Chapter 9
B2B Digital Business Models

Business models not only are highly relevant in the B2C area, but also in the B2B sector (Timmers 1998, 1999). The main difference lies in the underlying relationship. While B2C business models are based on a range of services to private end users (private clients), B2B business models focus exclusively on transactions between companies (Kian et al. 2010). Similar to the procedure of deducting the previous 4C-Net B2C Business Model typology that distinguished between the individual value chains and business offers, this section outlines four B2B-based business models that are derived by carefully distinguishing four core business orientations: sourcing, sales, supportive collaboration and service broker.[1]

This business model typology is referred to in the following as 4S–Net Business Model and presents an overview of the most relevant B2B business models on the Internet. However, in this context it is important to consider that a rigid and clear separation is not always possible, as companies often choose strategies that follow several models at once. It may happen that a company indeed has a core business model, however, with some overlap with other B2B business model groups. Figure 9.1 outlines the 4S-Net Business Model framework. To this end, it first presents each business model type, including the most relevant subcategories of services provided.

The following sections describe the particular business model types in detail. While Sect. 9.1 deals with the sourcing business model, Sect. 9.2 describes the sales business model and Sect. 9.3 gives an overview of the supportive collaboration business model. Finally, Sect. 9.4 presents the service broker business model.

[1]See also for the following chapter Wirtz (2018b).

B. W. Wirtz, *Digital Business Models*, Progress in IS,
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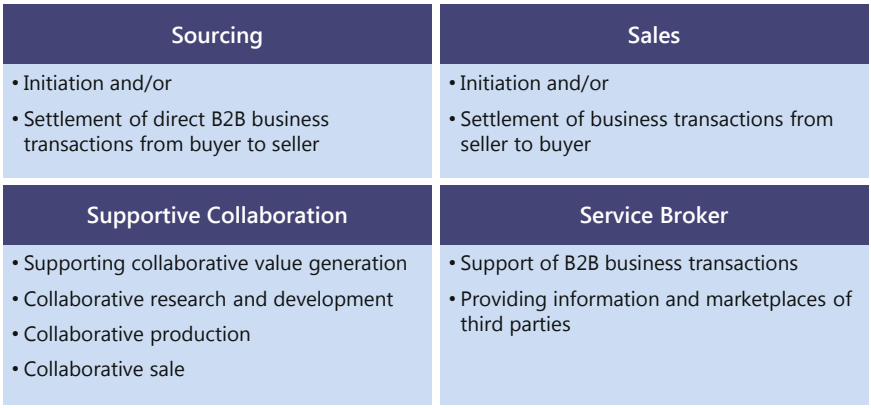

Fig. 9.1 4S-Net Business Model. *Source* Wirtz (2010b, 2018b)

9.1 The Sourcing Business Model

The B2B model sourcing consists of the initiation and/or settlement of B2B business transactions from buyer to seller. The aim of this business model is to handle business transactions of procurement management by means of the Internet (Camarinha-Matos et al. 2013). Here, a direct service relationship between buyer and seller is required. Figure 9.2 illustrates the sourcing business model with the two approaches private B2B exchange (one-to-one) and buy-side B2B exchange (one-to-many).

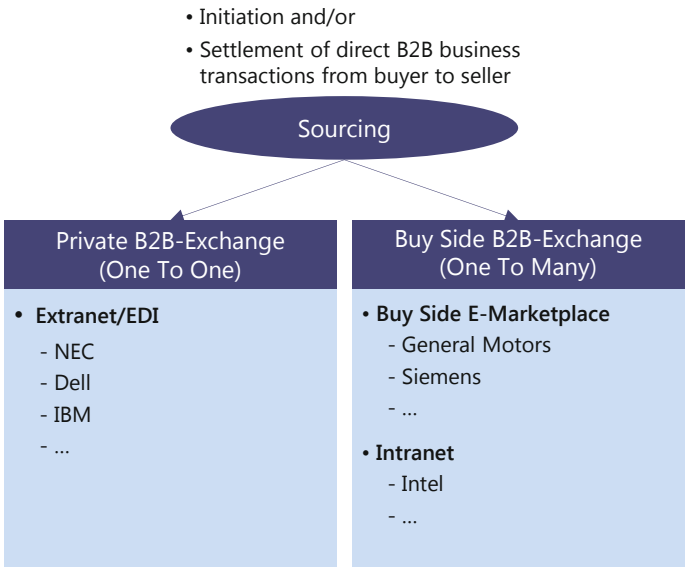

Fig. 9.2 Digital business model sourcing. *Source* Wirtz (2010b, 2018b)

