Evolution of prominent Hungarian e-business companies from a business model perspective

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Ph.D. Thesis

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1. Introduction

Presumably, the aim of the majority of Ph.D. students, just like mine, is to experience the winding path of conducting an independent research in a way that at the end, both they and the readers and reviewers of the thesis would be satisfied with their achievement. Apart from this, I also expected my research to help me attain two of my personal goals: (1) to get acquainted with, systematize and apply the business model methodology I find relevant and (2) to immerse myself in the examination and analysis of the Hungarian evolution of e-business. Based on these, the main objective of my Ph.D. research was the examination of the evolution of leading Hungarian e-business companies using the business model approach. The term "leading" refers to innovativeness on the one hand (that the company is a leader in introducing new business practices in a market), and to a pre-eminent performance in some aspects (that can be measured in terms of recognition, popularity, volume, financials etc.) on the other hand. I use the term "e-business company" describing organizations with a set of value propositions fundamentally based on the Internet.

This research objective suggests new results with respect to both scientific theory and practice. In relation to business models, the literature enumerates several approaches that still call for clarification and synthesis. Few scientific publications have been written on the practical applications of the method. Various methods have emerged for the representation of business models; however, the strength and limits of these have rarely been presented within the same example. Furthermore, the e business model concepts and the business model approaches are mainly discussed independently, there is a lack of a connecting the two. E-business models used to be the object of research analysis when they were considered novelties; how these models operate in the period of "consolidation" is a question yet to be answered. Apart from the "snapshot" type of research results, there is a considerable shortage of works addressing a business model change or evolution spanning 5-10 years in this field. Although the literature – at the turn of the millennium in particular – reported numerous effects in relation to e business, the analysis of these is getting relevant again due to the time that has passed and to the new technologies, phenomena, and models that emerged.

In addition to the scientific challenge, I also hope that during the course of my research, I will be able to make theoretical observations which are novel and practically applicable for the managers of the companies analyzed as well as other e-business

companies. My practical objective is to present the possible application of the business model approach to company managers and – by highlighting previously unknown relationships between the business model and the contextual factors – help their decision-making regarding the successful realization of e-business models.

The theoretical framework of the research has three layers. Firstly, an overview of the business model methodology is necessary. Secondly, for the analysis of e-business companies I rely on the literature of e-business models. Thirdly, several theoretical models and approaches belong to e-business which could provide explanations to the changes in, and the evolution of the business models. Chapter 2 of the Ph.D. thesis discusses this theoretical framework in accordance with the above classification. This chapter is considerably more focused and shorter than the equivalent chapter of my Ph.D. thesis proposal (Móricz, 2005): Certain details are shown in the appendices, while in other cases, I inserted references to the place of the more detailed discussion (the thesis proposal is enclosed on CD). The theoretical framework is concluded with the introduction of the open questions of the literature.

These open questions as well as my goals mentioned above had been the basis for the two major research questions, which are further divided into four and eight sub-questions, respectively, in the research methodology section of Chapter 3.

- How can the business model method be used to explore and understand the way of operation and value creation at leading Hungarian e-business companies?
- How do the conditions of e-business as it is specified in relevant publications explain the evolution of business models at leading Hungarian e-business companies?

I am going to introduce the selected research method in the same chapter. I conducted three qualitative case studies based on careful selection criteria, which I deem appropriate for providing answers of sufficient depth and complexity to the research questions. These are the Internet portal Index, the B2B book marketplace Sunbooks, and the online food ordering portal Netwaiter. The specificity of the research questions is that answering them requires a longitudinal analysis. Because my research spanned almost a decade, I was able to cover longitudinal questions. I had the opportunity to repeatedly use the different data collection methods (interviews, document analysis, workshops in particular), i.e. to revisit each of my case study companies several times during this long period. Between 1999 and 2005 a preliminary research had taken place,

focusing on the literature background, but occasionally examining several Hungarian e business companies as well. Between 2005 and 2007 the research questions were formulated along with further data collection and data procession, now focused on the case study candidates. The last phase of data collection (2007-2009) meant the third wave of the analysis of the given organizations and the conduct of case studies. The "care" and reflection applied during data collection as well as the parallels drawn between the different cases and reflections during data procession enabled me most to enhance and ensure the reliability and effectiveness of the qualitative research.

The scientific results of the research are presented in Chapter 4. In order to put the examples in context, this chapter begins with an introduction to the "e-readiness" of Hungary. Following that I am going to introduce the three case studies one after the other, following the same structure. The cases are not merely the descriptions of stories but analyses as well (along the models and patterns discussed in the theoretical chapter); furthermore, all three cases are concluded with the summary of the evolution and special characteristics of the realization of the business model. The theoretical feedback, which is so significant in case of a qualitative research, appears in the third section of this chapter, in which I seek an answer primarily to the second research question. The theoretical structure of this chapter is identical to the literature review chapter of the theoretical framework since I analyze the cases along the approaches discussed there.

