eBusiness Model Design, Classification and Measurements

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Abstract

"Business model" is one of the latest buzzwords in the Internet and electronic business world. This paper has the ambition to give this term a more rigorous content. The objective is threefold. The first one is to propose a theoretical e-business model framework for doing business in the Internet era. The second one is to propose a multi-dimensional classification-scheme for eBusiness Models, as opposed to the actual tendency in academic literature to use two-dimensional classifications. The final objective is to define critical success factors, based on a field study in order to find out and compare the performance indicators used by e-business firms which are competing with similar businesses models.

Keywords: e-business, business model, classification, key success factor, e-business measurements, benchmarking, value creation

There have been several attempts to classify all the business models emerging over and over with the coming of the New Economy in order to understand how e-companies are making or not making money. Some companies have seen their business model highly publicized such as the reverse auction model of Priceline or online grocery model of Peapod. But is it all so clear ? For instance, ebay.com might be typical of an Agora B-Web (Tapscott *and al.*) but at the same time, ebay.com might be considered as being a merchandiser online (transaction.net) or an auction broker (Rappa). All of them are considering the same object but from different perspectives. Is there a better or a worse way to classify the business models? Are they allowing comparisons? Do they help to understand the strategies of the different actors within a same category, for instance the online grocery stores ? Are they explaining why some of them benefit from better financial figures ?

Nowadays new business models do not finish to emerge in electronic commerce and can become a major stake in the e-business game ((Maître and Aladjidi (1999), Kalakota (1999)). It is even possible to patent them in some countries (Pavento (1999)! Understanding the new business models and helping to design and measure them are important research issues, not so well covered until now.

The next section presents a definition and the components of a business model as a new framework. The section 2 suggests to use this framework to classify and compare the business models. Finally, we show through examples how to translate the core processes of the business models into a set of relevant measures for each component of the adopted framework.

1 eBusiness Model design

Several authors show that with the success of Information and Communication Technologies (ICT) – particularly the Internet – organizational transformations are taking place in industries and companies (Tapscott, Lowi, Ticoll, 2000; Timmers, 2000; Martinez, 2000). The eBusiness Model approach we propose in this paper shall help a firm to structure its organization in a way to become more efficient, more flexible and responsive to customer demand, to forecast possible future scenarios and therefore to stay competitive in the Internet era.

A business model is nothing else than the architecture of a firm and its network of partners for creating, marketing and delivering value and relationship capital to one or several segments of customers in order to generate profitable and sustainable revenue streams.

Our eBusiness Model framework is therefore divided into four principal components. (1) The products and services a firm offers, representing a substantial value to the customer, and for which he is willing to pay. (2) The relationship capital the firm creates and maintains with the customer, in order to satisfy him and to generate sustainable revenues. (3) The infrastructure and the network of partners that are necessary in order to create value and to maintain a good customer relationship. And last, but not least, (4) the financial aspects that can be found throughout the three former components, such as cost and revenue structures.

Figure 1: eBusiness Model decomposition

1.1 Product innovation

The product component of the eBusiness Model framework describes the value a firm wants to offer its customers. Significant studies of the ***targeted customer segments*** have to be undertaken in order to find out the relevance and the components of an effective value recognition by the customer. To deliver this ***value proposition***, the firm has to possess a certain set of in-house and/or outsourced ***capabilities***.

Value Proposition. This element refers to the value the firm offers to a specific target customer segment. ICT have had their most important impact on new ways of creating and delivering value, for example through substantial cost savings thanks to ***dis-intermediation*** (Benjamin, Wigand, 1995;). ***Customization*** is another common value proposition enabled by the rapid development of ICT. Through mass customization (Piller, Reichwald, Möslein, 2000) and through rule-based one-to-one personalization or collaborative filtering, firms can propose value tailored to the profile of every single customer. The notion of ***Infomediation*** describes the re-intermediation-process in the Internet era. ICT has enabled the creation of a wide range of new and innovative mediation services (Sarkar, Butler, Steinfield, 1995).