For buyers it is not only crucial that traded products and services are supplied quickly, reliably and in the usual quality, but also that they are able to react flexibly to unexpected changes in demand. Moreover, B2B exchanges are mostly set up for frequent purchasing. The setup of a private B2B exchange is usually not worthwhile for individualized services with low repurchasing rates. In practice, such strategically important one-to-one relationships with vendors or suppliers are mostly established through appropriate extranets.

The company intranet is extended to include interactive procurement support components, which are only accessible to the exclusive strategic partner (one-to-one). Such private B2B exchanges are widely used in the B2B e-business context, for example, by companies such as NEC, Dell or IBM in order to support intensive supplier relationships. An established and proven alternative to the one-to-one extranet is the electronic data interchange (EDI). It allows sending a procurement order to the supplier immediately, reliably and accurately in agreement, as the order in the system is predefined by the supplier. The Internet increasingly serves as a platform for existing EDI systems. The EDI data are then transmitted by using email or FTP services (Internet EDI).

In addition to the clear cost advantages compared to traditional methods of information exchange regarding procurement (e.g., fax or voice mail) and the straightforward and unified process management, the establishment of a private B2B exchange solution generally leads to long-term relationships between customers and suppliers. However, if the respective business link collapses, the established system is usually also not used for other purposes, which is why it is associated with sunk costs for the company.

Unlike the private B2B exchange, the buy-side B2B exchange is characterized by a one-to-many relationship between the buying companies and other vendors or suppliers. Buying companies can implement such supplier relationships by establishing a buy-side e-marketplace. In this context, the purchasing company builds an e-marketplace on their own server and invites different suppliers to quote on open supply requests. This variant often follows reverse auctions that are used to choose the one supplier with the cheapest quotation (request for quotation) (Rayport and Jaworski 2001; Turban 2015; Turban et al. 2015).

Since constructing and operating an e-marketplace requires considerable resources, only major corporations such as General Motors or Siemens usually use this type of buy-side B2B exchange. An alternative version of the buy-side B2B exchange is to build a multi-supplier catalog (Camarinha-Matos et al. 2013). Individual supplier catalogs merge into one comprehensive catalog and are stored on the intranet of the company procured. The technical integration into the internal financial or ordering system and into the application system of the supplier makes it relatively easy to trigger and process orders. In practice, such multi-supplier catalogs are widely used across different industries.

The aggregated value chain of the sourcing business model consists of five main stages. In the stage of demand planning, one has to specify the items that need to be acquired for the production process and determine the quantity of the items needed. Before the actual delivery of goods and the payment processing can take place, the order needs to be officially initiated and assigned to the respective suppliers. Figure 9.3 illustrates the aggregated value chain of the sourcing business model.

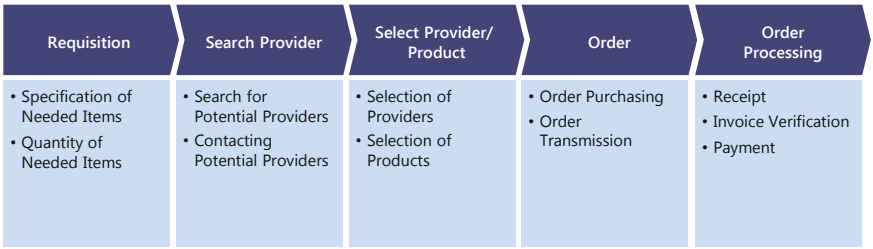

Fig. 9.3 Aggregated value chain of the sourcing business model. *Source* Wirtz (2010b, 2018b)

Core assets and core competencies are very important for the success of companies. The most important core assets of the sourcing business model are the procurement system, a large supplier network and the IT platform applied. An integrated procurement system allows companies to efficiently organize their procurement processes and optimize the procurement process by minimizing delivery times and process costs.