Due to the selected methodology, the research had its apparent limits. Apart from that, an important circumstance is that – although the possible directions of analysis had been narrowed down since my Ph.D. thesis proposal – I still tried to use a wide range of concepts of the literature. This proved to be useful since the contracting of numerous perspectives was possible; however, it also had its limits as the deeper analysis of the individual perspectives could not be achieved within the frameworks of the research the Ph.D. thesis is based on. Despite the numerous perspectives, I could not conduct a comprehensive research. Some aspects I had to disregard:

- Due to the business model approach, the companies analyzed can be regarded as "black boxes", not focusing on the internal organizational issues. My analyses did not include the role of the manager (their abilities, attitudes, decision-making methods) or the implementation of the strategy either.
- Although modeling refers to the possibilities of formal simulation, I did not conduct such an analysis during the course of my research. I focused my attention to "thick description" and graphic representation (these are the first two among the three

stages of business modeling). The approach was partly my choice (due to length and focus) and was partly forced by external factors (a restricted pool of data and the fact that without requesting detailed financial data I managed to sustain much more easily the strong, trust-based research cooperation with the organizations analyzed).

I conclude my Ph.D. thesis with the summary of the achieved results and the drawing of conclusions, recommendations and further possible research directions (Chapter 5). Figure 1, which gives an overview of the relationship between the major components of my research design, summarizes the research concept described above.

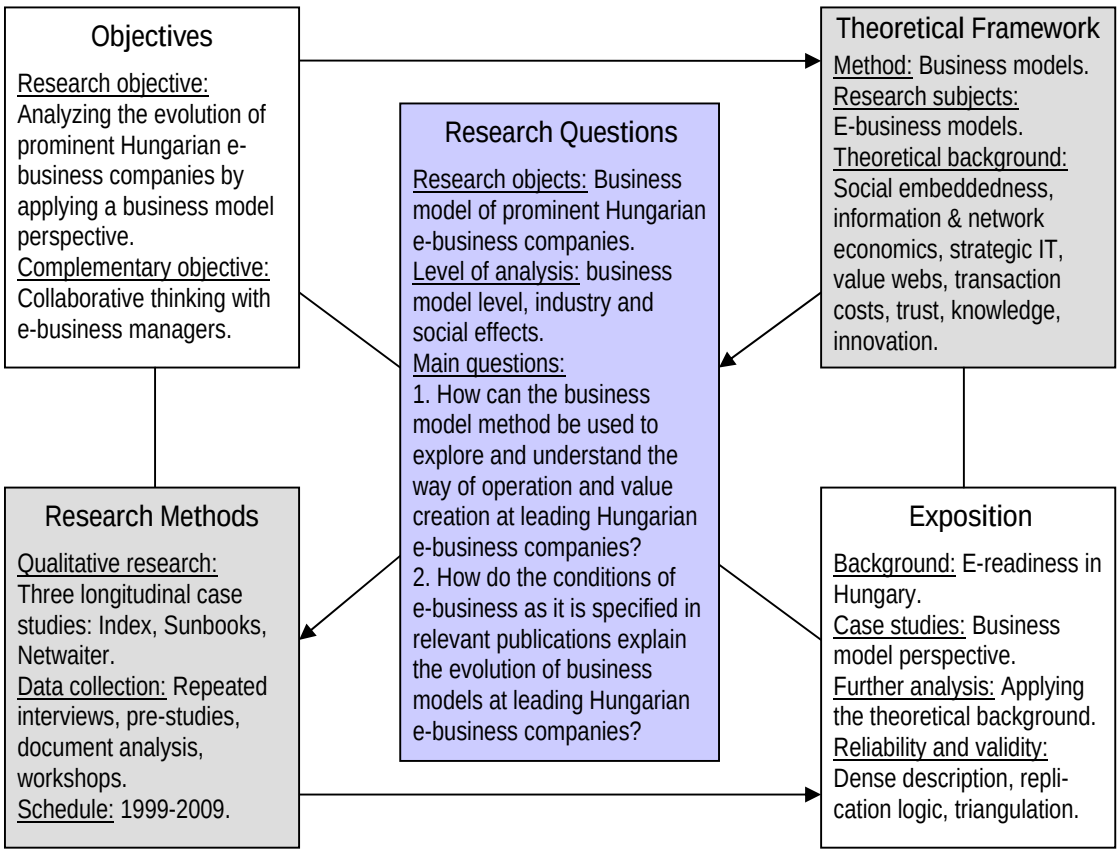

Figure 1: Overview of the Research Design
(From author, framework by Maxwell, 1996)

2. Literature Review

The primary "forum" of the overview of the literature related to e-business and its models was my Ph.D. thesis proposal written on this topic (enclosed on CD). Empirical research enabled me to significantly narrow down – however, at certain points extend – the theoretical framework to be introduced on the basis of empirical experience. Thus, the goal of the present chapter is to provide with the necessary theoretical background of the empirical analysis. Therefore, I introduce the applied method, the business model approach first. I continue the overview with a synthesis related to e-business models. The third chapter here introduces the relevant theoretical concepts of understanding e business. Chapter 2 is concluded with the open questions of the literature, which designate the direction of the research to be introduced in the following chapter.

2.1. Level of the Analysis: The Business Models

Due to the rapid success of early e-business companies at the turn of the millennium, both management journals and the business press "found" the concept of e-business models. However, the business model in this approach only meant the individual description of some characteristic patterns of the way of operation. Revisiting previous theoretical roots, however, by the middle of the first decade of the new millennium (when I submitted my Ph.D. thesis proposal), it had become accepted in the literature that business modeling was a tool and method in the fields of management and strategy. Hereinafter I am going to introduce the origins and essence of this approach, elaborate on the major components of business models and finally, I am going to highlight the practical contribution and the limitations of the business model approach.