Target. A firm generally creates value for a specific customer segment. The definition of the market scope (Hamel, 2000; Afuah, Tucci, 2001) captures the essence of where the firm does and does not compete – which customers, which geographical areas, and what product segments. A firm can market either to businesses and/or individuals, commonly referred to as business-to-business (B2B) and business-to-consumer (B2C). With the expansion of reach by the use of ICT, differentiated strategies for different geographical regions become an important issue even for small firms.

Capabilities. To deliver the value proposition to different customers, a firm must ensure that it possesses the range of capabilities that underpin the proposed value. For example, if Intel wants to offer to its customers fast microprocessors, the company has to have access to high-quality R&D, product design, and manufacturing capabilities. Whether Intel wants to perform these tasks in-house and/or in collaboration with other firms is a matter of strategic decision, which is further detailed in the infrastructure component of the eBusiness Model framework.

1.2 Customer Relationship

The importance of customer relationship potential is often forgotten in other business model approaches that are mainly focused on products, value creation processes and exchange patterns between different actors. However ICT offer a whole new range of opportunities to exploit existing customer relationships by ***feeling the customer's*** desires, ***serving him*** and developing an enduring relationship with him. The notion of ***branding*** has also evolved from product and company marketing to include relationship capital (Tapscott, Lowi, Ticoll, 2000) which emphasizes the interaction between the firm and the customer.

Getting a feel for the customer. This element refers to all customer information and knowledge a company can gather and exploit in order to discover new and profitable business opportunities and customer segments and to improve their relationships with their customers. These insights can be used throughout marketing and sales, and especially for customer relationship management (CRM). Hamel (2000) calls this the positive feedback effect. A firm with a large base of users, and a way of rapidly extracting feedback and information from those users, may be able to improve its products and services faster than its competitors. In this virtuous circle products and product innovation can be

improved which, in return, attracts new customers. In addition to product improvement, a better knowledge of its customers allows a firm to establish a personalized relationship tailored to the needs of every single customer.

Serving the customer. Serving the customer includes fulfillment, support and customer relationship management (CRM). A firm must ask itself how it wants to deliver additional value to its customers and what support and service level it wants to provide. Fulfillment and support refer to the way the firm "goes to market" and how it actually "reaches" customers (Hamel, 2000). A firm must define its channel strategy and understand that the Internet has a great potential to complement rather than cannibalize its business (Porter, 2001). At the front-end, the Internet plays an important role in customer support and customer relationship management. It can make many of these processes more efficient, by supplying the customer with a wide range of basic information on products, prices and availability and by offering customized real-time information (i.e., delivery status, product lifecycle management). Dell, for example, provides the client with an online profile of all the drivers belonging to a computer a customer has purchased. By doing so, the firm can relieve its own call center from additional work and the customer benefits from personalized services.

Branding. This element of the eBusiness Model framework has not lost its importance in the era of the Internet, but it has profoundly changed its definition. Tapscott, Lowi and Ticoll (2000), for example, think that advertising, promotion, publicity, public relations and a lot of other aspects of corporate communications are becoming archaic concepts. Branding shifts towards relationship dynamics (Hamel, 2000) where emotional, as well as transactional elements in the interaction between firm and client, form the image of a company. It's the firm's ability to engage customers, suppliers, and other partners in mutually beneficial value exchanges that determines its relationship capital (Tapscott, Lowi, Ticoll, 2000) and brand.

1.3 Infrastructure

In the product component of the eBusiness Model framework we have described the capabilities which are needed in order to create and deliver the value proposition. The infrastructure component describes the value system configuration (Gordijn, Akkermans, van Vliet, 2000) that is necessary to deliver the

value proposition; in other words, the relationship between in-house and/or partners' ***resources***, ***assets*** and ***activities*** and a ***network***.

Resources/Assets. In order to create value, a firm needs resources (Tarondeau, 1999; Wernefelt,1994). Grant (1995) distinguishes tangible, intangible, and human assets. Tangible resources include plants, equipment and cash reserves. Intangible resources include patents, copyrights, reputation, brands and trade secrets. Human resources are the people a firm needs in order to create value with tangible and intangible resources.

