It is, however, always difficult to determine the limits of causality, which effects can and should be attributed to the individual CRM concept. Expanding the analysis meets the demands for comprehensiveness, but at the same time the analysis effort, the unavoidable uncertainty of prognoses and the attribution problems increase dramatically.

    In light of the challenges only hinted at here as well as the impossibility of "correct and complete" evaluation of the efficiency of CRM implementations, the following impressions—apparent in the evaluation of relevant publications as well as in observations and empirical studies of actual practice—are not surprising:

- Diversity and contention of methods:
  In accordance with the fundamental alternatives of analyzing the performance of IT systems, all conceivable manifestations and combinations of methods come up in discussions of CRM systems (Gersch 1998; Schumann 1992, 1993). These methods range from procedures for determining the effects (including cost-benefit analyses, process analyses, efficiency chains) and one-dimensional or multi-dimensional methods to economically assess the conjectured ramifications (such as investment appraisals, full-cost accounting and marginal costing, process cost accounting as well as scoring models, efficiency analyses and comparison of arguments and potential, Reckenfelderbäumer and Welling 2006) to more complex combined methods (Uebel 2008) that sometimes include different methods to determine uncertainty (such as sensitivity analyses, probability calculations, scenario technique). Brilliant controversial discussions on the "correctness" of the method chosen in comparison to other methods can ensue.

- Decisions having to be made with minimal information on the inherent risks and a tendency towards limited CRM implementations:
  In light of the complexity of comprehensive CRM concepts and the problems related to analyzing their profitability, it comes as no surprise that, because of

the unavoidable errors, simple procedures with a marked tendency toward aggregation are commonly used (Laudon et al. 2010; Sexauer and Wellner 2008). Examples of parameters used include: number of repeat purchasers, cost per customer service call, reduction in customers changing to other suppliers or various conversion rates, e.g. in the sense of interested parties becoming purchasers and then repeat purchasers. Sometimes an explicit methodical examination is omitted and the "convictions" of top management tip the scale. Since this, too, requires justification, the tendency becomes stronger to implement isolated CRM applications that can be realized with a relatively low budget, because performance analysis methods that can be easily substantiated (e.g. ROI) seem easy to justify. This effect tends to become stronger when middle management of a company is responsible to top management for CRM projects.

- Disenchantment and CRM disappointment:
  The actual results often come as a surprise. They are perceived as much more negative, which can usually be attributed to originally optimistic assumptions, underestimated complexity or a limited analysis environment. This lead to the premature yet bold judgment that CRM usually does not meet expectations. (Laudon et al. 2010; Schaller et al. 2006).

9.3 CRM Development Scenarios

Simply put, there are two potential scenarios for the development of CRM that simultaneously systematize the courses of actions for companies considering CRM as a new strategic option:

- Focus on subtasks deemed realistic: companies begin the implementation of CRM with single, clearly defined subtasks. Hippner et al. (2006) refer to this as "selective CRM systems" as opposed to "integrative CRM systems".
- Realization of comprehensively integrated CRM concepts that serve as a consistent anchor for the corporate strategy and integrate all relevant subtasks and functional areas to the greatest extent possible.

9.3.1 CRM Development Scenario 1: Focus on Realistic Subtasks

9.3.1.1 Examples of Selective CRM Applications
The wealth of selective CRM applications described in publications and observed in actual practice (Weidner 2007) can be categorized by different aspects by focusing on the subtasks. They can be categorized e.g. by:

- Phases of the customer life cycle: CRM concepts can focus on single subtasks over the course of the so-called customer life cycle (Hippner 2006; Hippner and Wilde 2008; Wimmer and Göb 2006). These include e.g. systematic

management of interests during the "initiation phase" of a business relationship or revitalization management to identify, analyze and rejuvenate business relationships with economically attractive customers that used to work well.

- Marketing instruments: Weiber (2006) differentiates between focusing on the course of communication, product, distribution and/or pricing policy; he claims that multiple, combined instruments can also be addressed. These include e.g. modular design/mass customization strategies as part of pricing policy, facilitating individual offerings suited to the customer's needs.
- Measures that are part of customer processing: Helmke et al. (2008) distinguish such measures along the typical phases of customer processing. These include e.g. concepts for individual customer support during the information phase, all the way to after-sales service.
- Functional areas/corporate departments: Laudon et al. (2010) differentiate between selective CRM applications by the specialized departments sales, marketing and customer service. Examples of CRM application are customer and order management in sales, campaign and event management in marketing, and customer satisfaction management in customer service.
- Technical realization: Selective CRM approaches, often in conjunction with another systematization criterion, are differentiated by information technological aspects in at least two respects:
  - Locating CRM functionality in the IT system infrastructure of a company: CRM implementations here include those as an integral component of fundamental back office systems (e.g. of ERP or inventory control systems), as extensions of focused information systems (e.g. existing sales information systems) or as specialized CRM information systems selectively linked to established subsystems (Hippner et al. 2009).
  - Use of certain techniques to resolve CRM subtasks: these include considerations that emphasize e.g. the potential of multi-dimensional databases, new data mining methods or convergent, IP-based information and communication technologies as the basis for so-called customer interaction centers (CIC) to deal with CRM tasks (Hippner et al. 2006).

Because there are so many selective CRM applications, it is fruitless to even attempt to offer a complete overview. Using a few examples, the main approaches of typical partial approaches to CRM will be described.

Customer-related Sales Information Systems

These applications are characterized as part of operative and analytical CRM, often bearing different names like CAS (computer aided selling), (Sexauer and Wellner 2008), sales automation (Hippner et al. 2006) or SIS (sales information system), (Laudon et al. 2010). The emphasis is on supporting sales, particularly in efficiently performing the individual tasks associated with managing customer relationships. The most common applications are related to supporting sales staff in dealing with administrative, analytical and contact-related tasks before, during and after customer contacts (Hippner et al. 2006).

The **administrative tasks of the SIS** include scheduling appointments and planning routes for sales reps, compiling call reports or consolidating sales overviews. But effectiveness and efficiency can also be increased by simplifying travel expense claims, maintaining customer data, or target planning and budgeting individual business relationships. In addition to systematic evaluations in the form of standard reports, the **analytical tasks** of the SIS with increasing frequency include OLAP applications that help sales staff with flexible and problem-oriented analyses to prepare for and follow up customer contacts. Some of the standard analyses are: "lost order analyses" (analysis of all activities/offers that did not result in a contract), "sales cycle analyses" (analysis of purchasing histories and notation of replacement times in order to facilitate proactive approach) and "sleeping relationship analyses" (analysis of formerly active business relationships in regard to the causes of absent/declining subsequent transactions). The **contact-related tasks of SIS** are functionalities that support planning and execution of the actual customer contacts. These include e.g. electronic product catalogs, possibly with argument and configuration aids for customized offerings (sometimes based on experiences with customers of the same purchaser type or on the saved and assessed purchasing history of the specific customer) or conversation guidelines that help steer the content and course of phone calls with customers. Also refer to the implementation achieved by Satisloh AG, a supplier from the machinery and equipment manufacturing sector. With its mobile SIS, the company provided its sales reps with product configurators for use during sales talks.

Form a technical viewpoint, integrated OLAP applications as well as combinations of different stationary and mobile terminals hold great potential for supporting sales reps in their work. And they are also an ideal way to improve coordination between sales reps and in-house staff and to mesh sales with other functional areas of the company.

A good example of strategies efficiently enabled by focused CRM application is so-called **campaign management**, in which several areas of responsibility (particularly marketing and sales) coordinate their actions (here and later: Hippner et al. 2006). The emphasis is on presenting to the right customer the right information and offering, in the right communication style, through the right communication channels at the right time in the course of the business relationship. Sales becomes part of comprehensive campaign planning, campaign control and campaign evaluation.

- **Campaign planning:** This includes especially: defining the goal of the campaign (e.g. increasing the revenue generated by regular customers by cross-selling or up-selling, reviving "dormant" business relationships), selecting the target group and specifying relevant selection criteria, combining communication channels as best suited to a certain type of customer or even to a specific customer, and clearly defining the campaign process. This ensures that each person responsible for a task is assigned unequivocal responsibility and specifications for single sub-processes.

- **Campaign control:** Usually with the aid of a campaign management system, previously planned sequences of actions are triggered and their implementation controlled in a coordinated manner as specified by the criteria/indicators dictated during campaign planning. These include alternative contact sequence planning and communication rules. Without the proper campaign rules, complex, multi-level campaigns would not be controllable and would lead to inconsistencies and irritation from the customer's point of view. It is also important to watch the reciprocal effects with other sales measures and campaigns. If the customer is approached too frequently by different contact persons addressing different topics, the contact can be perceived as "aggravating" or "too much". As Weidner (2007) made clean in the example of Audi AG's rollout of the Q7, campaign control can be achieved as a joint effort with cooperation between producers and dealers; a similar example is the Top Drive system by BMW AG, (Mertens 2009).
- **Campaign evaluation:** Customers' reactions are comprehensively and system-atically fed to the customer data warehouse, thus facilitating the basic concept of "learning business relationships" (Peppers and Rogers 1997). Analysis of different alternative contact routes is of particular relevance (does contact initiated by the sales department trigger research, an inquiry or even an order in the online shop or call center shortly thereafter?). One goal of the impact study is to examine the action/reaction consequences to generate information relevant for action, in regard to continuation and control of the current campaign as well as in regard to the analysis of individual business relationships and the formation of customer types with similar reaction patterns. Then via the customer data warehouse this creates a foundation for future activities.

