

HEALTHCARE PORTALS - CUSTOMER CENTRICITY IN THE PHARMACEUTICAL INDUSTRY

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ABSTRACT

Customer centricity has long been a guiding principle for many businesses. However, it is usually limited to marketing existing products with as strong a customer focus as possible. Corporate strategy remains basically product-centred. Customers typically have a fractured view of an enterprise. Conversely, the enterprise has only a splintered view of the customer, determined by different customer contact points, as customer information is usually locked in departmental silos. This article argues that trends like electronic commerce drive the need for a more customer-centric view. Customer relationship management, which is built on an integrated view of the customer across the whole organisation, is currently being discussed as an appropriate concept for achieving this. Especially the pharmaceutical industry which is subjected by strong governmental regulations can profit from this approach. The next step in this development are so called healthcare portals which integrate customers and suppliers of pharmaceutical products and services over a homogeneous information and communication platform. The participation on such platforms requires the alignment of customer relationship management processes and healthcare portal services. To illustrate the elements of this concept, several interviews with pharmaceutical wholesalers and hospital pharmacies in Europe served as a basis to define customers' requirements. An empirical study of running European and US healthcare portals finally uncovered the gaps between customers' needs and the services provided by today's healthcare portals.

1. INTRODUCTION

The pharmaceutical industry is undergoing an enormous transformation process. Rising health care costs put pressure on the industry. Politicians try to reform the health care systems and implement more competition among all healthcare players. Inefficient and complex processes between those players and demographic development are regarded responsible for the tremendous rise in social healthcare costs. Healthcare portals take part in this strive to more efficiency. Healthcare players had clearly defined roles in the past. New market players such as intermediaries which we call healthcare portals offer new value added services to improve the current business-to-business relationships [Roth 2000]. Healthcare portals, defined as web-based information and communication platforms in the healthcare sector, provide value for both suppliers and customers of healthcare products and services [Kilbridge/Schneider 1999]. These portals connect all participants over an Internet platform and simplify the information exchange between them (see Figure 1).

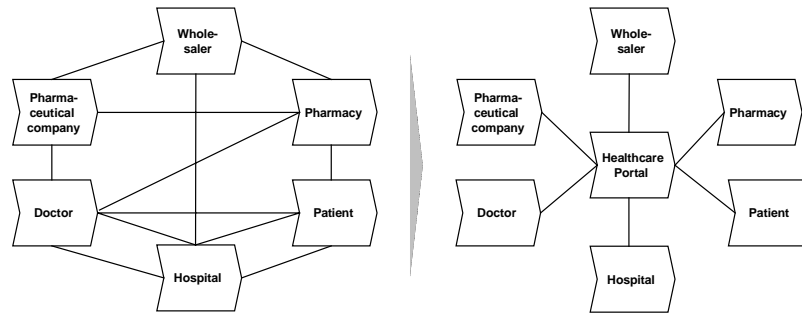


Figure 1: Healthcare portals

In this article we will outline how the customer relationship management (CRM) concept can be used to achieve better customer centricity in the pharmaceutical industry. We believe that CRM is not only a strategic concept, but is built on a clear understanding of the underlying processes and information systems and can be leveraged with the use of healthcare portals as an additional channel to satisfy customer needs. As a first step, we will therefore discuss the CRM concept and its interplay with healthcare portals. In a second step we will apply this model to the pharmaceutical industry and describe how the competitive situation of pharmaceutical companies influences customer relationships in different areas of the supply chain. Within this context we will focus on Switzerland and the European Union, but draw comparisons to the US healthcare system where this seems to be appropriate. The analysis of customer processes will found the basis for the comparison of the services of existing healthcare portals with customers' needs. The customer processes have been examined by interviewing five wholesalers and five pharmacists in Germany, Switzerland and Austria whereas the portal services are derived from five interviews with leading portal providers in the USA and Europe. We differentiate between the portal solutions of the pharmaceutical industry and new market players that we call intermediaries. Uncovered parts of customer processes are mentioned in the gap-analysis. Finally, chapter six draws some conclusions and summarises the implications of the Internet for the pharmaceutical industry.