2.1.1. Defining Business Models

The term business model appeared in the information technology, information science magazines and publications in the 1970s. Stähler (2002) refers to the articles of Konczal and Dottore, who were among the first to recommend the managers the modeling fancied previously by mathematicians. (See Barakonyi, 2008 for details on the relationship between the business and the traditional modeling.) At that time the main added value of that research was the creation of an information system supporting the

everyday work through the modeling of the processes, activities, data and communication relationships of the organization. The process modeling tools and spreadsheets joined this stream with the spread of the personal computer. The first one helped with the planning and representation of the relationship system of processes and data relations. With the aid of the latter we could break down the main lines of the planning schemes, could perform test with the components, and it became possible to carry out "what if" type of analyses with just the pushing of some buttons on the keyboard (Magretta, 2002). Previously, the "business model" became clear only after the "reality-check", but these tools enabled the ex-ante simulation of the future operations. It is not surprising that business modeling originates from information technology, as the system plan, i.e. "architecture" of the given software has meant the examination and description of the elements and their relationships. Pioneer works of Hall and Menzies (1983) showed how the core logic of a cricket club can be modeled. They also provided a business model example for using the spreadsheet applications with the purpose of evaluation future scenarios.

In the 1980s business modeling moved – from the world of data and process modeling – into the environment of business processes and strategy. Many authors consider the *value chain concept* of Porter (1985) as the basis of the business model. "Historically, strategists weren't particularly concerned with business models, because each industry had a standard model", which were not at all so different, as they shared the characteristic of vertical integration (Tapscott 2001:5). Today's business models equally stem from the classical value chain (value system), following the old traditions of story telling, that is all new business models "are variations on old ones, reworking the universal themes underlying all human[/business] experiences" (Magretta 2002:88). The virtual value chain models belong to this stream, whose authors had started to emphasize even before the Internet boom that information and information technology had infiltrated the processes and relationships of the traditional value chain (e.g. Rayport and Sviokla, 1995). At the beginning of the 1990s some authors proposed the business model as another perspective of the organizational structure (for instance, Viscio and Pasternack, 1996); however, the – in more accurate terms – organizational or corporate governance models are research fields independent from the issue of the business model discussed in this thesis.

The spreading of the e-business brought the main impetus for using business models as a management tool. In the new millennium, the term business model became popular in the general management literature as well. Yet, in many cases these business models were rather implicit value adding models, as long as the discussion of the underlying hypotheses was missing (O'Daniel, 2001). The rapid increase in the popularity of the term resulted in diverse use and definition of the term. This time, many researchers argued that

- The literature on business models is inconsistent, and has lacked precise definitions for a long time (Timmers 1998:2, Mahadevan 2002:55, Chesbrough and Rosenbloom 2002:532);
- The term business model is the most commonly used, but at the same time the least understood expression regarding e-business (Rappa 1999:1);
- The term business model is a "buzzword" without a generally accepted meaning (Osterwalder and Pigneur 2002:2);
- The term business model is mentioned by the analysts randomly and is used for everything (Tapscott 2001:4);
- The business models are rather vague desciptions on how a business should look like in order to be successful (Stähler 2002:6).

It is not surprising that the different approaches of business models led to different definitions of the concept. By the detailed analysis of these differences (see Appendix 1 for details) I identified four repeating components of the definitions.[1]

- The business model equally depicts a system and tells a story;
- The logic and mechanism of value creation is in its centre;
- Is an architecture which describes firstly the process and relations within the organization, secondly within the supply chain, and thirdly the connections of the employed resources;
- It connects the source and flow of the revenue sustaining the model with the other elements.

[1] Furthermore, some writers offer separate definitions for the new or e-business models. Venkatraman (2000:18) thinks that the criterion is to "offer, on a sustained basis, an order-of-magnitude increase in value propositions to the customers compared to the companies with traditional business models" (Venkatraman 2000:18). Lam and Harrison-Walker (2003:18) consider those methods, concepts, schemes and architectures as e-business models by the aid of which the organizations can use the Internet or the world wide web for the realization of the strategy.

As I am going to discuss it later, the differences of the definitions may originate from the diversity of the use of business models: It can be applied at different analytical levels and with various focuses. Thus, I am going to advance along a broader as well as a narrower definition. The broader interpretation includes all the significant common features of the majority of approaches.[2] The narrower approach defines the concept along the components shared by each approach of business models; I am going to justify this later.

- The business model is a management tool that simplifies the complex value creating operations to an interconnected system of elements in a transparent form.
- In a narrower sense, the business model is a management tool, that presents (1) the policies and choices of the value creation (value proposition model), (2) the network of the participating actors (architecture model), and (3) the sources and streams of revenues sustaining the value creation (revenue model); as an interconnected system of elements.
- On this basis, business modeling is the activity of capturing, analyzing and improving business models.