Data Mining Analyses of Customer-related Data

Data mining applications, considered to be promising new technologies to support customer relationship management, are a popular topic discussed in detail in publications and used more and more frequently in practice.

Generally speaking, data mining can be characterized as one of several potential approaches to data analysis, serving as a particularly good way to discover and confirm previously unknown information, structures, rules and patterns in large quantities of "Big Data" (Chamoni et al. 2010; Gluchowski et al. 2008; Hippner et al. 2011; Laudon et al. 2010; Neckel and Knobloch 2005). This makes data mining a crucial component of comprehensive concepts such as "business intelligence" (Dittmar and Ossendoth 2010). In regard to CRM, terms can be found such as "customer intelligence" (Wimmer and Göb 2006) or knowledge discovery in databases (Düsing 2010).

In customer relationship management, data mining becomes a part of analytical CRM. The multi-dimensional data compiled and kept in a customer data warehouse as part of oCRM forms the starting point for data mining. When the essential quality requirements are met, data from internal or external sources can be combined (Neckel and Knobloch 2005); or from of market research and internal corporate data collection (Wimmer and Göb 2006). In contrast to online analytical processing
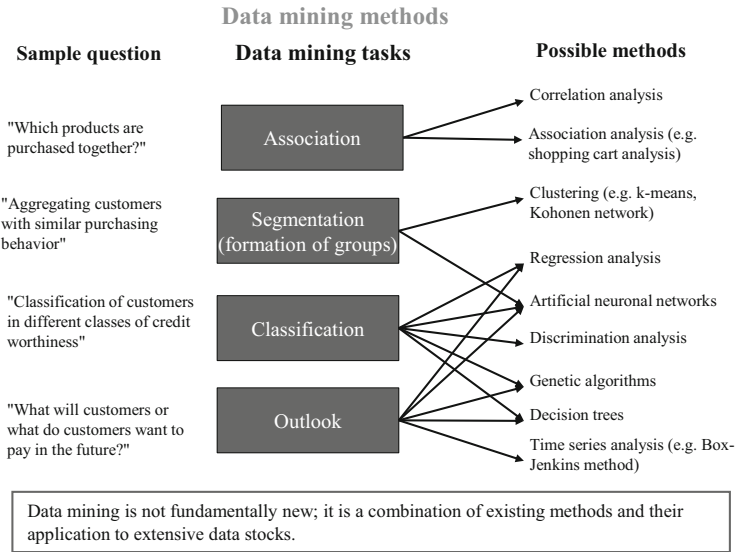
Data mining methods

Sample question	Data mining tasks	Possible methods

"Which products are purchased together?" → **Association** → Correlation analysis; Association analysis (e.g. shopping cart analysis)

"Aggregating customers with similar purchasing behavior" → **Segmentation (formation of groups)** → Clustering (e.g. k-means, Kohonen network)

"Classification of customers in different classes of credit worthiness" → **Classification** → Regression analysis; Artificial neuronal networks; Discrimination analysis; Genetic algorithms

"What will customers or what do customers want to pay in the future?" → **Outlook** → Decision trees; Time series analysis (e.g. Box-Jenkins method)

> Data mining is not fundamentally new; it is a combination of existing methods and their application to extensive data stocks.

Fig. 9.4 Data mining methods and typical "research" questions. Source: Based on Chamoni et al. (2010)

(OLAP), data mining does not require prior assumptions and hypotheses regarding causal correlations to be developed. Identifying these from the data stock is a central task of data mining. The term "mining" is intended to conjure the image of panning for gold in vast, unknown quantities of stone and project it onto the evaluation of large amounts of data (Zerdick et al. 2001).

Data mining applications use commonly known, analytical and statistical methods that—with expanding technical capacity—can be applied to increasingly large data quantities, sometimes even automatically. The following fundamental types of potential problems are particularly relevant as **data mining tasks** (Chamoni et al. 2010; Hippner and Wilde 2008):

- Association: discovery of correlations/precepts between objects
- Formation of groups: revelation of similar patterns or formation of groups with similar characteristics
- Classification: allocation of objects to created classes
- Outlook: forecast of unknown/future characteristics of objects

Based on the findings of Chamoni et al. (2010), Fig. 9.4 offers an overview of typical data mining methods and provides examples of the questions addressed.

In regard to the use of data mining as part of aCRM, the wide range of conceivable uses is obvious. Two examples will briefly demonstrate this (for many more detailed examples, refer to Neckel and Knobloch (2005)

Management of Interests Combined with Customer Segmentation by Behavior Data

When generating contacts to potential customers or selecting inquiries received, there is a certain "information dilemma" in regard to the goals of business relationship management. Generally no historical, internal data related to transactions can be available on the potential customer/interests (Haas 2011; Hippner 2010; Weiber 2002). However, the prediction of the conjectured customer value of the potential customers or interested parties can be greatly improved by forming so-called "similarity/affinity groups". The foundation for such groups can be a segmentation of current customers, using data gathered on their communication and purchase behavior as well as the customer value manifested over time. Applying the increasing volume of data distinguished throughout the various phases of the customer life cycle, it may be possible to hypothetically assign new interested parties to a similarity group with only minimal data available. And as the data availability increases, e.g. in regard to communication and interaction of a potential or first-time customer, it may be possible to improve the quality of the prediction step by step. The findings on typical customer traits gleaned from the similarity groups deemed attractive can be used to proactively initiate contact, thus acquiring new customers possessing the traits considered to be promising.

Proactive Recovery Management

The affinity groups described above can help to greatly improve the prospects of recovery management in business relationships (Hippner 2010; Hippner and Wilde 2008; Neckel and Knobloch 2005; Schöler 2011). In addition to better analysis methods to examine the selection of which relationships with current/previous customers would benefit from recovery measures in light of the potential customer value of this type of customer, the following aspects are also possible as part of proactive recovery management:

- When looking at **whether** recovery is worthwhile, data gained from comparable recovery attempts with similar customers can be analyzed and serve as a basis in deciding **how** recovery should be approached. The broader the data base available for this purpose is, the greater is the predictability of implementing recovery measures that are suited to the type of customer and that increase both efficiency and effectiveness. Analysis of the "cross-selling" and/or "up-selling" potential (Laudon et al. 2010) of the reclaimed customers can lead to greater intensity and higher value of the revitalized/renewed business relationships.
- Recovery management becomes proactive when indicators hinting at problems are identified and continuously observed before a business relationship is broken off. Then the supplier has the opportunity to intensify/revitalize the relationship with a customer presumed to be attractive before the relationship can be terminated. With these data mining approaches, it seems that the technical possibilities described by Reichheld (1993) are now available to consistently and actively utilize the relative benefits of managing existing or threatened

business relationships as opposed to the more common approach of attempting to generate new customers and new purchases.

- In regard to the usefulness of data mining approaches as part of aCRM, the following aspects are important:
- Internal customer data from any number of sources can be supplemented and combined with external data. However, the quality and relevance of the data base from oCRM as a basis for aCRM should be critically examined (Hippner 2010; Wimmer and Göb 2006).
- Data mining is not equally relevant to all aCRM issues and is not always superior to other analysis methods (Hippner and Wilde 2008; Neckel and Knobloch 2005). Benefits can be divined particularly when large, multi-dimensional data quantities become available for which there were previously insufficient conjectures on relevant causal correlations and patterns.
- While numerical data has made up the bulk of analysis objects so far, better methods (e.g. "text mining" are being developed to allow text or other "fuzzy" data to be considered in potential analyses, Gluchowski et al. 2008).
- With increasing digitalization and networking within E-business (Gersch 2010), the availability of data (digital traces) that users leave at different touch points and through different activities has exploded. In addition to "web log mining"/ "web usage mining" (Gluchowski et al. 2008), which has been practiced for a while now, information such as geographic and environmental data of individual times of use is successively becoming available via mobile terminals. In addition, web 2.0 applications generate a flood of data that cannot be managed manually (Laudon et al. 2010). Here, too, extensively automated analysis approaches promise interesting results, e.g. in regard to usage processes on the customer side that would not otherwise be detected and in regard to (dis) satisfaction or suggestions for improvement during use. Successively expanding the multi-dimensional data base this way promises interesting analysis possibilities, but is also increases the risk of loss of quality and relevance.

Collaborative Filters as "Automated Learning Relationships"

The process described above of using the available individual purchase and opinion data to build affinity groups as clusters of heterogeneous customers to form homogeneous groups is being used more and more frequently in the pricing and product policies of offerings. It serves to generate extensively automated recommendations and to customize the offering. This is discussed in publications particularly under the terms "**recommendation systems**" or "**collaborative filters**" (Ansari 2000; Lee and Kwon 2008; Zerdick et al. 2001).