2. CUSTOMER RELATIONSHIP MANAGEMENT AND PROCESS PORTALS

Customer relationship management means increasing revenues and profitability by co-ordinating, consolidating and integrating all points of contact that enterprises have with their customers, which is what in effect integrates sales, marketing and service [Kalakota/Robinson 1999]. CRM focuses primarily on the marketing, sales and service processes:

- *Marketing process:* CRM supports the customer and the business itself with information on products, campaigns, customer profiling, etc.
- *Sales process:* CRM supports the customer with product configuration information, prices, etc.
- *Service process:* CRM supports the customer with call centre activities, problem analysis, handling guarantees, etc.

The goal of CRM is the forming, care and usage of personal relationships with the most important customers. Schulze et al. define CRM as a customer-oriented management approach that is based on information systems which integrate the information required for the support of front-office processes in marketing, sales and service [Schulze et al. 2000]. This means that all customer contact points can rely on the same information based on integrated information systems. An integrated view of the customer across all organisational units is therefore critical in order to achieve an efficient CRM concept [Körner/Zimmermann 1999].

Portals on the other side can be defined as web-based, personalised and integrated systems which offer access to applications, content and services [Österle/Winter 2000]. Thus, as a vertical typology, healthcare portals transfer the traditional customer's healthcare process on the Internet. If these portals support entire

customer processes they are referred to as process portals [Österle 2000]. Electronic marketplaces, such as Ariba Network and MarketSite.net, primarily focus on the integration of reciprocally exchanged services and ignore the customer process orientation. They primary concentrate on electronic commerce processes which are developed from a transaction perspective. Transaction cost theory from [Williamson 1985] has been early applied by [Malone et al. 1987] to discuss electronic markets and hierarchies. The established phase model distinguishes the three phases information, contracting and settlement [Schmid/Lindemann 1998].

Process portals on the other hand are characterised by the integration of services for one specific customer process. This view is provided by the concept of the Customer Resource Life Cycle (CRLC) which aims at supporting all customer needs at all stages [Ives/Learmonth 1984]. This means that a customer is supported during the whole life cycle of possessing a product starting from information through buying and utilisation up to the disposal of that product. The CRLC therefore encompasses the phases information, evaluation, purchase, (product) utilisation and (product) disposal [Molenaar 1996]. The front-office processes marketing, sales and service provide the services for healthcare portals (see Figure 2). In order to provide all necessary services, process portals additionally integrate services from co-operation partners. From a company's point of view, the process portal provides the interface to the customer. With every contact, the customer utilises services from the process portal. Every customer segment passes through its own customer process during the course of which the customer repeatedly interacts with the process portal which supports him through individualised services, such as product information and supply chain services.

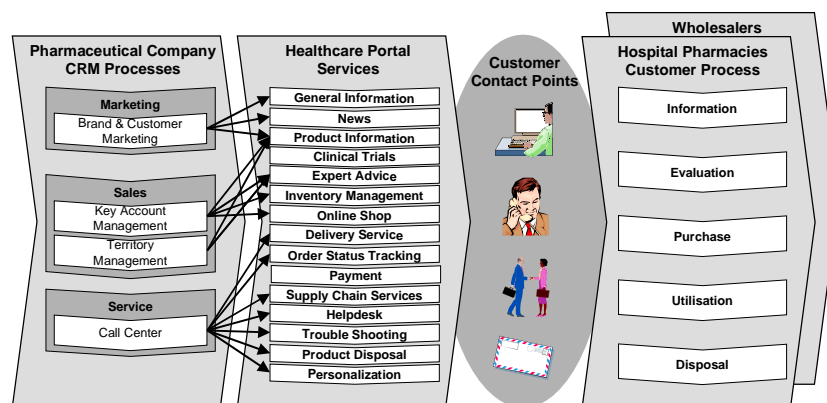


Figure 2: Interplay of CRM and process portals

3. CUSTOMER RELATIONSHIP MANAGEMENT IN THE PHARMACEUTICAL INDUSTRY

3.1 Challenges for Pharmaceutical Companies

Although customer centricity has been propagated for years as a guiding principle for companies, product centricity still dominates their marketing, sales and service activities. Customer orientation is mostly limited to support for customers needs during sales and after sales through customer-facing channels such as marketing, sales and service departments which are fast and accommodating but nevertheless isolated. Today's customers usually have more far-reaching requirements, however. Typically they are in the middle of a customer process, such as the curing of a disease (patients), the prescribing of medicines (doctors) or the distribution of pharmaceuticals on demand (wholesalers). Within this process they need a variety of products and services which they have to collect from different suppliers. Those vendors which bundle all the necessary services for a specific customer process via healthcare portals create an enormous added value [Österle 2000] (see Figure 3).