Moreover, it is important to have a large and well-positioned supplier network in order to be able to compare individual supplier or delivery conditions and negotiate the best possible procurement conditions. The technical realization takes place by means of an IT platform that is particularly adapted to the needs of the respective company.

The core competencies of the sourcing business model include highly developed procurement know-how and negotiation skills. In addition, highly developed data processing skills are particularly useful because the procurement systems usually have to deal with a huge amount of data. Figure 9.4 summarizes the core assets and the core competencies of the sourcing business model.

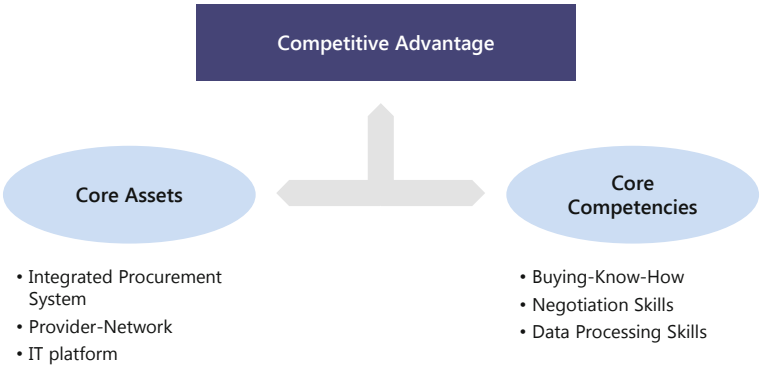

Fig. 9.4 Core assets and core competencies of the sourcing business model. *Source* Wirtz (2010b, 2018b)

9.2 The Sales Business Model

The B2B business model sales involves the initiation and the settlement of direct B2B business transactions from the seller to the buyer. The aim of this business model is to handle transactions of sales through the Internet. Unlike the source model, here the selling entity initiates the direct relationship between buyers and sellers (Rayport and Sviokla 1995). Accordingly, one can derive the following subcategories: private B2B sales and sell-side B2B exchange. Figure 9.5 illustrates the business model B2B sales.

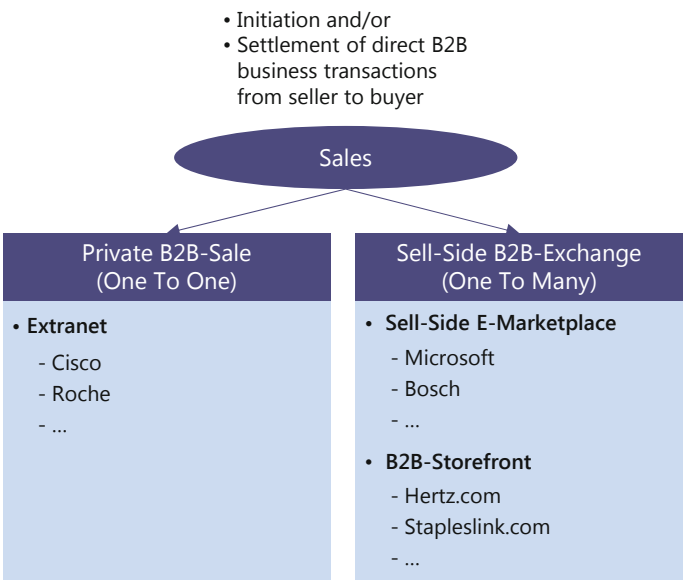

Fig. 9.5 Digital business model sales. *Source* Wirtz (2010b, 2018b)

Analogous to the private B2B exchange of the sourcing business model, the private B2B sales model describes a one-to-one relationship between the seller and buyer (Timmers 1999). However, unlike the B2B exchange the focus of attention is not the procuring company, but the supplying companies (sellers). Thus, the B2B seller seeks to establish a long-term intensive business relationship with its major customers (usually measured by turnover). For the purposes of the intended long-term customer loyalty, it is advisable to support such businesses by establishing appropriate technical extranets and to agree to individualized terms of products and respective pricing for each major corporate customer.