Figure 9.5 outlines the fundamental principle that automates the idea of "learning relationships" by Peppers and Rogers (1997): "*A **Learning relationship** (. . .) gets smarter and smarter with every individual interaction.* [The one-to-one enterprise gets experience with each individual customer]". "***Surfing the feedback-loop** (. . .) the customer tells the company about certain need, you can 'look' at the customer during the online information/buying process and you can learn from the customer feedback ((un-)satisfaction, complaints. . .). . . .Every interaction and*
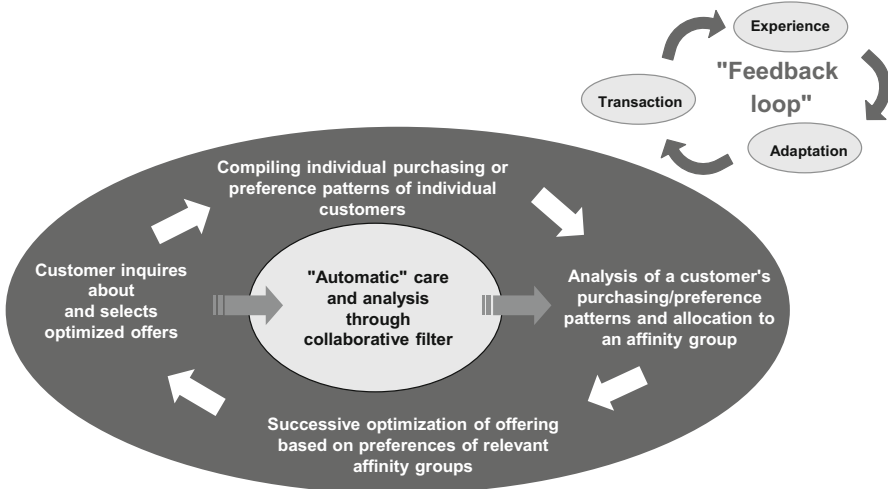
Fig. 9.5 Collaborative filters and the "feedback loop". Source: Based on Zerdick et al. (2001)

modification improves your ability to fit your product to the particular customer. Even if a competitor offers the same type of customization and interaction, the customer won't be able to enjoy the same level of convenience without taking the time to 'reteach' the competitor the lessons your company has already learned." (Peppers and Rogers 1997, p. 251).

While collaborative filters and recommendation systems were initially relevant when supplying completely digitalized offerings (e.g. Last.fm, Putpat, Yahoo, Google), the approach is being implemented with increasing frequency by suppliers whose offering core is made up of physical products (e.g. Amazon or Baur Versand (Weidner 2007). A brief description of each application in specific offerings demonstrates the potential of "automated learning relationships":

Last.fm/Putpat These media suppliers serve as an example for a series of comparable offerings of individualized music (www.last.fm) and music videos (www. putpat.tv). Once a personal account has been set up, the user states e.g. his five favorite groups. This serves as the basis for allocation to affinity groups with a similar taste in music. Then, for as long as he wants, the user can hear or see pieces of music that are a "surprise" to him: the selection is put together individually, but the order cannot be changed. Each piece can be evaluated and/or turned off before it is over. The more usage and evaluation processes there are, the greater is the precision of the fundamental formation of affinity groups and of the assignment of individual users to homogeneous groups with a similar taste in music. So the user is presented with a series of pieces that are new to him, but they have all received a positive evaluation from users with a similar taste in music. Because of the high degree of correlation between taste in music and features relevant to purchase behavior of other offerings, an "economically interesting" data base emerges. The

business system operators use the data e.g. for targeted marketing communication offers for third-party suppliers and—when legal stipulations permit—sell the data to other companies.

Amazon/Baur Versand Interested parties and customers can use the personalized online offerings of dealers by logging in. They are then offered easier use, accompanying services and other conveniences (e.g. remembering order data, invoicing after delivery, preferential conditions and "personal recommendations"). Personalization allows the supplier to individually analyze the behavior "observed" in regard to individual interaction and transaction processes—including those that cover multiple touch points and communication channels—and to save any feedback, complaints, etc. expressed. Also, the customer's behavior can be compared to the sales policy instrument applied by the supplier, leading to higher and higher precision of individual and especially affinity group-based hypotheses on probable action and reaction patterns. Suppliers generally use the resulting data base in many directions. Typical uses include general and/or personal recommendations, which the customer recognizes as such ("Customers who were interested in this item also looked at. . ."; "Are you familiar with this item?"). Customers usually do not notice the successive customization of the offerings. It basically becomes feasible to offer every customer a customized view of the company's offerings at different touch points, including individual conditions. This also successively creates an "economically valuable" data base that typically forms the origin of addition revenue streams for the supplier.

Coordination of Customer Touch Points and Interaction Channels

To master all the subtasks that are part of CRM, it is imperative to coordinate the different ways in which to interact with potential, current and former customers via the increasing number of touch points and channels. This helps to create as coherent an image of the customers as possible for the various (partial) functionaries within the company (*one face of the customer*), while at the same time achieving coordinated communication with the customer (*one face to the customer*) (Hippner et al. 2006; Weidner 2007, applying Vivil's example).

If in addition to the traditional personal contacts (e.g. branch offices, service stations and field service) call centers are established to facilitate efficient and effective telephone contact, these partial approaches—with increasing customization of the offering, more complex service offerings and a greater number of touch points—are no longer sufficient to achieve the described goals of CRM.

Both in publications and in actual practice, so-called **customer interaction centers** (CIC) seem to be the reaction that meets the increasing demands for coordination and interaction. Agreement and coordination of parallel or sequential, of linked or unlinked, of supplier-initiated or purchaser-initiated interaction at various touch points is especially important to business systems that typically have multiple (alternative or combined) contact and sales channels (as well as the respective multi-channel strategies), (Schögel et al. 2011). Customer interaction

centers are intended to take care of precisely this task as part of operative and communicative CRM. This applies to supplier strategies that tend to allow the customer to choose the combination of interaction channels he is comfortable with as well as to strategies with which the supplier sees himself in a more proactive role in designing and controlling the business relationship.

Publications emphasize these aspects of customer interaction centers:

- Selection and integration of supporting interaction channels:
  A supplier has to make a fundamental decision as to which interaction channels he offers and supports or does not offer and support. In addition to the traditionally dominant personal touch points, the number of media-supported interaction channels (e.g. internet websites, social media, information offerings on mobile internet, E-mail, text messaging) is increasing. The CIC becomes the central place—or at least plays a supporting role—where interaction with the customer is realized and e.g. documented in the customer data warehouse.
- Increased efficiency and effectiveness through IT-supported functionalities:
  The CIC can in principle be the starting point for so-called "outbound functionalities" (company seeking contact to customer, e.g. as part of sales or service campaigns) as well as coordinator or body responsible for "inbound functionalities" (customer initiating contact, e.g. inquiries, making appointments, filing complaints). The necessity of a coordinated approach to different alternative or combinable touch points was pointed out in the previous sections. In oCRM, IT-based functionalities are increasingly supporting tasks typical for customer interaction centers, (Hippner et al. 2006), e.g.:
  – Pre-selection of customer inquiries: subsystems such as "computer telephony integration" (CTI), "interactive voice response" (IVR) or "skill based routines" (SBR) take care of e.g. sorting inquiries by various topics, replying to simple requests for information (sometimes programmed), program-supported compiling of basic information (e.g. master data or job numbers), capacity-based assignment of inquiries to available CIC agents, also taking into consideration the respective skills required to solve a problem when assigning the problem to an agent.
  – Support of actual interaction processes: the CIC agents are given not only all of the required customer-related data (ideally covering the entire customer history from all contact channels) in prepared/condensed shape (including linkage to documents that may or may not be relevant, such as invoices, minutes of meetings or previous inquiries), they can also use e.g. so-called "scriptings" (conversation guidelines) to help them with specific discussions.
- Reflexive CRM with consistent workflow planning and continuous tracking of CIC activities:
  The basis for coordinated constellation of customer interaction is typically workflow management systems that facilitate systematic planning (especially sequencing), analysis and control of required but typically distributed

sub-processes (Laudon et al. 2010). Such systems enable e.g. analysis of customer interaction center activities (e.g. with continuous analysis of parameters considered relevant, such as defect rates, length and consequences of conversations or greater customer satisfaction after customer contact) as well as definition and control of escalation paths when certain entry requirements are met (e.g. unacceptable waiting, angering of A customers).

Particularly the developments in the field of customer interaction centers serve as a good example that focused CRM approaches are a way to effect substantial improvement. Weidner (2007) reports, for example, that, with the proper strategy, Vivil was able to achieve substantial operative increases in efficiency in its contact with retailers (e.g. by increasing the net duration of conversation per hour by 20 %, increasing the qualified dialing attempts by more than 40 %), (Weidner 2007).