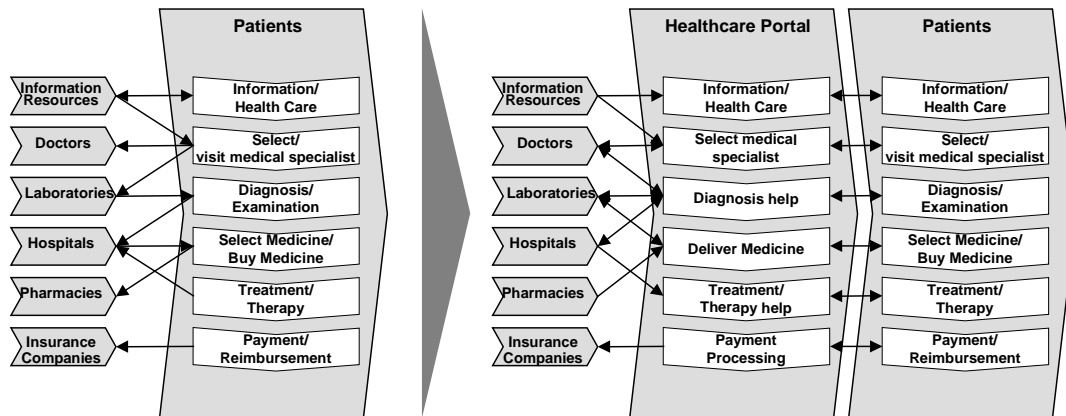


Figure 3: From product to customer centricity

Despite a high number of mergers and acquisitions the world-wide pharmaceutical industry is still very fragmented. The ten biggest pharmaceutical manufacturers cover only approximately 35 percent of the entire market volume [Interpharma 1999]. No pharmaceutical company reaches a market share exceeding 5 percent. The fact that competitive advantage can rarely be achieved by product differentiation is forcing pharmaceutical companies to fundamentally rethink their selling strategies. The main determinants for this trend are:

- **Cost pressure:** Governments are putting pharmaceutical companies under pressure to reduce prices for drugs because of exploding costs in the healthcare environment.
- **Regulation:** The healthcare sector is extremely regulated. Every prescription drug, for example, is not released for publication until a clearly defined time frame has been established for clinical trials. Furthermore the European Union prohibits the marketing of prescription drugs to end-consumers. As in the USA where this law was reversed in 1997, attempts are being made to rescind this directive in the EU, too.
- **Profitability:** The development of new medicines is becoming more capital and time-intensive. In 1990 the development of a new marketable drug took at least 10 to 15 years and involved costs of an average USD 500 million [Interpharma 1999]. Out of 10,000 basic substances only one or two medicines ever reach the market. Of these medicines less than 30 percent are profitable.
- **Patent protection:** A patent for a pharmaceutical product usually protects against imitations for 20 years. However, this time frame starts from the moment the patent is registered for the basic substance and not when the product becomes marketable. Actual patent protection therefore only covers a period of 8 to 10 years [Interpharma 1999]. As soon as this protection expires cheaper generic products come onto the market. That is why a medicine has a maximum payback period of only 10 years. In addition, the net profits from these medicines also have to cover the costs of drugs that were stopped during clinical trials because of negative results.

The trends already mentioned clearly show that pharmaceutical companies have to move from product to customer centricity in order to remain competitive. In the past, most companies tried to reach the rank and file with the development of standard medicines such as Aspirin from Bayer. With pharmaceutical products becoming increasingly similar in terms of quality and effect, competitive advantage is moving more and more towards customer centricity.

3.2 Areas of Customer Relationship Management in the Pharmaceutical Supply Chain

Today's pharmaceutical company's marketing, sales and service organisation can be characterised by isolated customer channels (see Figure 4). The brand and customer marketing pushes the customers with company

and product information. Within the sales organisation, the key account management takes care of big customers, such as hospital pharmacies and wholesalers (business-to-business), whereas territory management tries to influence what doctors prescribe (business-to-doctor). A special customer segment are hospital pharmacies because they are both, buyers and prescribers of medicines. A new channel which is currently gaining considerable importance in the USA in particular uses the Internet and allows direct interaction with patients through online pharmacies (business-to-consumer).