Activity and Processes. The main purpose of a company is the creation of value that customers are willing to pay for. This value is the result of a configuration of inside and outside activities and processes. To define the value creation process in a business model, we use the extension of the ***value chain framework*** (Porter, 1985) such as defined by Stabell and Ffeldstad (1998). They extend the value chain with the ***value shop*** and the ***value network***. Former describes the value creation process of service providers, whereas latter describes brokering and intermediary activities.

Partner Network. This element of the eBusiness Model framework is closely tied to the value proposition and the value creation process. The partner network details how the value creation process is distributed among the partners of the firm. In the product component it was all about *what* value to deliver. In this element it is about *how* to create value with a network of partners. Management literature defines strategic networks as "stable interorganizational ties which are strategically important to participating firms. They may take the form of strategic alliances, joint-ventures, long-term buyer-supplier partnerships, and other ties" (Gulati, Nohria and Zaheer, 2000). As has been explained above, shrinking transaction costs make it easier for firms to vertically disintegrate and to reorganize in partner networks. Firms can focus on their core competencies and activities in the value creation process and rely on partner networks for other non-core competencies and activities. In e-business literature there are several terms arising for these new forms of strategic networks in the value creation process, such as b-webs (Tapscott, Ticoll, Lowi, 2000) and value networks (Nalebuff, Brandenburger, 1996).

1.4 Finance

Of course, the financial perspective also belongs in our eBusiness Model framework. But rather than qualifying financial aspects such as the revenue or pricing model of a firm as the unique and most important element of a business model, we consider them as the fourth component and as the consequence of the formerly described. Financial aspects can be understood as ***costs*** required to get the infrastructure to create value and as ***revenues*** of sold value. The difference between revenues and costs determines the profitability of a company.

Revenue. This element measures the ability of the firm to translate the value it offers to its customers into money and therefore generate incoming revenue streams. A firms revenue model can be based on subscription costs and fees from the customer, advertising and sponsoring revenues from other firms, commissions and transaction cuts from provided services, revenue sharing with other firms and by simply selling a product. Firms selling over the Internet should consider an appropriate pricing strategy and pricing mechanism in order to maximize revenues. First they have to be aligned with the nature of the product. For example, an airplane engine price is set differently than the price of an electronic camera. Second, they have to aim at achieving the highest price the customer is willing to pay for the offered value. It is important to mention that ICT have had an important impact on pricing and have created a whole new range of pricing mechanisms (Klein, 2000).

Cost. This element measures all the costs the firm incurs in order to create, market and deliver value to its customers. It sets a price tag on all the resources, assets, activities and partner network relationships and exchanges that cost the company money. As the firm focuses on its core competencies and activities and relies on partner networks for other non-core competencies and activities there is an important potential for cost savings in the value creation process. The right use of ICT in customer relationship also opens up new opportunities for delivering premium customer services and therefore additional value at reasonable costs.

Profit. This element measures the ability of a firm to create positive cash flow.

1.5 Comparison

Few authors have tempted to give the term electronic business model a more precise and global content. Even though the literature on eBusiness Models is growing, most of it only partially discusses the subjects of interest. Afuah and Tucci (2001) for example, seem to neglect the customer component of a business model. Gordijn, Akkermans and van Vliet (2000) demonstrate the value creation process in a network of partners, but do not describe any of the other necessary components for a complete model from a business point of view. Hamel (2000) however, has quite a complete approach to business models.

In table 1 we compare the existing eBusiness model literature and their components to the eBusiness model framework presented in this article.