9.3.1.2 Potential Reasons for Successful Focusing

Considering the aspects discussed thus far, the results of empirical studies, some indicating substantial preponderance of focused CRM applications, come as no surprise (Gottwald and Karlstetter 2010; Sexauer and Wellner 2008). The empirical studies reveal the following aspects that explain why selective CRM approaches focusing on individual subtasks are clearly favored over comprehensive CRM implementations and are found much more frequently in practical applications. The causes (especially complexity of CRM implementations, scope of requirements for integration, fundamental problems of adequately differentiated performance analysis) discussed repeatedly in the previous chapters are reflected here:

- Strong leverage for subtasks:
  Especially when companies have not considered and implemented any CRM strategies yet, even revising individual subtasks effects leverage in regard to potential increases in effectiveness and/or efficiency.
- Adequate predictability and controllability:
  The complexity resulting from subtasks and the potential follow-up costs seem to the decision maker to be easier to predict and control.
- Career boost with "quick wins":
  Closely related is the location of the specific CRM responsibility, especially at the level of middle management. The associated obligation to provide justification and proof to superiors typically promotes projects for which the economic success can be more precisely and reliably analyzed. So-called "quick wins" tend to benefit careers more than complex, comprehensive projects.
- Benchmarks and standardized sub-activities as "lessons learned":
  The CRM offering available on the market (especially consulting but also software products) is based primarily on the vast experience gained from many single, focused projects. It promises convincing results in the short-term to mid-term, e.g. by adapting proven business processes or making other organizational adjustments.

Even though these aspects tend to promote a focused CRM strategy, this should not be interpreted as a hidden indication that a comprehensive, integrated CRM strategy would actually be better. Focused approaches can be just the right way to achieve relatively great improvements, to increase the awareness and acceptance of CRM strategies and/or to have the courage to introduce a long-term, step-by-step migration strategy. Particularly the frequently underestimated prerequisites for a comprehensive CRM concept make an (initially) focused procedure seen reasonable. The following section demonstrates one of the rare examples of comprehensive CRM strategy implementations.

9.3.2 CRM Development Scenario 2: E-Business as Breakthrough for Integrative CRM?!

9.3.2.1 Comprehensive Management of "Cross-linked Business Relationships" Using the German Pharmaceutical Market as an Example

In contrast to the more focused approaches of selective CRM, there are also examples in which participants interpret customer relationship management as the essence of their strategy and attempt to comprehensively realize the described possibilities of CRM throughout several or even all activity and functional areas in a coordinated and systematic manner (Helmke et al. 2008).

The special opportunities but also the challenges associated with this will be explained in this section using the business relationship management practiced for decades by the pharmaceutical wholesalers on the German pharmaceuticals market.

Structure of the German Pharmaceutical Market

After decades of structural consistency in one of the most strictly regulated "markets"[1] in Germany, the health care reforms that went into effect beginning in 2004 led to the first noticeable changes, evident as innovative business models (e.g. mail order sales of medications, franchise pharmacy systems, blistering packaging especially for individual patients and/or multi-channel strategies for integrated supply geared towards target groups) and modified business systems (e.g. vertical integration between pharmaceutical wholesalers and pharmacies,

---

[1] The quotation marks used only this once signalize a controversy between practice and science as to whether, due to the strict regulations of the German mobile pharmaceutical market, this can even be considered a market in the classic sense. Despite the distinction between e.g. use, product selection and payment (such as the interaction between patients, physician and health insurance in the field of prescription medications) that is not a common feature of a market and despite strict regulation of competition between all participants at the various levels of the value-adding process, the German monopoly commission and others see the pharmaceutical sector as a market with special features worthy of consideration that has or should have competitive elements (Monopolkommission 2006; Wirtschaftsforschung 2010).
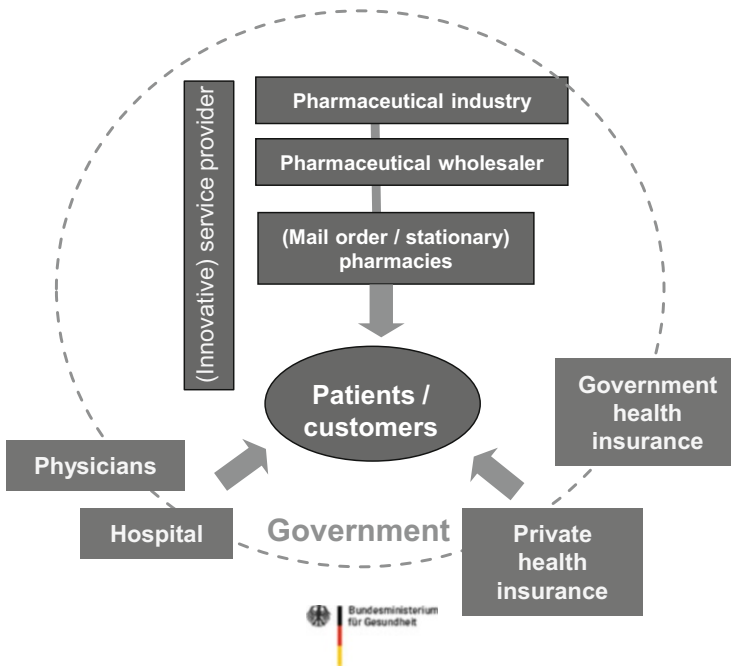
Fig. 9.6 Structure of the German pharmaceutical market. Source: Based on Kunz (2001)

direct delivery to pharmacies and sometimes to end users by the pharmaceutical industry).

The three-level sector structure in Fig. 9.6 shows a value chain, still applicable today, characterized primarily by the following benchmark data:

- Over 1,000 pharmaceutical companies offer about 60,000 medications on the German market, some of which by German law require a prescription (so-called Rx products) and/or must be sold in a pharmacy (over-the counter products), (BPI 2010; Wirtschaftsforschung 2010). Approval for these products follows regulations that change over time but are all-encompassing, the purpose of the regulations being to attempt to meet social challenges (e.g. demographic developments, financial restrictions, medical advances) and political objectives (such as access for all to the best medical care without direct social discrimination or fear of lack of care).
- Eighteen pharmaceutical wholesalers, some of them nationwide, have taken on a central mediator function to overcome geographic, time-related, quantitative (once in a while qualitative) and informational tensions between manufacturing and use. The so-called "one-stop shops" make deliveries to pharmacies of all of the products offered (about 120,000, including sideline and peripheral assortment) up to five times a day. Due to government regulation and phases in of intensive concentration and pricing out of competitors, the pharmaceutical

wholesalers' share of value added in Germany fell to 4.9 % (down 0.2 percentage points over 2007; refer here and later to: ABDA 2010 (BPI 2010); the other groups involved were able to achieve the following shares of value added: pharmaceutical industry 65.2 % (+1.2 percentage points over 2007); government remained stable at 16 % (value-added tax) and pharmacies 14.9 % (−1 percentage point over 2007). Most of the large pharmaceutical wholesalers are active on the global market as well and pursue individual European strategies that have to be adapted to the regulations of the respective national pharmaceutical markets. In addition to economies of scale in purchasing and logistics, in many countries—when the local laws permit—clear vertical integration tendencies can be detected. The pharmaceutical wholesalers initiate and control particularly cooperation with pharmacies or even operate so-called "pharmacy chains" as branch retailers. Because of the "Mehr- und Fremdbesitzverbot" (prohibition on third-party and multiple ownership of pharmacies in Germany), this is not (yet) possible in Germany (MKG 2010). This law specifies that a German pharmacy must be legally and economically an independent entity and (just since the health care modernization act of 2004) may not operate more than four pharmacies (main pharmacy and up to three "branch pharmacies"), all located near one another. Although in 2004–2009 it looked as if the prohibition on third-party and multiple ownership of pharmacies in Germany could be abolished, a notable verdict issued by the European Court of Justice in May 2009 confirmed that the German law was compatible with European competition law (MKG 2010). This at least delayed the surmised tendency towards "industrialization" of the German mobile pharmaceutical market. However, there is still a strong presence—over 100—of horizontal and vertical forms of cooperation (EPC 2010), frequently involving a pharmaceutical wholesaler.

- For the first time in decades, in 2009 the number of "public pharmacies"[2] in Germany fell by 54 (−0.25 %) to 21,548 pharmacies (incl. branch pharmacies, Apothekenverbände 2009). Since the health care modernization act of 2005 permitted branch pharmacies, their number has risen to 3,224 in 2009. Through 2009, 2,677 permits for mail order pharmacies had been granted (Buse 2010), only about 2 % of which achieve transaction figures relevant to the market (>1,000 shipments/day, (Schloh 2010). This has so far had no effect whatsoever on the relatively high supply density in Germany of 3,800 inhabitants per pharmacy (EU 15 average: 5800, EU 25 average: 4400 (Apothekenverbände 2009; Haucap 2010). The total revenue of German pharmacies in 2009 was 39.8 billion € (without VAT). The average revenue of a stationary pharmacy in 2009 was 1.82 million € (VFA 2010), whereby there are vast differences between the pharmacies in regard to revenue and profitability (55.8 % of pharmacies achieve revenue of less than 1.5 million €/year; 19.3 % more than 2 million €/year). The

---

[2] Only so-called "public pharmacies," which sell to consumers and are considered part of the mobile sector of health care, will be examined here. There are some exclusions to this, e.g. hospital pharmacies in the stationary sector.