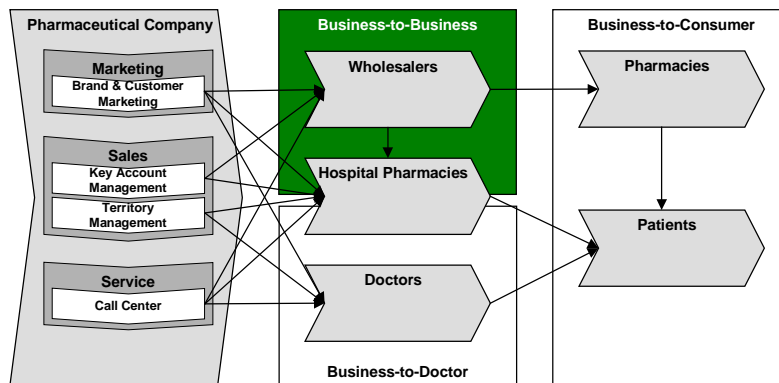


Figure 4: Pharmaceutical supply chain

In contrast with other industries, such as the computer industry, marketing and access to patient information is restricted for pharmaceutical companies. The reasons for this are governmental rules and the very complex structure of the healthcare system which separates pharmaceutical companies from patients through several intermediate stages in the supply chain, such as wholesalers and pharmacies. These governmental restrictions are the reason why an optimisation of the pharmaceutical supply in Europe is limited to the business-to-business and business-to-doctor area. Our following analyses concentrate on the business-to-business sector, i.e. wholesalers and hospital pharmacies (see Figure 4).

This means that an integrated CRM approach for a pharmaceutical company has to consider both the marketing, sales and service processes which are provided by the marketing and service departments and the sales channels (key account management, territory management) as well as the underlying information systems which support these processes. The internal integration of customer-facing processes and systems is a prerequisite for pharmaceutical companies if they are to optimise customer relationships through the use of healthcare portals.

3.3 Customer Process Analysis

The customer process analysis is one of many techniques of identifying CRM potentials [Schulze et al. 2000]. It helps to understand the needs and processes of a customer. The complete customer process is the process which a customer goes through in order to satisfy his needs [Österle 2000]. The following analysis of customer processes is based on different interviews with wholesalers and hospital pharmacists in Germany, Switzerland and Austria and literature research (e.g. [De Nelsky et al. 1999], [Peters 1999], [Kilbridge/Schneider 1999], etc.). The concept of the CRLC which was introduced in section 2 serves as a reference model for the analysis of the customer processes as well as for the following analysis of the offered services of healthcare portals. Therefore, it is possible to compare the processes with the services. The following analysis is solely concentrating on wholesalers and hospital pharmacies.

Hospital pharmacies are responsible for the complete provision of medical products to hospitals. Hospital pharmacies often form so called hospital buying groups in order to receive better price conditions from the manufacturers. The CRLC of hospital pharmacies (see Figure 5) shows their main tasks.

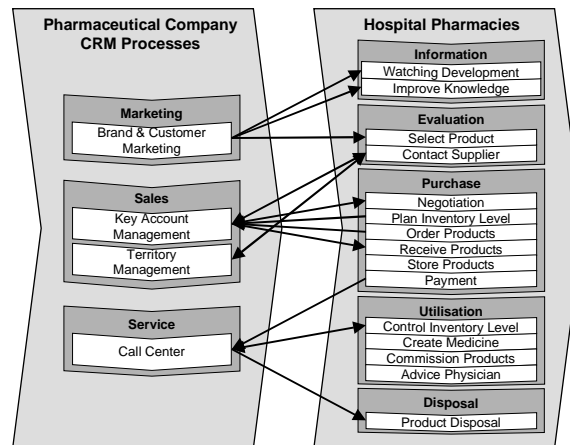


Figure 5: Customer process of hospital pharmacies

The customer process of hospital pharmacies starts with information about new medical developments and products. The pharmacists need information about sales statistics, restricted admissions and side effects of drugs and the like. With clinical studies he is able to analyse applicability and potentials of new drugs. If the pharmacist is not completely satisfied with this information he can call for expert advice at the pharmaceutical company's product manager. After he received this information, the pharmacist checks the product prices and orders the product. Transaction costs for ordering are estimated around USD 30 per transaction [Kämmerer 2000]. All of the interviewed pharmacists use paper-based ordering systems such as fax or even order by telephone. Electronic Data Interchange (EDI) has not been established in the relationship between pharmacies and pharmaceutical companies. Several tasks are not supported by information systems. Especially, the manually entering of the order and product data is redundant since the same procedure is repeated at the pharmaceutical company. The implementation of EDI would significantly reduce the time needed for this administrative task for the pharmaceutical company and the hospital pharmacies. Inventory management is another key process where hospital pharmacies are trying to optimise the pharmaceutical supply chain. In order to keep their stock levels low they would prefer a vendor managed inventory concept, where the pharmaceutical companies fill up stock levels on demand. Hospital pharmacies see further optimisation potential in the implementation of a cross-pharmaceutical manufacturer order platform for drugs. This would not only save transaction costs but also reduce costs for product search in different paper-based catalogues from different manufacturers.