Table 1: eBusiness Model literature

1.6 Illustration

As an illustration of the formerly discussed eBusiness model framework, we decided to focus on and to compare two Internet-auction companies, Ricardo and eBay. First, Ricardo, the German auction enterprise, can be described by the following characteristics :

- Customer-: Ricardo says that it has a total commitment to customer satisfaction and quality. It has earned a award for being notably customer-friendly. It has expanded its offerings by launching RicardoBIZ, a B2B e-commerce portal with the traditional auction format, the reverse auction format and bartering and mixed auctions.
- Product : Ricardo created customer awareness by original auctions such as the Steffi Graf's French Open racket in aid of the "Children for Tomorrow" trust, diving cruises by submersible to see the Titanic or Ricardo shares donated to Unicef. Within its partnership with SAT 1 TV, it combines classical show elements with the online auctions and it has announced the launch of QXL.tv, a new service to deliver auction programming via the television and Internet. Ricardo also launched a world-wide exclusivity : the live auctions where up to 8,000 users can participate simultaneously. From February 2000, all auctions up to the value of DM 250 will be insured and

there will be a trustee service for auctions valued over this limit. Ricardo wants to offer the highest level of security and the largest range of products.

- Infrastructure : Ricardo has concluded a strategic cooperation agreement with Impress Software in the area of B2B online auction in order to integrate existing ERP customer systems. This will be the standard software solution SAP R/3.

This brief description unbundling Ricardo into its three component businesses can then be compared to a similar description for its American counterpart, eBay:

- Customer : eBay focuses on convenience by means such as online tutorials, a four-step process or the possibility of customization of the service. Regular sellers can establish a reputation for reliable delivery and quality through a rating and comment system based on the experience of customers. This is considered by eBay as way to create “stickiness”. eBay’s marketing and customer acquisition costs are lower than most sites because of the powerful word-of-mouth.
- Product : As Ricardo, eBay also tries to attract the attention from the media by auctioning for instance, a team of programmers, a kidney or the camera of the director of the Blair Witch Project. It has launched eBay Business Exchange servicing the small business market (B2B). It has also launched eBay Anywhere, that aims to make eBay accessible from any Internet-enabled mobile device.
- Infrastructure : eBay acquired Billpoint an online payment technology firm in 1999. On March 1st, 2000, it has announced a strategic alliance with Wells Fargo designed to address the exploding need for an online person-to-person payments platform. Together, they have launched a new payment option: the Electronic Check that combines the convenience and safety of paper checks with the speed of the electronic payments. eBay has selected Sun Microsystems as its premier supplier of servers, software and professional services. For its shipping service, eBay has concluded a strategic deal with Mail Boxes Etc. and its network of more than 3,000 centers across the country and with iShip.com and its online shipping, pricing and tracking solutions. It has also concluded a strategic partnership with e-stamp.com to promote e-stamp as an exclusive provider of US Postal Service Internet postage.

Considering the two cases, none focuses on infrastructure but rely more on partners for their infrastructure, especially eBay with a large network including diverse industries. Ricardo seems to be more innovative in terms of product offerings with its live auctions and with its willing to combine other technologies such as TV and mobile devices with the Internet. Both of them want to attract new customers with original auctions but eBay seems to be more committed to retaining its customers by emphasizing the convenience and reliability dimensions and features such as the feedback profiles.

E-commerce corresponds to the use of inter-networked computers to create and transform business relationships, in particular the transactions and interaction between the company and its consumers (Hoque (2000)). As stated by Hagel and Singer (1999), today, due to electronic networks, we are on the verge of a broad, systemic reduction in interaction costs throughout the world economy. For them, it is unlikely that one company will be able to do all three businesses and still continue to increase its profits over the long haul. According to them, "because electronic commerce has such low transaction costs, it is natural for Web-based business to concentrate in a single core activity". From the Ricardo and eBay comparison, it is not so obvious to tell on which core activity they are focusing. At least, we could find out on which core business they are not focusing (i.e. infrastructure because of their vast array of outsourced activities).

2 Classifying eBusiness Models

Our second preoccupation is to categorize business models and to propose a limited number of generic business models. Several classifications have been proposed in the literature.