pattern over time indicates a shift from smaller pharmacies to pharmacies with higher revenue (Apothekenverbände 2009). When compared to other industries, the steady rise in revenue as well as the return on sales can be seen as being much more attractive than those of other industries. German law dictates that every licensed pharmacy in Germany (pharmacies with an operating permit pursuant to §2 of the German pharmacy act) must be able to supply all prescription medications within a reasonable time. The pharmaceutical wholesalers take over the critical logistical function of ensuring that the common delivery time in Germany of only a few hours for over 120,000 potential products is met (Großhandels 2011). More evident than the absolute quantity are the structural shifts as a result of mail order pharmacies and other types of pharmacies. These still have to have a stationary, bricks-and-mortar store that is part of the mandatory emergency and night duty system. Mail order medications accounted for about 2.5 % or revenue in 2009, but this figure is growing at an annual rate of around 20–25 % per year, primarily in the OTC sector (OTC market share in 2009 approx. 8 % (Buse 2010; Voigt 2009). In addition to mail order sales, the complex forms of cooperation have promoted the tendency to specialize within the pharmacy sector. These trends are apparent e.g. in the differentiation of competition parameters and in the significance to revenue of different items in the assortment. Pharmacy offerings are generally classified into the areas of Rx (30. 8 billion € in 2009; Apothekenverbände 2009), OTC (4.7 billion € in 2009; Apothekenverbände 2009) and the so-called "free choice area" (2.0 billion € in 2009; Apothekenverbände 2009) as well as home care products (1.7 billion € in 2009; Apothekenverbände 2009), all of which can be accompanied and supplemented by the most varied pharmaceutical services. The free choice area is limited in Germany to a defined range of "other products normally sold in pharmacies" (Bundestag 2010). The extent of this range has grown over recent years, but it is still the subject of intensive and controversial disagreement between various interest groups. Prescription products traditionally accounted for 90 % or more of revenue in pharmacies—something that has changed drastically, depending on the location and strategy of the pharmacies. Some pharmacy cooperations, e.g. DocMorris (a multi-channel supplier that has been taken over by the German pharmaceutical wholesaler Celesio and turned to a franchise concept, or easyApotheke) see their strengths in a consistent focus on trade strategies from other markets, like category management or establishment of trademarks and their own brands in the OTC and free choice areas (Voigt 2009). In 2009, the free choice area accounted for 30–45 % of the revenue of some pharmacies.

It is still common that a pharmacy is supplied by three different pharmaceutical wholesalers, and the shares of revenue of the three typically differ greatly. The regular or main supplier bundles approx. 60–70 % of the purchasing volume, the second supplier 15–20 % and the third up to 10 %. In addition—and, depending on the strategic orientation of the pharmacy, with increasing significance—the pharmacies maintain business relationships with industrial partners and/or other

wholesalers (especially for the special and free choice range). German pharmaceutical wholesalers have always applied intensive business relationship management to counter potential exclusion and substitution strategies in their dealings with the individual pharmacies (Engelhardt and Gersch 1995; Gersch 1998, 1999, 2004). The great significance of digitalization and networking in the value-adding structures described here is one of the reasons that German pharmaceutical wholesalers can be considered a pioneer in CRM applications. This will be explained more in the following section. Because although the German pharmaceutical market has it peculiarities, its strategies can be considered exemplary and interesting for other branches.

CRM Strategies of German Pharmaceutical Wholesalers

As is common with trading companies, computerized inventory control systems in conjunction with enterprise resource planning (ERP) form the backbone of IT infrastructures. This is also the case with German pharmaceutical wholesalers.

The great significance of the security of the medications supply as well as the relative planning reliability due to strict regimentation, the margins that can still be achieved in the market and the favorable organizational and technical requirements have made the German pharmaceutical market a pioneer in cross-company digitalization and networking. Transactions between pharmacies, pharmaceutical wholesalers and the pharmaceutical industry have been happening with electronic data exchange (EDA/EDI) online and without human-human or human-machine interaction (Gersch 1998) for over 30 years now—long before terms like E-business or E-commerce became popular (Gersch 2010). Computer-supported inventory and transaction data for each article is available at every step of the value-adding process, such that—without these terms being actively used in this sector—concepts discussed in other branches like supply chain management (SCM) or efficient consumer response (ECR) have been applied for a long time to the special features of this market and have proven highly effective.

Although this overall performance of the system is unimaginable without pharmaceutical wholesalers, the wholesalers have feared increasing disintermediation and re-intermediation for years, primarily regarding economically attractive target groups and/or products with traditionally and/or future high profit margins. Furthermore, the diverging economic significance of individual pharmacies, which has always been taken into account, is increased by the structural changes mentioned above, along with greater differentiation and some degree of specialization of the pharmacies. Pharmaceutical wholesalers have differentiated for many years between the pharmacies, applying various approaches and instruments of **customer relationship management**. Some interesting aspects thereof will be described here as examples:

aCRM as Strategy Requirement

With a combination of delivery and sales force service, particularly the pharmaceutical wholesalers offering the full product range have a comprehensive and detailed data base in regard to the individual pharmacies, at least to those with which they

have a delivery relationship. This forms the basis of analytical customer relationship management. The customer data warehouse is constantly receiving data on orders and delivery—precise information on items and exact times, updated daily. The data is based on individual pharmacies and provides a clear picture of the flow of goods, indirectly and supplemented by other data sources (e.g. sales information system), as well as of cost and revenue flows, the pharmacist's strategic behavior and/or business developments over time. A detailed comparison of the individual pharmacies in regard to their current and potential customer value can be created on the basis of the performance indicator systems that the pharmaceutical wholesalers have as well as external systems (Wirtschaftsforschung 2010). This forms the basis for strategic CRM decisions related to the constellation of business relationships with certain types of pharmacies and individual pharmacies and the basis for detailed planning, constellation and control of local, regional or national sales strategies as well as strategies for specific topics or groups in regard to how they affect the use of sales policy instruments (from the pharmaceutical industry side and from the pharmaceutical wholesaler and/or pharmacy (cooperations) side). In addition to the s/o/cCRM possibilities mentioned above, almost all pharmaceutical wholesalers use their data for things like establishing their own brands, for offering category management strategies (to the industry as well as to pharmacies) and/or for arranging infomediary/market research services for third parties.

sCRM as a Requirement for oCRM and cCRM of Multi-channel Strategies

Depending on the relevant circumstances and strategic position selected, pharmaceutical wholesalers use the advantageous conditions of analytical CRM for the various procedures in strategic CRM. So there are vast differences between cooperative pharmaceutical wholesalers (e.g. NOWEDA) owned by the pharmacies they supply, pharmaceutical wholesalers owned by sector participants (e.g. ANZAG, which changed owners in 2010: Gehe/Celesio, Sancorp, Phoenix and others sold their shares to the new majority shareholder Alliance Boots from Great Britain) and pharmaceutical wholesalers with an obligation to shareholder value (Phoenix, e.g. towards the majority shareholders in the Merckle family, Celesio towards Gehe and Haniel).

All pharmaceutical wholesalers base their decisions on detailed customer value analysis, which includes classification of pharmacies by individual criteria that, depending on the pharmaceutical wholesaler strategy applied, can vary in their strategic attractiveness and significance. If the pharmaceutical wholesaler is interested in forming a "cooperation and chain," it will try to have the closest relationships possible by law with the pharmacies that seem essential or well suited to the cooperation, looking at regional and local aspects in this determination. Individual pharmaceutical wholesalers see an opportunity in the coordination of cooperative multi-channel concepts that can be attractive in various ways with the participation of a large number of pharmacies: for the pharmaceutical industry, there are better chances of systematically and comprehensively finding marketing and sales partners for entire regions or target groups that cover multiple distribution channels (particularly stationary and mail order). For the individual pharmacies,

this means access to delivery conditions and marketing concepts that would not be possible for a single pharmacy on its own. Classic individual stationary pharmacies can then offer their customers e.g. professional online information or even E-commerce functionalities or decentralized home delivery service. The pharmaceutical wholesaler can also benefit from single pharmacies serving e.g. as opinion leaders and lead users, or even simply because the single pharmacies are particularly important precisely because of their profitability. In regard to other pharmacies that do not seem conducive to a selected strategic concept or stand out e.g. due to inefficient conditions and/or behavior (such as unattractive location or unsuitable equipment/configuration of the pharmacy, de facto thwarting of marketing strategies or lack of entrepreneurial skill amongst personnel, fluctuating, small order quantities of unattractive items from the product range, difficult logistical conditions), goals for the specific business relationship are formulated that can specify supplying the pharmacy only under certain conditions or even include terminating the relationship. An individual goal, combined with certain basic requirements, is specified for each pharmacy and serves as the basis for operative and communicative CRM.