A paradox may emerge from the above statements: The business model approach may seem to be an experimental tool; while it is no doubt that the company executives surely have to be aware of the value creation logic in order to make their everyday decisions. In fact, this core logic, the business model is something that is more or less (implicitly) understood, but – explicitly – less expressed by these executives. This is the rationale for the recommendations and proposals of the literature, that the systematic elaboration; and, for instance, the plausible representation of this value creation logic in thoughts is a new tool of management. What is the purpose of it? Who is the subject of business modeling? Before I answer these questions, it is practical to find the place of business models in the "toolbox of management".

[2] The literature is unequivocal, that the business models in practice have to meet double expectations: The test of numbers and the test of the narrative, as Magretta (2002:90) calls it. The model fails if "the P&L doesn't add up", but also when "the story doesn't make sense". A reasonable business model "tells a logical story explaining who your customers are, what they value, and how you'll make money providing them that value". These assumptions are subjected to a continuous market test. It means, that "a business model's story holds up only if you tie assumptions about customers to sound economics" (Magretta 1998:4).

The Place of the Business Models among Other Management Approaches

The definition of business modeling implies a relationship with process management and strategic management. Process maps are representing the value creation (see Bodnár and Vida, 2006), and strategic maps deconstruct the core logic of the business as well (see Kaplan and Norton, 2000). The business model is a link between the core values entailed in strategy and the high-level process models.[3] The definition of business modeling implies a relationship with process management and strategic management. Process maps are representing the value creation (see Bodnár and Vida, 2006), and strategic maps deconstruct the core logic of the business as well (see Kaplan and Norton, 2000). The business model is a link between the core values entailed in strategy and the high-level process models. Unlike the traditional tools of strategy deconstruction (such as the Balanced Scorecard), in the business model connects the choices on the value creation with featured activities on an intermediate level – instead of setting a hierarchy of goals or processes. In certain cases the business model may take over the initiative from strategy: A successful business model can be a basis for new strategic goals. In other cases an effective process may provide ideas for the development of the business model, refining the typical pattern of "business models (and processes) follow/implement strategy". In summary, the business model covers the elements of the value creation and their relationship; the strategy determines the way the company uses its business model in the competition; and the business processes are responsible for the efficient execution of the core task required for the implementation of the business model (Figure 2).

[3] Business model ends where strategy begins. "Business models describe, as a system, how the pieces of a business fit together. But they don't factor in one critical dimension of performance: competition" (Magretta 2002:91). According to Osterwalder and Pigneur (2002:3) the business model is "the missing link between strategy and business processes". On the other hand, in the definitions of the term business model by Pateli (2002) and some further authors the role of segmentation and differentiation appears as well, while these topics are traditionally covered by strategy. I found that considering business models as prototypes of industry mental models excludes these topics from the definition. Chesbrough and Rosenbloom (2002:535) or Casadesus-Masanell and Ricart (2008:B) consider the shaping and the implementation of business models as strategy. More details on the relationship between business models and strategy see: Móricz (2007).

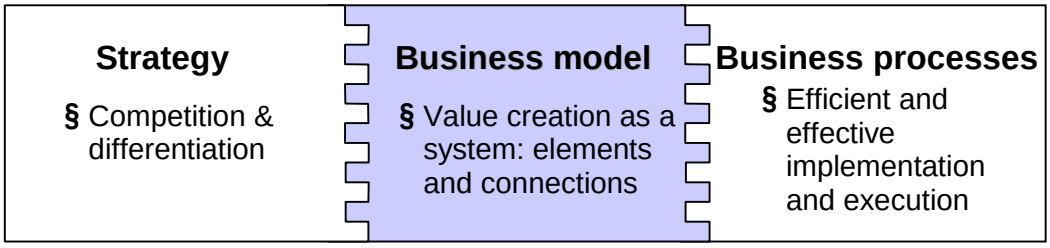

Figure 2: Business Models as a Linkage between Strategy and Processes

(From author)

From the perspective of modeling, Casadesus-Masanell and Ricart (2008:B) compare business modeling to game theory and strategic positioning. Game theory is characterized by the fundamental simplification of the in-game options and by minimizing the number of actors that enables a situation that can be described with mathematics. On the other hand, strategic positioning tries to be closer to reality by grouping the actors (e.g. to five competitive forces), then simplifying the relationships between them. Casadesus-Masanell and Larson (2009) argues that business modeling tries to balance between being "real" and enabling mathematical handling.

Purposes of the Business Models

The special nature of business models among the managerial tool originates from the fact that in general, business models function quite well without any interventions. Strategy receives continuous feed-back in the form of competition, while processes face the ongoing evaluation of internal and external customers. Yet, the business model is "working" in the background, almost unattached. The reason why much attention was drawn to business models during the first e-business hype was that the e-business start ups followed previously uncommon value creation logic; therefore they needed a concept for presenting their operations to potential investors. However, the "implicit" nature of business models may be hazardous as well. The "hidden" assumptions in the model may become outdated; thus, the model requires "maintenance". It is similarly important for ventures that try to copy and repeat the success of a new business model in a different market to reveal the key drivers and the hidden assumptions of the model as well.[4] The manager of the organization has a fundamental role in realizing if the assumptions became questioned and business model needs a profound revision.

[4] Even the same company on different market can fall into the trap of not revealing the hidden assumptions. Magretta (2002) presents the classical example of Disneyland. The time when Disneyland introduced its theme park to the European market, they applied the same model than they operated successfully in the U.S. Many hidden assumptions on visitors' needs and habits turned to be wrong in the European settings, leading to major changes and customization after serious difficulties.