In practice, such private B2B sales are now widely used. Sellers, for example, are manufacturing companies that sell their products exclusively to a wholesaler or retailer. Companies that successfully apply such private B2B sales models are, for

example, Cisco or Roche. In contrast, the sell-side B2B exchange stands for a direct one-to-many relationship between the seller and buyer (direct selling). Thus, a sell-side B2B exchange always involves one B2B seller and several potential B2B buyers. An intermediate stage, for example, in the form of an intermediary is not considered at this point, but rather as part of the business model type of service broker.

Sell-side B2B exchanges consist of sell-side e-marketplaces and B2B storefronts. A sell–side e-marketplace is a web-based market platform that offers a seller's products or services to a number of potential business customers. The seller itself usually operates the marketplace platform and implements it in the form of an extranet (Camarinha-Matos et al. 2013).

One can distinguish between the basic models with regard to sell-side e-marketplaces: e-catalogs and e-auctions. Microsoft, for instance, uses the direct sale via an e-catalog based on the extranet system and successfully achieves software sales with various channel partners. Large and well-known enterprises can also establish their own e-auctioning system in order to achieve a respective number of sales without involving intermediaries. However, considering the technical infrastructure and maintenance such platforms are significant in terms of cost.

Companies that successfully operate their own e-catalogs are usually limited in implementing such e-auctioning system. A disadvantage of running own sale platforms, however, is that intermediaries often have a broader customer base and thus more potential bidders than the ones that can be addressed with the company's internal operations.

B2B storefronts represent a modification or development of the sell-side e-marketplaces. The main difference is that B2B storefronts are technically not realized by establishing an extranet, but by programming a general webpage. Companies have to register and obtain a company ID and password to ensure that only selected business users can access the online platform.

Stapleslink.com is a good example in this context. This approach has the advantage that new B2B customers can easily access the storefront. In addition, the use of individual business profiles can be explicitly adapted to the wishes and needs of each business customer and agreed product or price conditions can be aligned with the storefront (e.g., business account program by Hertz).

The aggregated value chain of the sales business model consists of five main stages. In the stage of key account management, companies first need to identify the existing and relevant customer segments in the market. Based on this, they can then select the customer segments that are supposed to be addressed and build the respective sales platform according to the pursued customer relationship strategy (private B2B–exchange or sell-side B2B-exchange).

The successful setup of the sales platform provides the basis for electronic order handling and the subsequent delivery of goods or provision of services. After the delivery of goods or service provision, the billing takes place in terms of classic invoicing or by means of electronic bank transfer or direct debit. Finally, companies can use after–sales management to increase customer loyalty. Figure 9.6 illustrates the aggregated value chain of the sales business model.

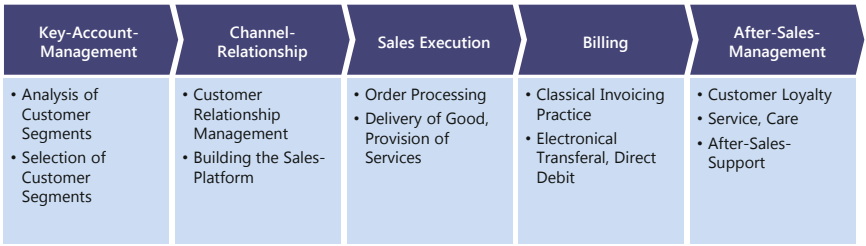

Fig. 9.6 Aggregated value chain of the sales business model. *Source* Wirtz (2010b, 2018b)

The most important core assets of the sales business model not only include a large and well-established customer base as well as the development of a broad key account network to strengthen the bargaining power and establish a popular brand, but also particularly the applied distribution structure and IT platform. Depending on the sales strategy, it is particularly important to select the most economic type of sales business model and realize it by means of an appropriate IT platform. For example, it is advisable to establish an extranet (one-to-one) to realize sales business relationships with strategically important for important key accounts. In order to provide simultaneous access to the sales platform for more than one business customer, one can establish a sell-side B2B-exchange.