For the pharmaceutical wholesaler, communicative CRM is typically a combination of personal relationships and coordinated communication policy measures flanked by distribution and price policy measures as part of operative CRM. Each pharmacy receives basic care and attention from the sales reps as well as from the management level of the regional sales and logistics centers. The managers are responsible for ongoing analysis and control of business relationships as well as for the operative constellation of the business relationship to the pharmacies, and—after coordination with central marketing departments that the larger pharmaceutical wholesalers may have—they use this information for actual implementation. A fully integrated customer information system is typically used to coordinate the different persons and measures. The system is linked via the customer data warehouse to the computer-supported inventory control system and e.g. to the ERP system-based functions accounting and controlling. The customer information system provides the responsible persons—graded by their access rights—with not only all of the available data and histories on individual customers, it also contains goals and specifications for the current and future actions having to do with the specific relationship. These range from granting individual delivery conditions (especially different types of discounts and terms of payment) to individual cases of facilitating or directly supporting individual projects of pharmacies, e.g. with a suitable financing model. The reasons for this range from a new opening or modernization of the pharmacy to forms of differentiating campaign management. The pharmaceutical wholesaler sometimes acts as the middleman for single pharmaceutical manufacturers to accompany, monitor and possibly control the operative implementation of actions that the sales force has facilitated for the pharmacies. The importance is increasing of commercial and private label strategies of the pharmaceutical wholesaler, who makes agreements with selected pharmacies—especially in the high-margin OTC assortments but also in the free-

choice assortment—that increase profitability and also promote the benefits of customer loyalty.

The competition for especially attractive existing locations and for new locations and concepts becomes fiercer. An increase particularly in various constellations of pharmacy cooperations (EPC 2010) poses a threat to pharmaceutical wholesalers of losing previously attractive strategic positions in the value- chain. Some pharmaceutical wholesalers are reacting with their own chain/cooperation concepts, while others seek to position themselves as a "neutral partner" or "friend of owner-operated pharmacies." But customer relationship management is always the strategic foundation for defending the positions in the pharmaceutical branch that have evolved over decades.

9.3.2.2 Digitalization, Cross-linkage and System Integration Promote More Comprehensive CRM

Increasing digitalization and cross-linkage of all internal and business processes and those occurring between companies (in regard to E-business/E-commerce (Gersch 2010); in regard to diffusion rates (Infratest 2009) is possible only with better connectivity, cross-linkage and integration of the most varied operational information systems (Mertens 2009). New architectural concepts (such as **service-oriented architectures** (SOA, Gomez 2010), and developments like "**Software-as-a-service**" (Buxmann 2010) or **Web 2.0- applications** as the foundation of **social networks** (Lackes and Siepermann 2010) promote successive convergence processes, meaning technical as well as organizational merging of previously separate technologies and the applications and concepts based on the technologies. The technology and technical skills required to compile, save, evaluate and use individual data in different manners is becoming simpler and less expensive all the time.

These self-reinforcing technical mechanisms (left loop in Fig. 9.7) at the same time promote increasing customization within the strategies of single companies at the market level. Among other factors, this impacts the expectations of current and potential customers as well as the perception of competitors in regard to relevant competition parameters (right loop in Fig. 9.7).
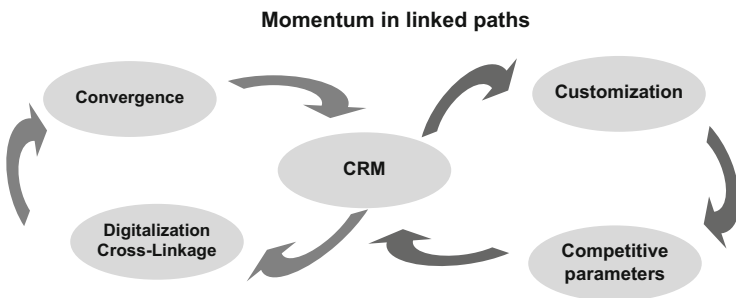

Momentum in linked paths

Fig. 9.7 Momentum from "linked paths"

Path dependencies (Sydow et al. 2009) suggest momentum on both the technical side and the market side (linked paths) that tends to promote development towards greater and greater propagation of CRM strategies. However, this process of "**eTransformation**" takes more time and is not as straightforward as it was thought to be in the early phases of E-business (Gersch 2004, 2010).

Conclusion

The interim "CRM euphoria" has given way to more realistic experiences as to which forms of customer relationship management seem to make sense economically. It continues to be apparent that rapid technological developments mean that the fundamental benefits of business relationship management are becoming an interesting strategic option for more and more companies. Nothing has changed so far in regard to the fundamental concepts of business relationship management (and is not anticipated in the foreseeable future). The rapidly developing implementation and utilization possibilities have changed dramatically, and the success of various participants has caused CRM skeptics to sit up and take notice.

Besides individual attempts to implement comprehensive, completely "integrated CRM concepts" right from the start, it is becoming more common to favor selective CRM solutions, with clear and predictable investment risks, focused on selected segments and partial issues. If—depending on the collected experiences and the development of relevant basic conditions—this occurs with the intention of successively expanding the CRM strategy to other functional

---

Attempt to define CRM

CRM is a ...:

- **Customer-oriented management approach that,** with the aid of

- **customer-oriented information systems**

- enables collection, presentation and use of **customer knowledge**. It also applies a

- **comprehensive orientation** of all corporate activities towards **customer processes**, thus pursing

- **initiation, control** and **monitoring of** individualized and

- long-term **profitable customer relationships.**
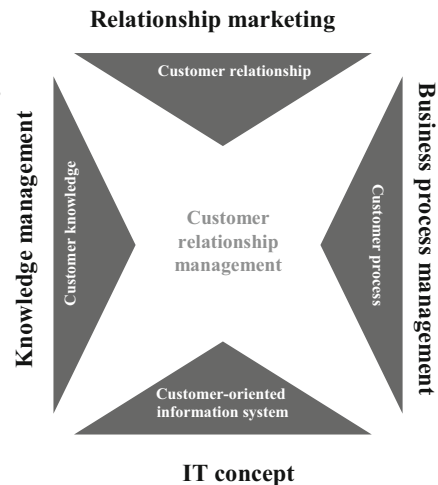
... Interface topic:

Fig. 9.8 Characterization of CRM. Source: Based on Sexauer (2002)

Theory: CRM is not a completed tool.
Many essential requirements have to be considered!

Processes

- Process requirements have to be met
- CRM cannot be realized without making process changes to "back office" and "touch points"

People

- CRM requires BR-oriented marketing stance of participants
- CRM must be consistently thought about and practiced

CRM

Technology

- Collecting and collating relevant customer data (overcoming system and compatibility limits)
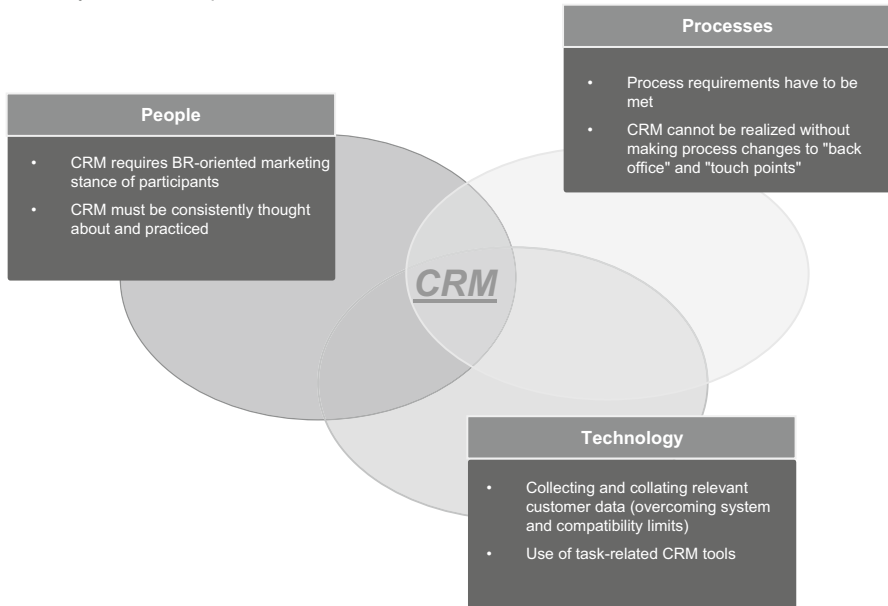- Use of task-related CRM tools

Fig. 9.9 Relevant dimensions of CRM implementation

areas and departments, many promising migration strategies emerge, which must of course meet the technical, organizational and HR requirements for integrative CRM discussed in this contribution. There can be no "one-size-fits-all" assessments as to "which type" and "how much" CRM are right for a company. Each company will have to find its own individual development and migration path. Despite the difficulties of adequately and precisely evaluating performance, more and more companies are choosing this path.

CRM can under no circumstances be reduced to the implementation of relevant software solutions. The definition provided by Sexauer (2002) and his justified characterization of CRM as an interface topic (Fig. 9.8) clearly emphasize that only orchestration of the aspects stated in Fig. 9.9 can ensure success.

Appendix

Exercises

1. Describe the basic conditions that enable the use of customer relationship management (CRM) to be successful. To what extent does IT development play a crucial role?

2. Explain the connections and dependencies between operative and analytical CRM.
3. Compare and explain the cost and benefit aspects of CRM.
4. Explain the HR aspects of integrating CRM and offer potential solutions using a CRM implementation strategy.
5. Discuss the potential of CRM when the sales force uses mobile or stationary terminals.
6. Explain the uses of CRM applications in regard to campaign management.
7. Illustrate the use of CRM by means of the so-called "feedback loop".
8. Describe the possibilities of customer interaction centers as they relate to inbound and outbound activities.