By analyzing several sources of literature, Alt and Zimmermann (2001) distinguish three purposes of business models: advising, generalization, and simulation. In practice, the use of business models could be more specific as follows (Alt and Zimmermann, 2001; Stähler, 2002; Osterwalder et al. 2005; Chesbrough and Rosenbloom, 2002; Magretta, 2002).

- Revealing and testing assumptions behind the operations: Enabling to test (question the validity of) the assumptions. The business model may help to reveal the reasons for weak performance, the understanding of the relationships responsible for a competitor's success or the investigation of tasks based on assumptions that are proved to be myths.
- "Big picture" as a design and planning tool: The understanding of key factors and mechanisms as well as their relationship.[5] Is there a reason for the tasks being accomplished? Which factors drive the "engine" of business? What self-reinforcing loops (vicious cycles) are to be paid attention to?
- Examination of development and innovation potential: The evaluation of new development alternatives. In the case of a strategic change, the company may adjust the business model; however, it may also implement changes to the strategy, based on the new ideas regarding the business model.
- Risk-free experimenting: Simulation and learning. By mapping the core logic of the business, moreover, with a formal business model, the company may assess the limits of the present operation as well as the effects of the different scenarios.
- Communicating the essentials of the business/operations: Tool for communication and convincing. A map that summarizes the key value choices, their roles and effects can not only be useful in a fund-raising process of new ventures but the companies may use it as a reference in the internal communication.
- Analyzing the role of the information technology in value creation: Technology as an enabler or a barrier. The business model may clearly show the relationship between information technology and business, a relationship that is often less understood by the members of an organization.
- Patenting a business model: it is another business opportunity to develop new business models not only for gain market but also re-sell the business model itself.

[5] Thinking with maps and models is popular in other areas of management as well. Concepts like strategy maps (Kaplan and Norton, 2000) or the use of topic maps in problem solving or decision making (Fülöp et al., 2007) have gained popularity recently.

A part of the objectives above can be interpreted at different levels of use; thus, the unit of analysis in the case of the business models may vary as well. It seems obvious to put a single business (or new business idea) in focus, analyzing its core logic, sensitivity and viability. At this level, the elements, the actors, and the mechanisms of the value creation are covered. At the same time, business models can be used well at the level of a certain business problem to identify the factors contributing to the complex situation (often natural indicators such as capacity or performance). This model may highlight "vicious circles" among the factors, which have been preventing the solution of the problem. The focus of business models can be interpreted at a level higher than that of the single businesses: At the level of entire corporations, moreover, that of the operation of inter-organizational value networks serving end-users. Figure 3 sums up these three levels of business model analysis: The figure shows the elements of the models formulated on each level (left), as well as the most important use or contribution of that level of analysis (right).

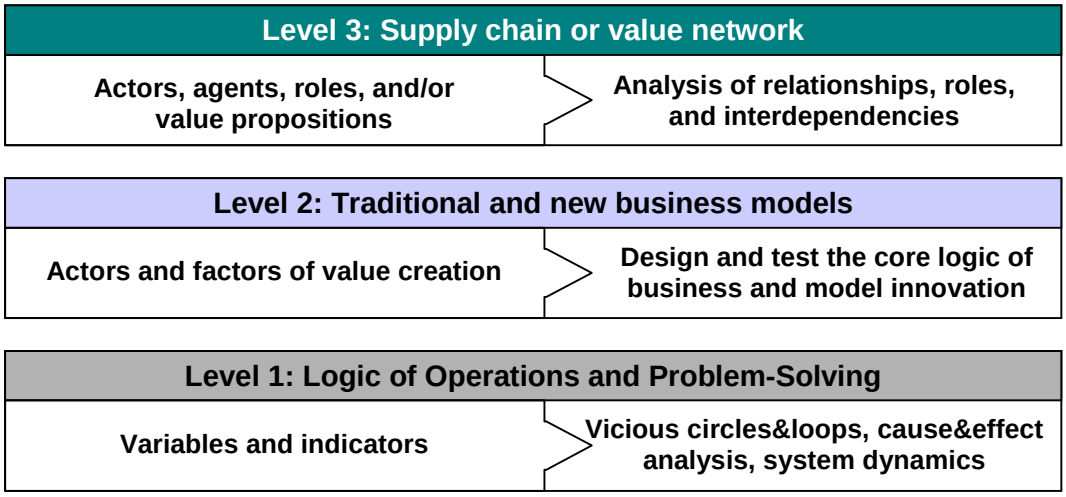

Figure 3: Business Models at Different Levels of Analysis: Elements and Purposes (From author)

2.1.2. Components of Business Models

Based on the meaning of the term "model", it is expected that business models provide a simplification while keeping the most important elements and relationships regarding the purpose of the analysis. However, when describing business models, it could be useful to have some guidelines, which components have to be covered by a business

model. The literature provides with several classifications and lists of the business model components. After a thorough analysis (see Appendix 1) I found common denominators reviewing the most quoted frameworks, as it is visualized with Table 1.