The core competencies of the sales business model include good negotiation and pricing skills. Since the technical setup and operating of the above-mentioned variants of the sales business model is not carried out by third parties but on the selling company's own responsibility, this aspect can also be seen as further core competence. The implementation of an own sell-side e-marketplace requires fundamental IT knowledge within the company that can be either internally developed within the company or externally acquired from the market. Figure 9.7 summarizes the core assets and the core competencies of the sourcing business model.

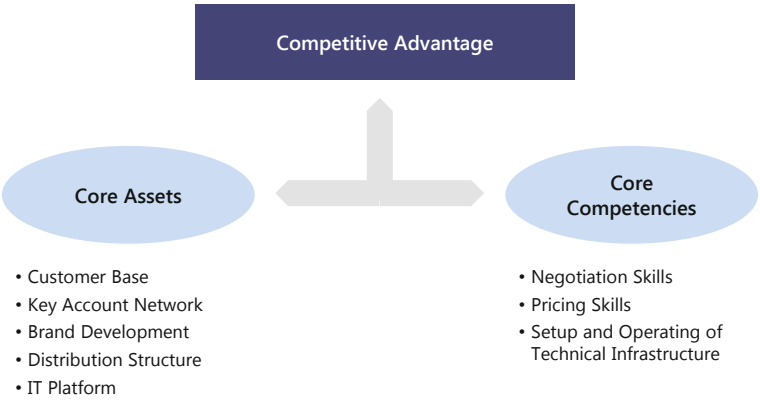

Fig. 9.7 Core assets and core competencies of the sourcing business model. *Source* Wirtz (2010b, 2018b)

9.3 The Supportive Collaboration Business Model

The B2B model supportive collaboration consists of collaborative value generation and comprises the areas of collaborative R&D, production and sale. Thus, the focus of attention is the cooperation and more precisely the joint effort of several companies in the areas of research and development, production and sale. Here, there are direct relationships among the parties involved. An intermediary is usually not involved. Before describing the various components of the business model of supportive collaboration, Fig. 9.8 shows an overview of the business model of supportive collaboration.

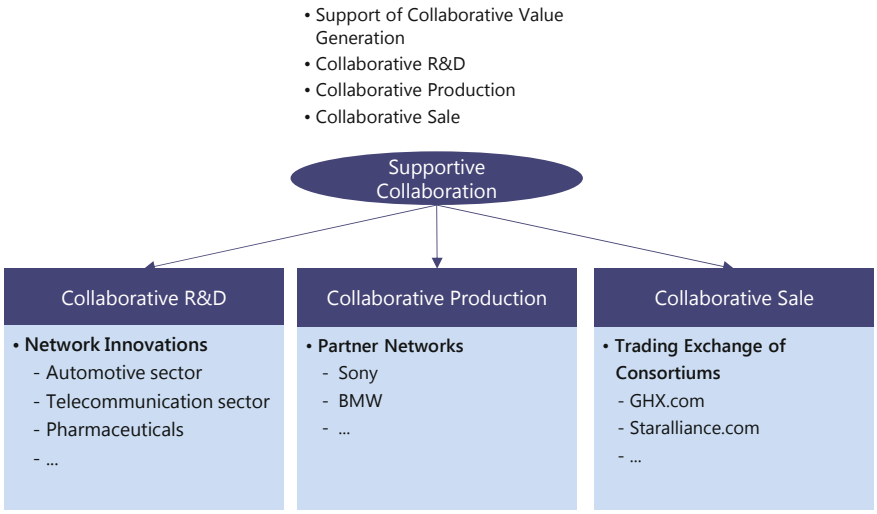

Fig. 9.8 Digital business model of supportive collaboration. *Source* Wirtz (2010b, 2018b)

The subcategory collaborative R&D refers to the joint development of new products or service offerings that are usually realized by establishing an appropriate corporate network (network innovation). Such innovative networks are not only a widespread approach to use the company's capacities in a joint effort, but also help to develop uncertain ventures, for instance, in modern e-business techniques in the automotive or pharmaceutical industry. General Motors' computer-aided design program, for instance, provides 3D design documents of prototypes online to designers (internal and external) and engineers worldwide.