References

(BPI), B. d. p. I. (2010). *Pharma-Daten 2010* (40 ed.). Berlin.

(VFA), V. d. f. P. (2010). *Statistics 2010—die Arzneimittelindustrie in Deutschland*. Berlin.

Ansari, A. (2000). Internet recommendation systems. *Journal of Marketing Research, 37*(3), 363–375.

Apothekenverbände, B. D. (2009). Die Apotheke: Zahlen, Daten, Fakten 2009.

Arens, T. (2004). *Methodische Auswahl von CRM Software*. Göttingen.

Becker, J., & Knackstedt, R. (2011). Data-Warehousing im CRM. In H. Hippner, B. Hubrich, & K. Wilde (Eds.), *Grundlagen des CRM* (pp. 757–781). Wiesbaden: Springer.

Bruhn, M. (2007). *Kundenorientierung: Bausteine für ein exzellentes Customer Relationship Management*. München: Deutscher Taschenbuch.

Bundestag, M. D. (2010). Mehr Wettbewerb: wenig Ausnahmen, Achtzehntes Hauptgutachten der Monopolkommission 2008/2009. In B. 17/2600 (Ed.).

Buse, C. (2010). Arzneimittelversandhandel: Trends, Chancen und Perspektiven. http://www.bvdva.de/fileadmin/content/ Accessed 6/05/2010.

Buxmann, P. (2010). Software-as-a-Service. http://www.enzyklopaedie-der-wirtschaftsinformatik.de/wi-enzyklopaedie/lexikon/is-management/Integration-und-Migration-von-IT-Systemen/

Chamoni, P. (1998). Entwicklungslinien und Architekturkonzepte des On-Line Analytical Processing. In P. Chamoni, & P. Gluchowski (Eds.), *Analytische Informationssysteme* (pp. 231–250). Berlin et al.

Chamoni, P., Beekmann, F., & Bley, T. (2010). Ausgewählte Verfahren des Data Mining. In P. Chamoni, & P. Gluchowski (Eds.), *Analytische Informationssysteme—Business Intelligence-Technologien und Anwendungen* (4 ed., pp. 329-356). Berlin et al.

Dittmar, C., & Ossendoth, V. (2010). Die organisatorische Dimension von Business Intelligence. In P. Chamoni, & P. Gluchowski (Eds.), *Analytische Informationssysteme—Business Intelligence-Technologien und –Anwendungen* (4 ed., pp. 59–86). Berlin et al.

Düsing, R. (2010). Knowledge discovery in databases – Begriff, Forschungsgebiet, Prozess und System. In P. Chamoni, & P. Gluchowski (Eds.), *Analytische Informationssysteme: Business Intelligence-Technologien und—Anwendungen* (4 ed., pp. 281–306). Berlin et al.

Engelhardt, W. H., & Gersch, M. (1995). Informationsmanagement als Instrument zur erfolgreichen Gestaltung von Geschäftsbeziehungen: am Beispiel des deutschen Pharmagroßhandels. In V. Trommsdorf (Ed.), *Handelsforschung 1995/96—Informationsmanagement im Handel* (pp. 201–222). Berlin.

EPC (2010). *Apothekenkooperationen—Monitor 2010*. Hamburg.

Freter, H. (2008). *Markt- und Kundensegmentierung* (2ed.). Stuttgart.

Gabriel, R., & Beier, D. (2003). *Informationsmanagement in Organisationen*. Stuttgart.

Gabriel, R., Knittel, F., Taday, H., & Reif-Mosel, A.-K. (2002). *Computergestützte Informations- und Kommunikationssysteme in der Unternehmung*. Berlin et al.

Gabriel, R., Gluchowski, P., & Pastwa, A. (2009). *Datawarehouse & Data Mining*. Witten.

Gersch, M. (1998). *Vernetzte Geschäftsbeziehungen*. Wiesbaden: Gabler.

Gersch, M. (1999). Das Management vernetzter Geschäftsbeziehunge. In H. Hippner, M. Meyer, & K. D. Wilde (Eds.), *Computer based marketing* (2 ed., pp. 26–35). Braunschweig/ Wiesbaden.

Gersch, M. (2004). Versandapotheken in Deutschland: Die Geburt einer neuen Dienstleistung: wer wird eigentlich der Vater. *Marketing ZFP,* 26(Sonderheft Dienstleistungsmarketing), 59–70.

Gersch, M. (2010). Electronic business. In K. Kurbel, J. Becker, N. Gronau, E. Sinz, & L. Suhl (Eds.), *Enzyklopädie der Wirtschaftsinformatik: Online Lexikon* (4th ed.). Munich: Oldenbourg Wissenschaftsverlag.

Gluchowski, P., Gabriel, R., & Chamoni, P. (2008). *Management Support Systeme und Business Intelligence—Computergestützte Informationssysteme für Führungskräfte und Entscheidungsträger* (2nd ed.). Berlin: Springer.

Gomez, J. C. M. (2010). *Serviceorientierte Architekturen*. http://www.enzyklopaedie-der-wirtschafts-informatik.de/wi-enzyklopaedie/.

Gottwald, M., & Karlstetter, F. (2010). Gottwald, M., & Karlstetter, F. (2010). Standalone-Lösungen sind im CRM-Umfeld bevorzugt. *CRM Trend Report von SoftSelect und Activity*

Großhandels, P. B. d. p. (2011). Branchenportrait—Der vollversorgende pharmazeutische Großhandel in Deutschland. http://www.phagro.de/portal/alias_phagro/lang_de-DE/tabid_6648/default.aspx

Günter, B. (2006). Kundenwert—mehr als nur Erlös—Qualitative Bausteine der Kundenbewertung. In B. Günter, & S. Helm (Eds.), *Kundenwert—Grundlagen, Innovative Konzepte, Praktische Umsetzung* (pp. 241–265). Wiesbaden.

Günter, B., & Helm, S. (2011). Kundenbewertung im Rahmen des CRM. In H. Hippner, B. Hubrich, & K. D. Wilde (Eds.), *Grundlagen des CRM* (3rd ed., pp. 241–265). Wiesbaden: Gabler.

Haas, A. (2011). Interessenmanagement. In H. Hippner, B. Hubrich, & K. D. Wilde (Eds.), *Grundlagen des CRM* (3rd ed., pp. 343–371). Wiesbaden: Gabler.

Haucap, P. D. J. (2010). *Wieviel Wettbewerb verträgt der Apothekenmarkt*. http://www.bvdva.de/uploads/downloads/kongress-referenten-vortraege/2010/apotheken-mai-2010-haucap.pdf.

Helmke, S., Uebel, M. F., & Dangelmaier, W. (2008). *Effektives customer relationship management* (4th ed.). Wiesbaden: Gabler.

Hilbert, A. (2009). Customer relationship management. http://www.enzyklopaedie-der-wirtschafts¬informatik.de/wi-enzyklopaedie/lexikon/informationssysteme/crm-scm-und-electronic-business/Customer-Relationship-Management

Hippel, E. V. (1986). Lead users: A source of novel product concepts. *Management Science, 32*(7), 791–805.

Hippner, H. (2006). CRM—Grundlagen, Ziele und Konzepte. In H. Hippner & K. D. Wilde (Eds.), *Grundlagen des CRM* (2nd ed., pp. 16–44). Wiesbaden: Gabler.

Hippner, H. (2010). Komponenten und Potenziale eines analytischen Customer Relationship Management. In P. Chamoni & P. Gluchowski (Eds.), *Analytische Informationssysteme—Business Intelligence-Technologien und Anwendungen* (4th ed., pp. 395–418). Berlin: Springer.

Hippner, H., Griese, L., & Wilde, K. D. (2011). Data mining. In H. Hippner, B. Hubrich, & K. D. Wilde (Eds.), *Grundlagen des CRM* (3rd ed., pp. 783–809). Wiesbaden: Gabler.

Hippner, H., Rentzmann, R., & Wilde, K. D. (2006). Aufbau und Funktionalitäten von CRM-Systemen. In H. Hippner & K. D. Wilde (Eds.), *Grundlagen des CRM* (2nd ed., pp. 46–74). Wiesbaden: Gabler.

Hippner, H., Rühl, D., & Wilde, K. D. (2009). *CRM-Studie*. Weßling.

Hippner, H., & Wilde, K. (2008). Data mining in CRM. In S. Helmke, M. F. Uebel, & W. Dangelmaier (Eds.), *Effektives customer relationship management* (4th ed., pp. 205–225). Wiesbaden: Gabler.

Infratest, T. (2009). *Monitoring Informationswirtschaft*. https://www.tns-infratest.com/Monitor
  ing-Deutschland-Digital/Monitoring-Report-Deutschland-Digital-Archiv.asp

Kleinaltenkamp, M., & Dahlke, B. (2006). Der Wert des Kunden als Informant—auf dem Weg zu
  einem "konwledge based customer value". In B. Günter & S. Helm (Eds.), *Kundenwert* (3rd
  ed., pp. 217–240). Wiesbaden: Gabler.

Kroenke, D. (2013). *Using MIS* (6th ed.). Prentice Hall.

Kunz, A. R. (2001). *Alternative distributionswege für pharmazeutische Produkte*. Wiesbaden:
  Gabler.