Most authors suggest two dimensions in order to rate the business models: functional integration and degree of innovation (Timmers, 1998), economic control (both hierarchical and self-organizing) and value integration (Tapscott et al., 1999), type of relationships and degree of externality (Amami, 1999), power of sellers and buyers (Pigneur, 1999). Based on their classification, they propose to keep a limited number of basic types of business models: from 5 for Tapscott (1999) to about 30 for Rappa (1999). This diversity shows the inadequacy of a unique classification scheme.

Therefore, unlike the hierarchical "decomposition and specialization" structure adopted by the *Process Handbook* (Malone, 1999), we propose first to use a multicategory approach and to accept that a

business model could be positioned with regard to several dimensions, in a web of many classification schemes. The business models of *PriceLine* could be considered for example as an "Agora" in the Tapscott's classification (1999), high (self-organizing) on the control axe, low on the value integration; as an "e-auction" in the Timmers's classification (1998), medium on the functional integration and medium (to high) on the degree of innovation; as a "Reverse auction e-market" in the Pigneur's classification (1999), equilibrated power between buyers and sellers.

By our literature review, we identified as principal dimensions for classifying the business models :

- The user role : How is the client or the prospect considered by the company ? As a client or as a provider of a product / service that other clients may want to buy from, or as a participant to whom nothing is sold but information or services are offered against information about the participant ?
- Interaction pattern : Is the service provided by one or many people / companies to one or many people / companies ? For Timmers (1998), "many" must be understood as many actors from which information is being combined.
- Nature of the offerings : Is the company offering information, services or products to its visitors ? In some cases, the company but is giving away its content for free against information gathering and/or is getting money from ads. Another option could be that the company does not want to sell on the web but just want to use its site as a promotion tool.
- Pricing system : Is the user paying according to its usage rate, to a fixed subscription to get access to the service, to a fee system (percentage or fixed amount), to a price list or to a dynamic price mechanism (i.e. auction and reverse auction) ? One last option is that the user does not pay for the service (Baatz).
- The level of customization : This level is ranging from mass content to customized content.
- The economic control : It goes from self-organizing (no single company drives the content of its transactions or the economic outcomes) to hierarchical (some webs have a boss who controls the content, the pricing, and flow of transactions) (Tapscott, *et al.*, 1999).
- The level of required security to monitor and verify purchases in your system.

- The level of value integration : Some webs facilitate the creation and the delivery of specific product / service offerings that coherently integrate components from multiple sources. In contrast, other webs provide low value integration and do not change the nature of the products actually offered. (Tapscott, *et al.*, 1999)
- The value/cost offerings : Is the product offerings more positioned as a added value product / service or as a low-cost low-price proposal ?
- The scale of traffic : Does it require significant site traffic or is it viable with a moderate traffic site ?
- The degree of innovation : It varies from essentially an electronic version of a traditional way of doing business to more innovative ways, for instance, by offering functions that did not exist before. (Timmers, 1998)
- The extend to which power is more on the buyer or the seller side.

Readopting the framework presented in the first part, we classified these different dimensions usually used for classifying business models as well as the Timmers' and Tapscott's dimensions.

Table 2: eBusiness model classification

Following this framework and some of its classification dimensions, we can tell, for instance, that eBay, as a auction service, sets the price with a dynamic process depending on the number and the interest of the potential buyers. Its service was first aimed to make individuals meet and exchange goods through the Internet (B2C). Then, small business took the opportunity provided by eBay to offer their goods on the Internet. At last, eBay decided to expand its service to meet the needs of the small business market targeting businesses with fewer than 100 employees (B2B). In the eBay business model, the user can be as well the provider and the client. As a secondary source of revenues, eBay offers the possibility to buy some space for posting ads or to host the links to other sites. It provides value through an integrated full-service shipping service and technology for person-to-person payments through the Internet. Moreover, the level of customization of eBay is quite high with features such as my eBay.

3 Measuring Core Processes

Designing and managing a business model requires a measurement system which identifies the key factors and indicators (Rockart, 1979) by which the success of the company and its business model can be assessed. To appraise a business model and elicit the requirements of its measurement system, it is appropriate to determine these factors according the four components of the adopted framework: Product, Customer, Infrastructure and Finance.