The second subcategory of the business model of supportive collaboration is collaborative production. The aim of collaborative production is a joint production of goods and services, supported by the use of e-business technologies. In this context, an integrated supply chain of various partner networks is also a collaborative production approach.

The aim of such partner networks is to optimize the production processes, for example, by means of just-in-time production and by integrating suppliers in the production process. The use of material requirement planning systems, for instance, make it possible to plan the production process inclusively and to manage demand or scheduling. Such collaborative production processes are used in corporate structures, predominantly in the manufacturing sector by companies, such as Sony or BMW.

The final subcategory of the business model of supportive collaboration is collaborative sale. The business model of collaborative sale describes the practice of several industry players that establish a common sales exchange platform and operate it cooperatively. In this context, no further intermediary is involved.

In practice, collaborative sale constellations are usually established by means of a consortium that offers a trading exchange (many-to-many). The company GHX, for instance, is a pioneer in this field for the healthcare industry. The company was founded in the year 2000 by several major manufacturers of medical products and is now the world's largest trading exchange company in the healthcare sector.

The aggregated value chain of the supportive collaboration business model consists of five main stages. In the stage of collaboration planning, the value chain is examined for collaboration potential. Based on this, potential collaboration partners can be identified and general conditions can be clarified within the pre-contract negotiations (collaboration partnering).

The concrete negotiation and specification of the collaboration contract including the definition of the case assignment plan takes place in the context of collaboration scheduling. The next stage is the collaboration fulfillment in which the previously defined collaboration is realized including the setup of the IT platform. Finally, the efficiency of the collaboration is ensured by means of a respective collaboration audit including the determination of improvement measures. Figure 9.9 illustrates the aggregated value chain of the supportive collaboration business model.

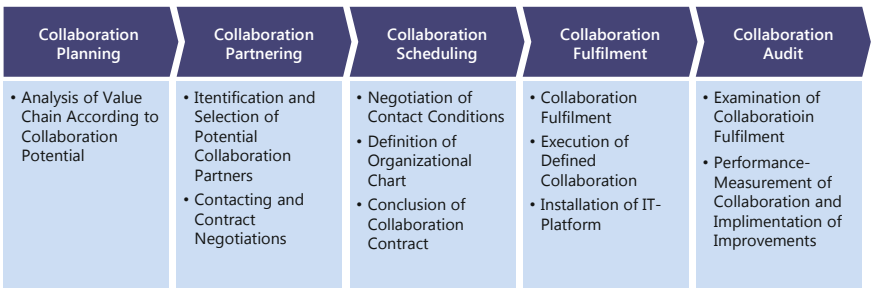

Fig. 9.9 Aggregated value chain of the supportive collaboration business model. *Source* Wirtz (2010b, 2018b)

The most important core assets of the supportive collaboration business model include an IT platform that is adapted to the individual needs of the respective actors and a collaboration network that is required to establish long-term cooperation. Moreover, an efficient and target-oriented allocation of collaboration resources is necessary to efficiently use synergetic effects. One of the most important competencies in the supportive business model is the negotiation competence in order to conduct negotiations in an efficient and effective manner. In addition, collaborative companies also need to have a cooperation competence and particularly a highly developed integration competence in order to use supportive collaborations efficiently. Figure 9.10 summarizes the core assets and core competencies of the supportive collaboration business model.

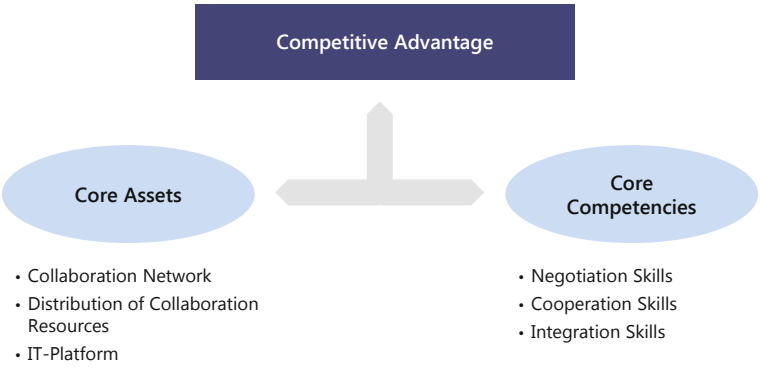

Fig. 9.10 Core assets and core competencies of the supportive collaboration business model. *Source* Wirtz (2010b, 2018b)