<table>
<tr><th>Tapscott (1999)</th><th>Mahadevan (2000)</th><th>Alt and Zimmer-mann (2001)</th><th>Osterwalder et al. (2005)</th><th>Johnson et al. (2008)</th></tr>
<tr><td>§ Main motive</td><td rowspan="3">§ Value streams</td><td rowspan="3">§ Mission</td><td>§ Customer segment</td><td rowspan="3">§ Customer value proposition</td></tr>
<tr><td>§ Value proposition</td><td>§ Value proposition</td></tr>
<tr><td>§ Customer role</td><td>§ Customer relationships</td></tr>
<tr><td rowspan="2">§ Key processes</td><td rowspan="3">§ Logistical streams</td><td rowspan="2">§ Processes</td><td>§ Distribution channels</td><td rowspan="2">§ Key processes</td></tr>
<tr><td>§ Activity configuration</td></tr>
<tr><td>§ Knowledge focus</td><td rowspan="2">§ Structure</td><td>§ Core capabilities</td><td rowspan="2">§ Key resources</td></tr>
<tr><td>§ Trust</td><td>§ Partner network</td></tr>
<tr><td rowspan="2"></td><td>§ Revenue streams</td><td>§ Revenue</td><td>§ Revenue streams</td><td rowspan="2">§ Profit formula</td></tr>
<tr><td rowspan="2"></td><td>§ Legal issues</td><td rowspan="2"></td></tr>
<tr><td>§ Technology</td><td></td></tr>
</table>

Table 1: Business Model Components: Overview of the Most Recognized Approaches
(From author, compiling from the sources indicated in the header row)

The literature considers the value proposition as the key issue of business models. Narrower sense, the (customer) value proposition is the sum of the benefits for the customers provided by the organization with a given amount of costs. In other words, it is the system of the usually distinctive value offered by an organization. The network of value creation (the method of linking resources, processes and structures) can be identified as the second major node. Income generation, i.e. the financial viability of the model is the third key component which stands out prominently in the literature. The technological and legal contexts – mentioned by several sources as well – can be identified as secondary components, which, however, are strongly attached to the "environment" of the business model. This will be discussed in Chapter 2.3. A longer list of components may be useful as a check-list when compiling a business model; however, the three main factors are appropriate for the comprehensive overview in most of the cases. In my Ph.D. thesis I found that applying the three-component approach is appropriate to summarize the e-business models, as well as to provide an overview on the business models of my case studies. In summary, the business models are covering three main components:

– Value proposition model, the system of policies and choices about the value creation,
– Architecture model, the network and the relationships of the participants in the value creation process,
– Revenue model, the sources and the streams of the revenues sustaining the value creation.

Value Proposition Models: Frameworks and Choices

According to the definition of value proposition, it makes sense to differentiate between an overall and a specific level of value proposition. The former answers the question "What to offer", while the latter deals with "Why is this valuable". On the overall level, the value proposition framework identifies the core logic of the product or service provided. On the specific level, policies and choices of value proposition describe the exact benefits for the customer. Therefore, the overall level provides us with the opportunity for classifying business model prototypes, hereafter referred as framework models. On the other hand, framework models do not necessarily specify the unique combination of the customer value offered by the business model. Hence, on the specific level, combination of principles and choices appear, detailing the added value to the customer. Therefore, the specific value propositions can be rather listed than classified. Later on, I use the term value proposition as covering both the framework of the "main theme" and the more specified customer value components.

For long, the literature had paid attention primarily to the "interesting", unusual ones among the framework models – Barakonyi (2008) gives an excellent overview of these in Hungarian. Apart from this, how is it possible to comprehensively systematize business organizations with respect to the framework model of value proposition? E business companies are aware of the long lists of framework models; however, it is rather unclear, what are the framework models that constitute the "traditional" economy. Malone et al. (2006) designed a complex system for classification the business models in the entire business world, aiming to analyze the financial performance of different models.

Their classification is meets the theoretical criteria of Scott (1981)[6], and still seems to have added value compared to the existing similar classifications like of industries. In their view, a framework model becomes similar or different in two respects. Firstly, models differ in the main activity that drives the revenue generating operations – creator that sells, distributor that resells, broker that intermediates, and landlord that sells the "use" of its assets. Secondly, we may distinguish models based on what type of asset is involved in the activity – physical, financial, intangible or human. Sixteen general framework models can be found in the grid created by these two aspects, which are certainly not represented in the economy with equal significance (Table 2).[7] Based on the table, for instance, in the case of the "physical landlord" model the source of the value proposition is that the company provides the customer with access to real estate, equipments, machines or other assets.

		What type of asset is involved?			
		Physical	Financial	Intangible	Human
What rights are being sold?	Creator	**Manufacturer**	**Entrepreneur**	**Inventor**	**(Human Creator)**
	Distributor	**Wholesaler/ Retailer**	**Financial Trader**	**IP Trader**	**(Human Distributor)**
	Broker	**Physical Broker**	**Financial Broker**	**IP Broker**	**HR Broker**
	Landlord	**Physical Landlord**	**Financial Landlord**	**Intellectual Landlord**	**Contractor**

Table 2: Classification of General Value Proposition Frameworks

(Malone et al., 2006:30)

Although this classification provides a justified system of business models (value proposition frameworks), the 16 types mean such a high level of generalization that it

[6] These criteria are: intuitively sensible (grouping the similar and the different elements by self-explanatory categories); collectively exhaustive and mutually exclusive (enabling unequivocal classification); construct validity (differs from the common classifications, and the result of the classification is independent from the person who performs it); conceptually elegant (as simple or complex as necessary) (Scott, 1981).