This proposed framework had to be confronted with empirical data from ebusiness companies. We decided to focus on two industries : the online groceries and the auction companies. Four companies for both sectors were chosen, two from Europe and two from the USA. The online grocery stores included Le Shop (from Switzerland), Ooshop (France), Peapod and Streamline; the auction firms comprehended Ricardo (Germany), iBazar (France), Priceline and eBay. For all them apart Ooshop[1], we used the information disclosed purposely by them (i.e. information you can find on their Web site or information disclosed for financial purposes such as SEC files).

We suggested to characterize each business model with a set of measures using a balanced scorecard approach. Kaplan and Norton (1996) introduced the idea that a measurement system has to reflect a balanced view of the organization's objectives in four areas which precisely correspond with the four components of our framework. These four areas are unified in an integrated and global strategy that can be expressed by a cause-effect relationships. These areas are:

• Product measures that assess the originality of the value proposition and identify what the organization has to build for learning, long term growth, and innovation (creativity, employee capabilities, motivation, turnover, stock options, ...). According to Hagel (1999), in e-business, measuring human talents and speed on the market seems to be crucial.

• Customer measures that evaluate the relationships of the organization with its customers (retention, acquisition, satisfaction, profitability, ...) and the appreciation of the value proposition by the

[1] The information related to Ooshop were collected by Stephanie Dufour, ESSEC student, Paris, 2000. Ooshop belongs to the Carrefour group. In 2000-2001, Streamline has shut down its operations. Ricardo has merged with QXL (UK) and iBazar has been acquired by eBay.

customers (functionality, quality, price, timeliness, brand image, availability, shopping experience, ...). According to Hagel (1999), in e-business, measuring economy of scope and customer satisfaction is essential.

• Infrastructure measures that identify the internal and outsourced activities of the value chain and processes with the greatest impact on customer satisfaction and financial objectives (design, build, delivery, service, ...). Still according to Hagel (1999), in e-business, measuring economies of scale and efficiency is key for this aspect of the framework.

and finally,

• Finance measures that serve as the focus for the objectives and the measures of all the other perspectives and concern revenue growth, cost management, asset utilization and market capitalization, ...).

Following also the BSC approach, the Working Council for Chief Information Officers published a report showing the different metrics for e-business performance evaluation used by companies such as 3M, Dell Computer Corp., Federal Express and L.L. Bean (1999). From the analysis of the same group of eight companies belonging to the online grocery and auction industries, we identified a set of measures related to the different components of our framework and their related issues.

The measures identified in the Working Council of CIOs report and the measures found in our case studies could be summarized again with the adopted framework.

Table 3: Measures for e-business companies

4 Conclusion and further Research

The deliverable of this research should be a refined eBusiness Model framework, integrating a measurement system, the annotation of the selected business models with their critical success factors and key measures. Our study consists of a first version of the key success factors and balanced scorecard measures of several case studies.

Further research in progress, based on this paper, is a field study for observing, analyzing, and cataloguing typical business models in a knowledge base. The final objective would be to computerize this base and to specify a decision support system for helping business model creators to design,

critique, and simulate new business models. Since the future in this area is so uncertain (Courtney, 1997), a scenario-based forecasting approach could be helpful before defining a strategy of adoption, deployment, and management of a business model.

Simulation based on the eBusiness model framework could help answer to the following questions, proposed by Warren (1999): Why has the historical performance of my business followed the time-path that it was? Where will the path of future performance take us if we carry on as we are? How can we alter that future for the better?

The outcomes of this paper should help the managers to design a new business model by using the suggested framework and by which, asking the right questions, such as what is exactly my value proposition ? How do I get a good feeling of the needs of my target market ? To deliver the intended added-value to the market, what would be the required and most appropriate resources and assets ?

Then, by taking the various identified dimensions to classify and defining new dimensions for the ones that are missing for some components of the framework, the managers should be able to differentiate its business model from the competition and take advantage of their core competencies. This approach presents the great advantage of using a multidimensional framework.