Wholesalers on the other hand have to ensure the proper provision of pharmaceutical products towards pharmacies (see Figure 6). They have wide distribution networks which guarantee that a pharmacy receives its ordered products within two hours on average. Wholesalers are believed to have a service level between 97 and 99%. That is why wholesalers need to have efficient processes to make sure such levels can be kept. The customer process of wholesalers starts with the search for expert information about new product launches and range data of drugs such as the quantity of specific drug packets. The range of products largely depends on the pharmacies demand. Their needs for a specific drug is the basic criterion for the procurement of specific drugs from specific pharmaceutical companies. When the wholesaler receives a pharmacy order the inventory management system automatically checks the stock level and releases the products for distribution. If the inventory level falls below a specific number the inventory management system automatically generates an order which must be released by the warehouse manager. He finally transmits this order via EDI to the pharmaceutical company. Wholesalers use EDI to optimise their relationships with the pharmaceutical companies (supplier) and pharmacies (customers). Only the billing processes are still paper-based. They offer opportunities for improvement (see Figure 6). The interchange of product data is another very important need of the wholesalers. Many of them have more than 100,000 articles in their inventories and therefore are keen on proper data streams to the pharmaceutical companies to keep the article data up to date.

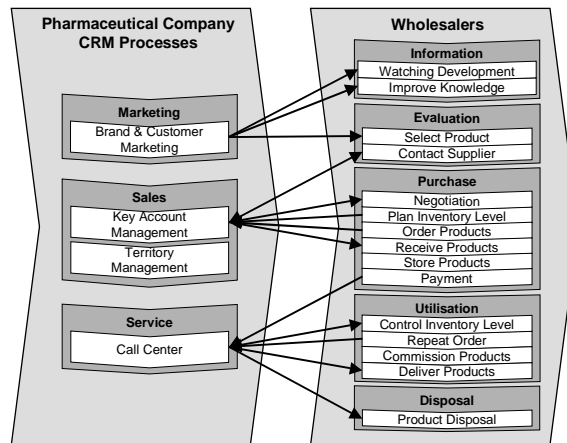


Figure 6: Customer process of pharmaceutical wholesalers

4. HEALTHCARE PORTALS

4.1 Process Portals in Healthcare

Healthcare portals can lead to an optimisation of supporting customer processes. **Figure 6** shows the customer's process of obtaining information about, buying and possessing medical devices and the accompanying services which are provided by Neforma.com [www.neforma.com], a US healthcare portal. Neforma.com offers the four core services Resources, Plan, Shop and Auction for doctors, hospitals and other organisations in the healthcare sector. These core services are supported by a broad variety of processes that are offered via Neforma.com's process portal. The "Resources" area offers personalised information and training services for customers. In the area "Plan" Neforma.com provides a database for doctors which contains different methods of treatment for all kinds of syndromes. The same area contains a service for the equipment of specific departments, such as radiology, surgery or computer tomography. Within this area the buyer can browse through specific categories and sees all the necessary administrative and clinical equipment. These products can then be ordered via the "Shop" service. The auction service closes the CRLC by offering the possibility to tender used products.

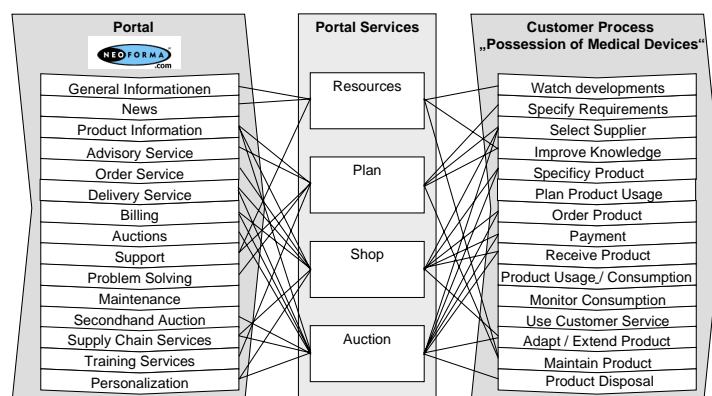


Figure 6: Services of Neforma.com's portal

Healthcare portals differ in the customer segment they support (business-to-business, business-to-doctor and business-to-consumer) and the services they provide. The emergence of portals which align their services very much towards the customer segments they serve is obvious because every customer segment in the