[7] According to Malone et al. (2006)'s survey, almost half of the companies follows the "manufacturer" (creator/physical) model. More than a third of the companies are "landlords" of some assets; their activity is based on the exploitation of these assets (e.g. lending money, renting out buildings, selling the copies of an intellectual property, or the billing for consulting days). Framework models highlighted with light background on the table are with minimal importance in the economy, while the models included with dark background (commercially creating and trading with human beings) – with the time of slavery being over – are considered illegal.

does not reveal much about the actual operation. In turn, on the other level of value propositions, less ordered (i.e. collectively exhaustive and mutually exclusive) but more practical types can be distinguished. Regarding what specific value propositions may be associated with the framework models the literature and business practices introduce not only plausible examples but some general value offerings, so called "models" as well. Below I list the most well-known ones of these "models" and value propositions.

- "Low-cost/discount." Focusing on the low essentials of the product/service, and with radically simplified processes, it provides an acceptable quality service for a significantly lower price. Examples: Wal-Mart (the introducer of discount retail), Southwest Airlines (U.S. based low-cost airline), low-cost hotels, restaurants, etc.
- "Everything from one place" In some respect, it is the opposite of the previous model: Full service, aggregation (a considerably broader selection than before, available in one place), premium convenience (as actual value propositions). Examples: Carrefour (the first hypermarket), Yahoo! (Internet portal), Sears (pioneered in catalogue-orders and home delivery), etc.
- "Long-tail."[8] Instead of mainstream products and services, it concentrates on the periphery, on the previously unattached demand for products in small quantities or even in large numbers. Examples: Cdnow (later acquired by Amazon; used to offer almost unavailable older CD releases on the Internet), Netflix (DVD rental), second-hand bookshops, etc.
- "Involvement, creation." It involves the customer in activities traditionally belonging to the production process of the product or service. The customer purchases the possibility of creation (being creative) as well (the experience component). Examples: Ikea (furniture assembly), Linux (installation), Lego (building is playing), etc.
- "Customization." The possibility of acquiring more unique/individual products than before. Examples: Dell (PC configuration), Firefox (extensions), pizza a la carte, etc.
- "Acceleration." The production (the value creation process) accelerates significantly. The "standardized product" value proposition is often attached, i.e. the characteristics and quality of the products or services may be globally identical. Examples: McDonald's (fast food restaurant), Federal Express (express courier services), etc.

[8] The concept of the long-tail has been introduced by Anderson (2006).

– "Feeling." Apart from the technical parameters of the product or service, the style and feeling contribute at least as much to the customer value. Examples: Apple (style), Nike (design), American Express (prestige), etc.
– "Service from product." Transforming an expensive or complex product to an easily acquirable service. In this case the value proposition is enhanced by an unusual choice regarding the revenue model of the business. Examples: Xerox (rented out expensive copying machines for a fee based on the number of copies made), hosting and application services (centralized remote IT services), "pay per view" (proportional to use), etc. The so-called "product bundling" value proposition is similar to this model, in which future additional products/services are attached to the cheap or free core product. Examples: Gillette (razor and blade), Standard Oil (oil lamp and oil), color printers, mobile phones, shareware software, etc.
– "Flat rate." In some respect, it is the opposite of the previous value proposition. It provides the customer with the freedom of use with a pricing regardless of the intensity of use (naturally, beside the value proposition, this is also a choice within the revenue model). Examples: Netflix (pioneer of the flat-rate DVD rental), maintenance services, assurances, telecommunication networks (unlimited credits for phone or the Internet), etc.

Architecture models

The value propositions above can be delivered by different architectures, i.e. ways of connecting structures and processes. Again, based on the literature, I tried to introduce a classification that covers the most relevant issues in the field of business model architectures.

Stabell and Fjeldstad (1998) proposed the three core architectures (i.e. value configuration models): value shops, value chains, and value networks.[9] The value shop senses and responses the customer needs, and offers customized solutions based on the close relationship with the customers. The value chain transforms the inputs into outputs by repeating standard processes. The value network aggregates parallel and simultaneous activities and provide the customers with the end product.[10] According to Stabell and Fjeldstad's (1998) original idea, all the three types create a system with

[9] The authors relate the three models to Thompson's (1967) manufacturing types: intensive (value shop), long-linked (value chain), mediating (value network).
[10] Similar classification is provided by Cross et al. (2005), distinguishing networks with routine, modular, and customized response.

similar configurations. Value shops recommend each other, value chains are linked, while layered and interconnected value networks evolve. On the other hand, these three types are also useful for understanding the nature of the inter-organizational relationships along the value creation. Loosely attached specialists act like value shops, sequentially attached value creating units form a value chain, and a complex relationship of nodes is to be considered as value networks.

The business model component "architecture" can be analyzed from the perspective of the centralization. Barabási (2002) quotes the network topologies like centralized, decentralized, and distributed networks. These topologies are with major consequences on the structure, performance, and leadership of value networks (Drótos and Nemeslaki, 2002). Centralized value networks strongly integrate the value activities and processes. The decentralized architecture is more modular, therefore with better adaptation potential, but still with central control. The distributed model refers to the self-organizing value networks where this central control is almost missing: The activities and the relationships are evolving and disappearing according to the actual needs.[11] For this type of networks, Evans and Wurster (1997) introduced the new term "hyperarchy".