Finally, identifying a set of measures for each of the four components should help the eBusiness company to manage and control its activities and outcomes. It should also contribute to monitor the performance of the competition and finding new ways for keeping ahead. In this article, we described some measures that could be applied to different companies and activities and help to define new ones tailored to the particular conditions of each company.

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6 Appendix

Figure 1: eBusiness Model decomposition

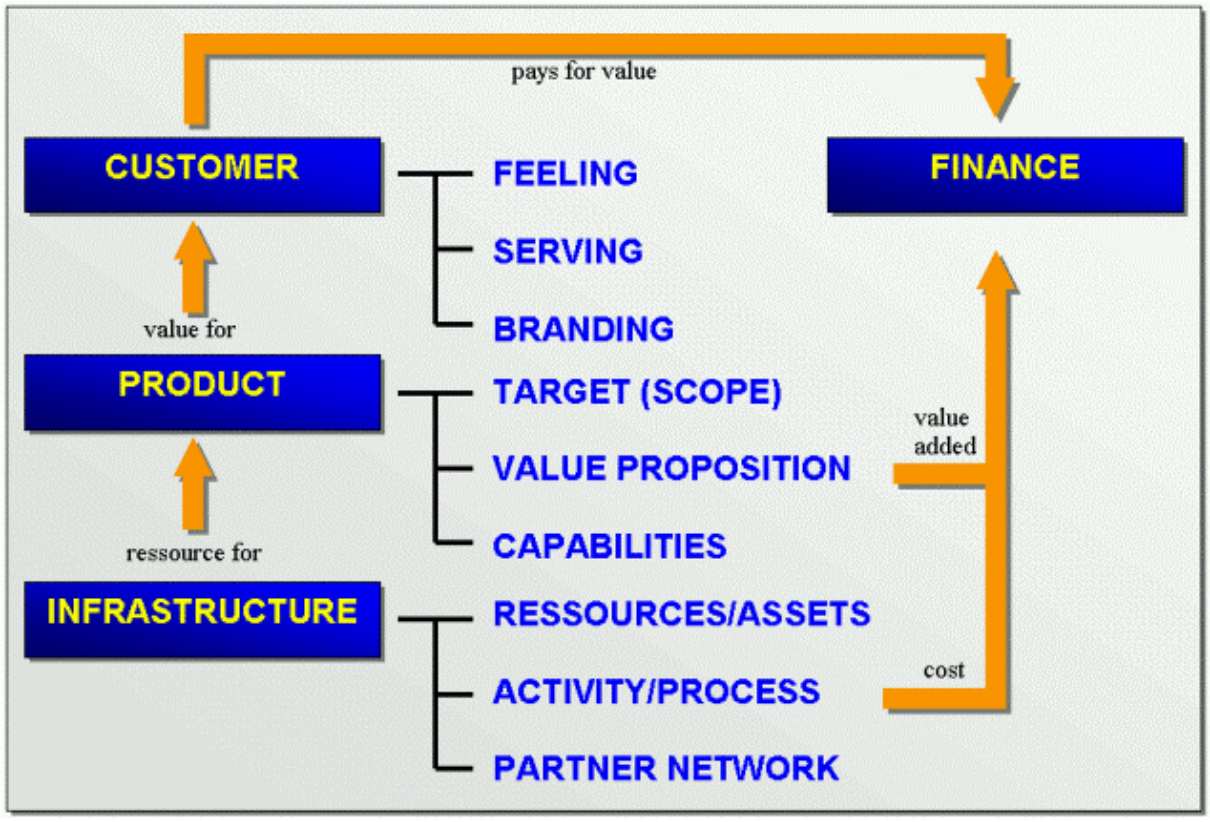

Table 1: eBusiness Model literature

Business models		Afuah, Tucci	Hamel		Gordijn
PRODUCT	**Target**	Scope	Core Strategy	Scope	Actors, market segment
	Value proposition	Customer value (differentiation, low cost)		Business mission, differentiation	Value offering
	Capabilities				
CUSTOMER	**Feeling**		Customer Interface	Information and insight	
	Serving			Fulfillment and support, customer benefits	
	Branding			Relationship dynamics	
INFRA-STRUCTURE	**Resources/assets**	Capabilities, Implementation	Strategic Resources, Value Network	Core competencies, strategic assets	
	Activity and processes	Connected activities		Core processes, configuration	Value activity
	Partner network			Value network, company boundaries	Stakeholder network, value interfaces, value ports
FINANCE	**Revenue**	Pricing strategy (selling), revenue sources		Pricing structure	Value exchanges
	Cost				Value exchanges
	Profit	Sustainability		Profit boosters	

Table 2: eBusiness model classification

		Inventoried dimensions	Timmers (1998)	Tapscott (1999)
Product	Target	User role Nature of the offerings Value/cost offerings		
	Value proposition	Degree of innovation	Degree of innovation	
	Capabilities	Scale of traffic Required security		
Customer	Feeling			
	Serving	Level of customization Power to buyer/seller Interaction pattern	Interaction pattern	
	Branding			
Infrastructure	Resources / assets	Economic control		Economic control
	Activities / processes	Value integration	Functional integration	Value integration
	Partner			
Finance	Revenues	Pricing system		
	Costs			
	Profits			

Table 3: Measures for e-business companies

		Auction	Online retailers	Working Council for CIOs
Product	Target	# of customers # of registered users % of Internet users # of countries / areas Market share Ranking on markets # of visitors per day	# cities served Market share # of customer orders # of consumer goods clients # of customers categories of products	Penetration rate Number of unique visitors per month
	Value proposition	# of languages Average value of goods # of currencies New products / serv. # products on sale # of merchants	% of fresh products # of products offered	Average days of exclusivity for product introduction or major feature Average time between site relaunches.