Lackes, R., & Siepermann, M. (2010). Web 2.0.

Laudon, K., & Kraver, C. (2010). *E-Commerce 2010* (6ed.). Boston.

Laudon, K., Laudon, J., & Schoder, D. (2010). *Wirtschaftsinformattik* (2ed.). München.

Lee, K., & Kwon, S. (2008). Online shopping recommendation mechanism and its influence on
  consumer decisions and behaviors—A causal map approach. *Expert Systems with
  Applications, 35*(4), 1567–1574.

Leußer, W., Hippner, H., & Wilde, K. (2011). CRM—Grundlagen, Konzepte und Prozesse. In
  H. Hippner, B. Hubrich, & K. D. Wilde (Eds.), *Grundlagen des CRM. Strategie, Geschäft-
  sprozesse und IT-Unterstützung* (3 ed., pp. 15–55). Wiesbaden.

Mertens, P. (2009). *Integrierte Informationsverarbeitung 1, Operative Systeme in der Industrie*
  (17 ed.). Wiesbaden.

Mertens, P. (2010). *Wirtschaftsinformatik*. http://www.enzyklopaedie-der-wirtschaftsinformatik.
  de/wi-enzyklopaedie/lexikon/uebergreifendes/Kerndisziplinen/Wirtschaftsinformatik. Acces-
  sed 21/03/2011.

Merzenich, M., Hippner, H. J., H.-F., & Wilde, K. (2011). Gestaltung kundenbezogener Geschäft-
  sprozesse. In H. Hippner, B. Hubrich, & K. Wilde (Eds.), *Grundlagen des CRM* (3 ed.,
  pp. 15–55). Wiesbaden.

MKG 2010 Deutscher Bundestag (2010). *Mehr Wettbewerb—wenig Ausnahmen, Achtzehntes
  Hauptgutachten der Monopolkommision 2008/2009;*Bundesdrucksache 17/2600

Monopolkommission (2006). *Sechzehntes Hauptgutachten der Monopolkommission 2004/2005:
  Mehr Wettbewerb auch im Dienstleistungssektor*. Baden-Baden.

Neckel, P., & Knobloch, B. (2005). *Customer relationship analytics*. Heidelberg. (2010, 18/08/
  2010). *Financial Times Deutschland,* p. 25.

Peppers, D., & Rogers, M. (1997). *Enterprise One-to-One*. New York et al.

Picot, A., Rechwald, R., & Wigand, R. (2003). *Die grenzenlose Unternehmung* (5ed.). Wiesbaden.

Piller, F. T. (1998). *Kundenindividuelle Massenproduktion*. München, Wien.

Piller, F. T. (2001). *Mass customization*. Wiesbaden.

Pine, J. B. (1993). *Mass customization*. Boston.

Reckenfelderbäumer, M., & Welling, M. (2006). Der Beitrag der relativen Einzel-, Prozesskosten-
  und Deckungsbeitragsrechnung zur Ermittlung von Kundenwerten. In B. Günter, & S. Helm
  (Eds.), *Kundenwert* (pp. 335–368). Wiesbaden.

Reichheld, F. F. (1993). Treue Kunden müssen auch rentabel sein. *Harvard Business Manager, 15*
  (3), 106–114.

Reichheld, F. F., & Sasser, E. W. (1990). Zero defections: Quality comes to service. *Harvard
  Business Review, 68*(5), 105–111.

Rentzmann, R., Hippner, H., Hesse, F., & Wilde, K. (2011). IT-Unterstützung durch
  CRM-Systeme. In H. Hippner, B. Hubrich, & K. Wilde (Eds.), *Grundlagen des CRM* (3 ed.,
  pp. 129–155). Wiesbaden.

Rese, M., Papenhoff, H., & Wilke, A. (2008). Cross-Buying Effekte in Multi Partner
  Bonusprogrammen. In S. Helmke, M. F. Uebel, & W. Dangelmaier (Eds.), *Effektives customer
  relationship marketing* (4th ed., pp. 435–448). Wiesbaden: Gabler.

Schaller, C., Stotko, C., & Piller, F. T. (2006). Mit mass customization basiertem CRM zu loyalen
  Kundenbeziehungen. In H. Hippner & K. D. Wilde (Eds.), *Grundlagen des CRM* (2nd ed.,
  pp. 121–143). Wiesbaden: Gabler.

Schelp, J. (2010). Near-realtime-warehousing. In P. Chamoni, & P. Gluchowski (Eds.), *Analytische Informationssysteme. Business Intelligence-Technologien und Anwendungen* (pp. 463–480). Berlin: Springer.

Schloh, M. (2010). Trends beim Arzneiversand—Blick ins Ausland. http://www.bvdva.de/ fileadmin/content/pdf/aktuelles/BVDVA_Kongress/Kongress_2010/2010-05-05_BVDVA_- _Versand¬apo¬thekenvortrag-Schloh.pdf. Accessed 6/05/2010.

Schögel, M., Binder, J., Schmidt, I., & Sauer, A. (2011). Multi-channel management im CRM. In H. Hippner, B. Hubrich, & K. Wilde (Eds.), *Grundlagen des CRM* (3 ed., pp. 559–596). Wiesbaden.

Schöler, A. (2011). Rückgewinnungsmanagement. In H. Hippner, B. Hubrich, & K. Wilde (Eds.), *Grundlagen des CRM* (3 ed., pp. 499–525). Wiesbaden.

Schumann, M. (1992). *Betriebliche Nutzeffekte und Strategiebeiträge der großintegrierten In-formationsverarbeitung*. Berlin: Springer.

Schumann, M. (1993). Wirtschaftlichkeitsbeurteilung für IV-Systeme. *Wirtschaftsinformatik, 35* (2), 167–178.

Sexauer, H. J. (2001). Customer care management in Deutschland—Eine empirische Erhebung. In W. Engelbach, & R. Meier (Eds.), *Customer Care Management*. Wiesbaden.

Sexauer, H. J. (2002). Entwicklungslinien des customer relationship management (CRM). *Wirtschaftswissenschaftliches Studium (WiSt), 31*(4), 218–222.

Sexauer, H. J., & Wellner, M. (2008). Vertriebssteuerung durch operative CRM-Systeme— Anwendungsstand und Nutzenpotenziale in der betrieblichen Praxis. In S. Helmke, M. Uebel, & W. Dangelmaier (Eds.), *Effektives Customer Relationship Management* (4 ed., pp. 171–186). Wiesbaden.

Shapiro, C., & Varian, H. (1998). *Information rules*. Boston.

Sydow, J., Schreyögg, G., & Koch, J. (2009). Organizational path dependence: Opening the black box. *Academy of Management Review, 34*(4), 689–709. doi:10.5465/amr.2009.44885978.

Uebel, M. (2008). Wirtschaftlichkeitsberechnungen für CRM-Lösungen. In S. Helmke, M. Uebel, & W. Dangelmaier (Eds.), *Effektives customer relationship management* (4 ed., pp. 337–352). Wiesbaden.

Unknown (2010). Financial times Deutschland, 18. August 2010, p.25.

Voigt, R. (2009). Versandhandel: Dynamik im stagnierenden Apothekenmarkt. http://www.bvdva.de/ filead-min/content/pdf/aktuelles/vortrage/Vortraege_kongress/BVDVA_Veranstaltung_Versanda- potheken_Pressemappe_Herr_Voigt.pdf. Accessed 15/05/2009.

Weiber, R. (2002). Die empirischen Gesetze der Netzwerkökonomie. *Die Unternehmung, 56*, 1–34.

Weiber, R. (2006). Ansätze zur Steigerung des Kundenwertes im Electronic Business. In B. Günter, & S. Helm (Eds.), *Kundenwert* (3 ed., pp. 747–779). Wiesbaden.

Weiber, R., & Zühlke, S. (2005). Elektronische Geschäftsprozesse im Business-to-Business- Sektor. In M. Jäckel, & R. Weiber (Eds.), *Arbeit im E-Business—Auswirkungen neuer Informationstechnologien auf Kommunikations-, Arbeits- und Geschäftsprozesse* (pp. 13–79). München.

Weidner, C. (2007). CRM Praxishandbuch—Erfolgreicher Einsatz von CRM-Software— Unternehmen berichten aus der Praxis. http://www.crmmanager.de/ ressourcen/crm_ebook. php. Accessed 07/2007.

Wimmer, F., & Göb, J. (2006). Customer Intelligence—Marktforschung und Kundenanalyse als Informationsgrundlagen im CRM. In H. Hippner, & K. Wilde (Eds.), *Grundlagen des CRM* (2 ed., pp. 400–418). Wiesbaden.

Wirtschaftsforschung, I. F. (2010). VR-info Branchenspecial: Apotheken, im Auftrag der Volks- und Raiffeisenbanken. http://www.volksbank-goeppingen.de/etc/medialib/i240m0136/pdf___ zip/downloads_firmenkunden/branchen_spezial_-1.Par.0002.File.tmp/Apotheken.pdf

Zerdick, A., Picot, A., & Schrape, A. e. a. (2001). *Die Internet-Ökonomie*. Berlin et al.