pharmaceutical industry has its own specific process. The customer process of a patient for example is characterised primarily by information, treatment and therapy whereas the process and the services needed by a doctor will focus on medical information, sales services for drugs and medical devices, and training possibilities. Hospital pharmacies on the other hand are principally interested in integration services in order to streamline administrative and clinical processes between insurance companies, medical specialists, pharmaceutical companies and their own departments. We will therefore apply the following classification of healthcare portals according to their target communities:

- *B2C portals* provide consumers with information about diseases, medical products and services (e.g. Intellihealth [www.intelihealth.com]) and enable them to buy prescription and non prescription drugs online. An example for this category is Drugstore.com [www.drugstore.com].
- *B2D portals* transfer traditional doctor's processes such as sales processes for prescription drugs and medical devices on the Internet (e.g. Neoforma.com [www.neoforma.com]).
- *B2B portals* connect the participants of the pharmaceutical distribution network, such as pharmaceutical companies, hospital pharmacies, wholesalers and pharmacies in order to reduce transaction costs. An example for such a solution is the portal of WebMD [www.webmd.com].

The pharmaceutical supply chain involves a variety of participants who are in permanent interaction with one another. Most of these interactions, especially in the B2B and B2D areas are currently still paper-based. Reports of various investment banks indicate that more than 30 percent of the total costs in the US healthcare are wasted due to system inefficiencies such as redundancies, unnecessary treatments and the like (cf. [De Nelsky et al. 1999], [Peters 1999]). Other countries in Europe traditionally have a similar proportion. The reasons for this are paper-based administrative processes, order and billing processes and hand-written medical reports and diagnoses, etc. These costs can only be lowered if all processes between all participants are replaced by integrated, electronic processes. This is the service which companies aim to provide by offering healthcare portals. For this reason they offer services such as multi-vendor product catalogues, electronic invoicing, auctions and the like.

4.2 Healthcare Portal Service Analysis

Pharmaceutical companies offer different information services such as product information, clinical trial results and disease information on their websites. Novartis' website is an example for such a platform. But all of the services that this platform provides are limited to information only. All websites of the top ten pharmaceutical companies like Merck & Co, AstraZeneca, Glaxo Wellcome, Pfizer, Bristol-Myers Squibb, etc. concentrate on this services. According to the above mentioned classification of healthcare portals, pharmaceutical companies' platforms belong to the category of information portals. Since they are more product focused and do not orientate at the customer's needs, they are not process portals according to our definition in section 4. Many of these information services are made for patients, doctors and pharmacists. But they do not provide any services for the optimisation of the supply chain between pharmaceutical companies on the one side and wholesalers and hospital pharmacies on the other side.

Recently, new companies have been founded which transform the healthcare processes on the Internet. These intermediaries connect healthcare players to one another and reduce transaction costs. Although they have a more customer centric approach than the pharmaceutical companies, none of these intermediaries has been profitable so far. WebMD, which is the world-wide market leader of healthcare portals, had a revenue of USD 102 Million, but also a net loss of USD 288 Million in 1999. Nevertheless, these companies are recognised by traditional pharmaceutical companies. Glaxo Wellcome for example recently announced that it plans to participate with one of these neutral portal providers. The power of these players should not be underestimated. In order to analyse the services that these portal companies provide we distributed questionnaires to all players in the USA and Europe who provide or will provide portal solutions for B2B. The return rate was very low (only three out of 24 distributed questionnaires), because most of the portal providers are currently building up their services. Table 2 shows the results of this survey with the CRLC categories on the one axis and the services provided on the other axis.