9.4 The Service Broker Business Model

The B2B business model of service broker supports B2B business transactions by providing information and marketplaces (Weill and Vitale 2013). Unlike the rest of the 4S-Net Business Model, this model involves third-party providers or intermediaries. Thus, there is no direct relationship between the companies that eventually make deals and conduct transactions, instead they are only connected to each other via the corresponding intermediary. The business model of B2B service broker comprises the categories of e-information and e-marketplaces. Figure 9.11 presents the business model of service broker and its related subcategories.

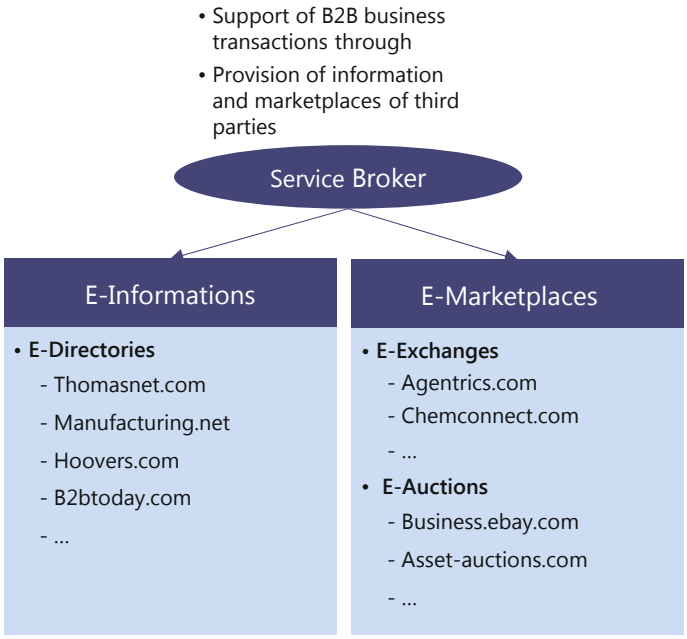

Fig. 9.11 Digital business model service broker. *Source* Wirtz (2010b, 2018b)

The subcategory e-information describes the provision of pure business information portals. Valuable business information, such as product directories, retailer overviews, as well as general or specific market information or industrial information is provided to respective business clients. A trading exchange function between buyers and sellers is not available, as the service is limited to selling information.

E-directories such as Thomasnet.com offer a large online database of companies by segment, product/service or location and thus offer easy search options for manufacturers, wholesalers or service providers. Other information portals, such as Hoovers.com, do not focus on linking buying companies and suppliers, but provide company profiles including financial data of over 85 million companies in order to assess, for example, the liquidity of a business partner (Hoovers 2016).

Unlike e-information, e-marketplaces do not only offer information but also access to products and services. An e-marketplace is an electronic trading exchange operated by intermediary companies to match potential sellers and buyers. Unlike the previously described sell-side or buy-side operated B2B exchanges, the independent e-marketplaces are usually publicly available to companies. Interested companies (buyers and sellers) meet on a common electronic platform to trade goods and services (many-to-many). The most frequently used types of e-marketplaces are e-exchanges and e-auctions that will be discussed in more detail below. An e-exchange, operated according to the service broker model, involves

offers from different product or service providers, standardized and presented on a central platform to potential buyers (Sila 2013, 2015).

Those e-exchanges do not only present the products or services, but also act as supporting intermediaries for the transaction process between buyers and sellers, for instance, by providing special trading rooms and support services in the payment processing. An e-exchange, to be successful, requires a large scope of the IT platform and appropriate advertising, especially on the supply side. For example, the company NeoGrid operates one of the world's largest e–exchange platforms in the retail industry, which is used by more than 100,000 business clients (NeoGrid 2016).