	Capabilities		48 hour delay between pick up / delivery Delivery timing	% of on-line orders shipped within 24 hours
Customer	Feeling	# of individuals that get connected at least once a month Connection time Customer loyalty Spending per day # of new customers Purchase intent	# of not satisfied customers Buying frequency Conversion rate to repeat customers Average order size % of repeat customers # of clicks	% of on-line sales abandoned before completion % of 1st time visitors who return to site within 1 year Average time between visits % of customers who have personalized their interfaces Sales conversion rate % of customers for which company can track profitability across business units % of customers with current e-mail addresses
	Serving	Customer support personnel	One-hour problem resolution % late deliveries	% of returning customers who are recognized and sent personalized content Average time to respond to customer request Time to match compe-tition's web site feature roll-out # of customer-reques-ted features added per upgrade

	Branding	Awareness level Sales and marketing expenses Attraction of media # of referrals # of people told by one customer	Marketing expenditures % of click through Reliable delivery	% or orders correctly fulfilled % of orders delivered to correct address
Infrastructure	Resources / assets		# of trucks # of fulfillment centers	% of documents used by knowledge workers available on-line % of employees accessing Intranet at least daily
	Activities / processes	Answer time System capacity # of transactions per day # of users in live auctions (capacity)	Out-of-stock positions # of orders processed # of transactions per day Logistics capacity	Order confirmation cycle time % of products that are built-to-order Cash conversion ratio Inventory turns / year Inventory levels Bid-to-cash cycle time Ability to handle addi-tional traffic Network uptime Average time to load a page
	Partner	4 day delivery (partner) # of partners	Revenues from affiliates program Logistics capacity (outsourced)	
Finance	Revenues	Revenue breakdown by product # of page impression Advertising revenues Revenue growth Value of goods traded	Advertising, research and marketing revenues Subscription fees Revenue growth # of products sold	
	Costs	Administrative costs	Operating expenses Investments Cost structure	Net assets needed to support 1$ worth of output
	Profits	Net profit / loss Gross profit margin	Operating profit / loss Net profit / loss	Free cash flow Working capital Return on invested capital
	Financing	Market capitalization Share price	Share price Net proceeds of IPO	