Healthcare Portals	WebMD (USA)	Omniceil (USA)	Eumedix (NED)
Customer Process			
Information	<ul style="list-style-type: none"> - Medical news - Medical libraries - Product information for prescription and non-prescription drugs - Clinical trials and courses 	<ul style="list-style-type: none"> - Medical news - Medical libraries - Product information and a "recalls and alerts" section which provides information about critical drugs from the Federal Drug Administration (FDA) 	<ul style="list-style-type: none"> - Comparison of suppliers products
Evaluation	<ul style="list-style-type: none"> - Expert advice through online training - TV videos for specific therapeutic areas 	-	-
Purchase	<ul style="list-style-type: none"> - Online Shop with over 150,000 medical products and direct links to wholesalers such as McKesson HBOC or medibuy.com 	<ul style="list-style-type: none"> - Marketplace for suppliers and buyers - Online product availability check - The integration of customer's ERP systems - Price plausibility check - Order status tracking - Automated dispensing cabinets control the inventory level at the point of use 	<ul style="list-style-type: none"> - Support of the negotiating process between suppliers and buyers - Volume bundling of hospital pharmacies
Utilisation	<ul style="list-style-type: none"> - Electronic medical records - Administrative services for doctors such as checking claims - Trouble shooting for specific therapeutic areas and drug side effects - Personalisation 	<ul style="list-style-type: none"> - Reporting (Data Analysis Service) - Personalisation 	-
Disposal	-	-	-

Table 1: Services of healthcare portals

5. GAP-ANALYSIS

5.1 Customer Process Support of Pharmaceutical Company Portals

The comparison of the services of the healthcare portals of pharmaceutical companies and the customer processes of hospital pharmacies shows up that these companies rather focus on their products than on their customers (see Figure 8). The transition from a product-centric to a customer focused view has not been established yet. Although the pharmaceutical companies offer information about diseases and products, they do not completely cover the customer process of the wholesalers nor the hospital pharmacists. For instance they do not cover and support important processes such as purchasing processes. One reason for the product-centric view is that pharmaceutical companies core competence is the development and research of products, which has an influence of their websites. The delivery and distribution are not seen as key processes of the pharmaceutical companies, wholesalers do better at these processes. Thus these portals are not process portals according to the definition above (see section 4).

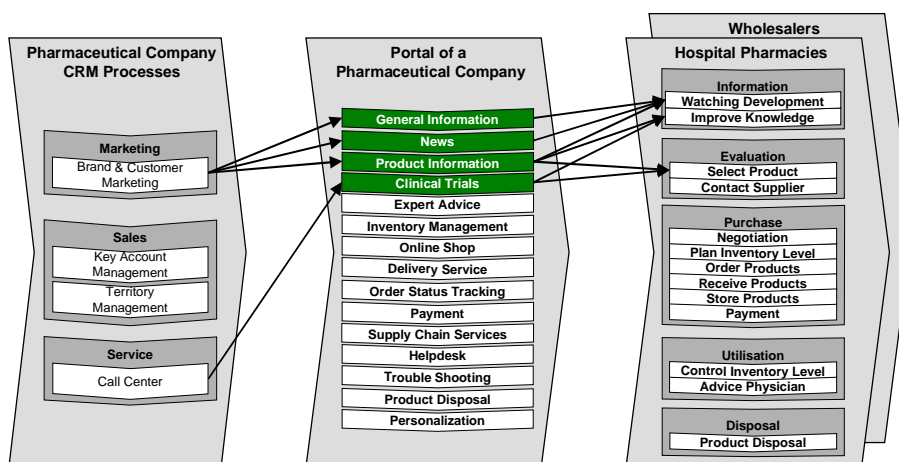


Figure 7: Core services of a pharmaceutical company's healthcare portal

5.2 Customer Process Support of Intermediary Portals

The intermediary portals offer a large amount of products and services to satisfy the needs of a customer for a certain process. Many healthcare companies of the New Economy claim to be intermediary. Omnicell [www.Omnicell.com] for example is an enterprise which almost completely covers the customer process of hospital pharmacies (see Figure 9). It's portal platforms go beyond the ordinary information and evaluation services, since they support the customer through the entire Customer Resource Life Cycle. Omnicell has an healthcare portal (OmniBuyer) which, on the one hand, allows hospital pharmacies to order online and where, on the other hand, pharmaceutical companies and wholesalers can distribute their products through the Internet. Omnicell has already installed automated dispensing cabinets in about 1,300 hospitals in the USA. This intelligent devices send ordering information automatically to the wholesalers or pharmaceutical companies. The use of this vendor managed inventory (VMI) system leads to a reduction in capital bound in the inventory.