E-auctions are a special form of e-exchanges and a frequently used tool in the B2B sector. While an ordinary e-exchange lists products with fixed price tags, e-auctions apply a dynamic pricing. The bidder with the highest bid is usually successful; however, there are different forms of auctions that can be applied such as supplier-side bidding in which the seller with the lowest price gets the contract.

The aggregated value chain of the service broker business model consists of five main stages. In the stage of conception and design, the service broker determines the services that are supposed to be offered and the customers that are supposed to be addressed by these services. Based on this, the service broker can start with the setup and maintenance of the IT platform and acquire the content needed. For an e–information provider this means collecting or producing the information that is necessary for the planned conception. For an e-marketplace provider this is about acquiring product or service offers that are supposed to be distributed via its platform.

In the next stage, the service broker seeks to acquire customers by means of target group-specific marketing activities and finally provides the service to the customers. The following stage of billing contains payment handling and receivables management. The most important aspect with regard to the after-sales service refers to data mining that enables companies to analyze and, at best, anticipate customer needs. Figure 9.12 illustrates the aggregated value chain of the service broker business model.

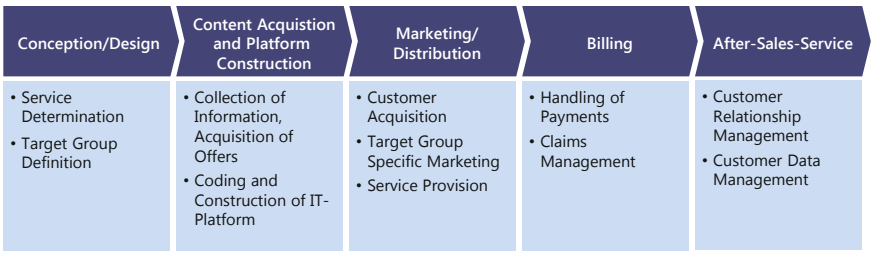

Fig. 9.12 Aggregated value chain of the service broker business model. *Source* Wirtz (2010b, 2018b)

The most important core assets of the service broker business model are not only the provided service broker content and the customized IT platform, but also particularly the customer base. The attractiveness of an e-marketplace, for instance, results from the number of visitors and thus the potential customer base of the e-marketplace. The higher the number of registered users of a marketplace platform, the higher the reach and hence the purchase probability. Establishing and cultivating a brand further supports this development. A good reputation positively influences the value of the created content, which in turn can also be seen as a core asset. Finally, it is particularly important for service brokers in the B2B area to establish and cultivate industry-specific networks in order to gain a differentiation or cost advantage over their competitors.

The most important core competencies of the service broker business model, besides the setup and operating of the technical infrastructure, are particularly the competencies with regard to the assortment design and customer acquisition or retention. This can be understood as the ability to present or categorize relevant products and services to the customer in an appealing way and to bind the customer to the company in the long term by means of CRM measures. This ability is essential for establishing and extending a critical customer base because the switching costs among providers on the Internet are particularly low. Figure 9.13 summarizes the core assets and the core competencies of the service broker business model.

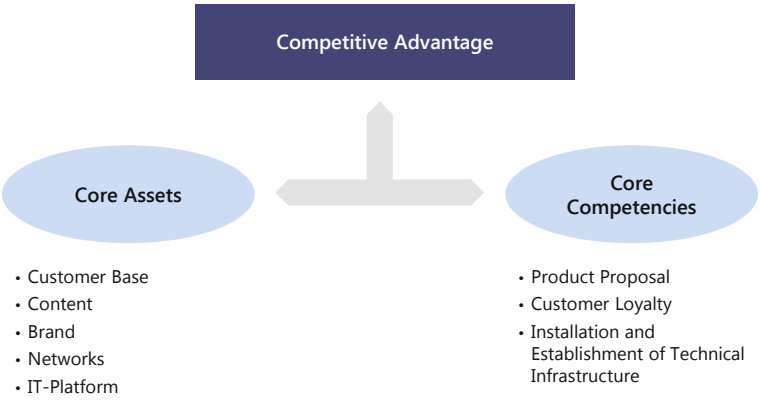

Fig. 9.13 Core assets and core competencies of the service broker business model. *Source* Wirtz (2010b, 2018b)