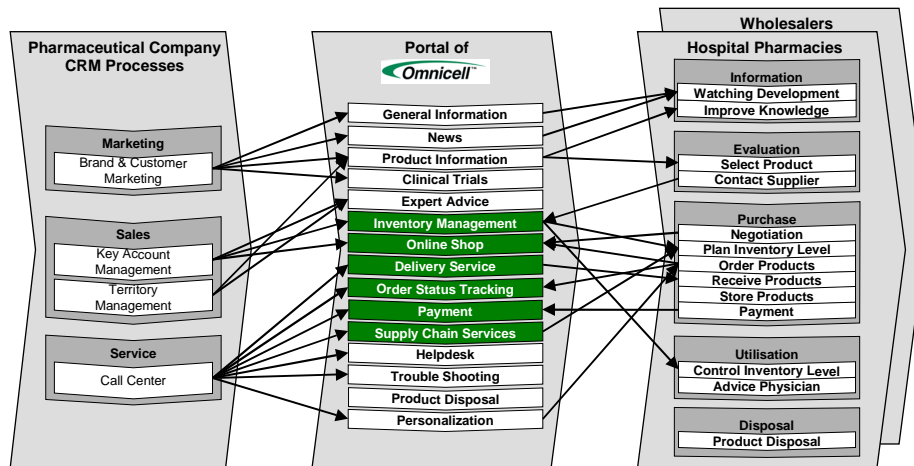


Figure 8: Core services of an intermediary's healthcare portal

6. CONCLUSION

Healthcare portals are revolutionising customer relationships in the pharmaceutical industry. The cost pressure on public healthcare is calling the efficiency of traditional, isolated marketing, sales and service processes into question. Currently, productivity improvements in pharmaceutical companies' sales organisations through benchmarking and better market research data are leading to an adjustment of competitive advantage across the industry. Companies are still trying to compensate this homogeneity with an increase in medical representatives who try to influence doctors' prescription decisions, although the number of doctors remains constant. This development is paving the way for a new kind of service integration through healthcare portals. These portals will have a lasting effect on the healthcare process and ultimately on pharmaceutical relationships, too.

The major benefit of healthcare portals for pharmaceutical companies will arise from the possibility of direct interaction with their customers, which will offer a better analysis of customer needs and their transformation into the development of individualised products and services. The effect on the traditional marketing, sales and service channels of pharmaceutical companies could be drastic. In the USA about 175,000 doctors already use healthcare portals for accessing personalised general medical information as well as information about pharmaceutical products and services [Roth 2000]. This instrument allows them to analyse clinical trials better and faster, or to order drug samples directly from the manufacturer. The traditional sales organisation therefore will have to be changed from a cost-intensive push to an efficient pull system. As a result doctors, pharmacists and wholesalers will increasingly satisfy their information needs via healthcare portals,

but as the examples of other industries such as the automotive industry show, online activities must always been seen in the whole context of CRM. Only a few customers currently buy cars online. Most of the potential buyers still go to dealers for test runs and in order to finalise their purchase decision. In this case the web only serves as an additional channel which enables better and faster information about products and services. The same trend can be applied to the pharmaceutical industry. Only when doctors are supported through competent sales representatives these online services will provide a competitive advantage for pharmaceutical companies. It is therefore important that offline customer-oriented CRM processes and systems have to be aligned with online portal solutions. This integrated solution maximises value by focusing on the customer's process and offering support along the entire CRLC.

This changing environment poses a new challenge for pharmaceutical companies and leads to the question of how traditional pharmaceutical companies can position themselves in the healthcare portal market. Our analysis of the global top-ten pharmaceutical companies showed that nine of the ten websites concentrate on medical news, product information and clinical trials. Up to now only Glaxo Wellcome has reacted and initiated the business-to-business portal project 'Trade Customer' that offers value added services such as online ordering and supply chain services for wholesalers and pharmacies. The portal solutions of the new intermediaries such as WebMD or Omnicell provide more services for their customers' processes. Omnicell for example uses it's existing automated storage cabinets at hospital pharmacies to optimise business-to-business processes between hospital pharmacies on the one side and pharmaceutical companies and wholesalers on the other side. Generally speaking, we can distinguish between two main strategies: one is to found an own healthcare portal and the other is to take over or participate in an existing portal. Aventis for example is planning to establish an own pan-European healthcare portal together with World Online, a Dutch Internet provider, whereas Glaxo Wellcome also wants to participate in neutral portals. But as critical mass is always a major critical success factor for such portals only a few of these intermediaries will survive.

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