Revenue Models

The revenue model is the simplification of financial performance expectations towards business models. Johnson et al. (2008) emphasize the choices on the cost structure, the margin, and the resource velocity (payback/return). It is true that different cost-revenue "constellations" may result in the same outcome. For instance, free magazines with lower cost rates, larger volume and thus, even a bigger advertisement income can compete with the ones operating with large fixed costs and on a subscription basis.

The literature explains the highlighting of revenues in this context with the fact that the role of revenues in the business model is to sustain the assets and activities incurring costs for the organization. Malone at al (2006) point out that typical revenue streams are related to their sixteen framework models: Sales revenue for the "manufacturers", commercial margin for the "distributors", commission or flat rate for the "brokers", and numerous specific fees for the "landlords" (entrance fee, rent, interest, license fee, franchise fee, daily fee, etc.).

[11] See Drótos and Nemeslaki (2002) for analysis of the hierarchical (centralized or decentralized) and the self-organizing (hyperarchy) model, by factors like core values, performance, structure, leadership; or Evans and Wurster (1997).

The role of the price is definitive in revenue streams, which relationship is widely discussed in the literature. Fixed, auction-based, negotiated and dynamic – demand-based or exchange-type spot – pricing[12] are given as theoretical possibilities for business models (Ordanini and Pol, 2001, Geoffrion and Krishnan, 2003, Kocsis and Szabó, 2002).

2.1.3. Applications of Business Models

For an analysis carried out along the business model, the departure point can be to describe the business model with the help of the three components above, to "construct" it from the theoretical compounds. The changes and the adaptation of the business model can be followed along the components in a table format (Bouwman and MacInnes, 2006). The value of business modeling relies in revealing of relationships and dependencies of the elements. Regarding the way of its presentation, we define three stages of business models, also following the approach of Alt and Zimmermann (2001) that identified areas of utilization like recommendation, generalization and simulation. "Qualitative" business models expressed in words provide basically new ideas: The "Case" makes it possible to expose different narratives, serves as a basis for role playing or provides a benchmark. Graphic representation of a business model provides a "Map": It helps to understand causes and effects, evaluate points of intervention or to identify positive or negative feedback loops (vicious cycles). A formal business model that also includes the relationships expressed in numbers offers the opportunity of testing and experimenting: the "Simulator" shows the elasticity of the factors, the consequences of decisions, or enables scenario analysis (Table 3). Note, that the three stages do not represent an evolution, i.e. Stage 2 may not be "better developed" than Stage 1, and they are also not a prerequisite of each other (see Móricz, 2007).

[12] At the millennium, many authors celebrated the concept of dynamic pricing. They explained advantages like gaining more efficiency (e.g. by increasing the capacity utilization, see Robert and Racine, 2001), or providing more value compared to the traditional mechanisms, (e.g. more frequently updated prices, see Kápolnai, Nemeslaki and Pataki, 2002). It makes the companies possible to capture the consumer surplus in microeconomic sense (Shapiro and Varian, 1998), as well as it can make the accurate operation of price-comparison providers difficult, and by so doing, they can decrease the confidence in these providers, thus the price competition that affects the organization will be smaller (Varian 2001).

	Stage 1: The Case	Stage 2: The Map	Stage 3: The Simulator
Style	Narrative	Graphic	Formal
Focus	Qualitative patterns of a success or failure story	Mapping the interaction between key elements and factors	Formal model of the relationship between elements and factors
Typical applications	Recommendations, advising	Understanding and generalization	Sensitivity test and scenario planning
Tools examples	Case study benchmarking and role playing	Concept maps, strategy/value maps	Spreadsheets and business games

Table 3: Stages of Business Model Descriptions

(From author)

Although the "map"-approach of business modeling is supposed to be prevalent in light of the definitions of the literature, the truth is only few general concepts or guidelines have emerged in this topic. Moreover, these few approaches are not unified regarding the interpretation of business models. There is a conceptual difference in two areas. On the one hand, some researchers suggest mapping choices and consequences (cause & effect map), while others prefer to show how the actors connect to each other (value network map). On the other hand, the literature offers either strict schemes for composing the business model (meta-model) or flexible rules that can be applied and customized regarding the actual domain (guideline); see Figure 4.

Map element: / *Flexibility of application:*	Mainly factors: Cause and effect map	Mainly actors: Value network map
Rather fixed — Meta-model	Business Model Ontology (Osterwalder, 2004)	e3value (Gordijn and Akkermans, 2001)
Rather flexible — Guide	Competing Through Business Models (Casadesus-Masanell and Ricart, 2008)	E-Business Model Schematics (Weill and Vitale, 2001)

Figure 4: Methodologies for Preparing Business Model Maps

(From author)

Below I am going to briefly introduce four approaches, which, however, do not only differ in the way of graphic representation but "think" differently about the practical application of business modeling as well. In order to introduce the four methods, I prepared four figures using the simplified example of Netwaiter, my case study example about the online food ordering portal that offers a marketplace for home-delivery restaurants and their consumers.

Cause and effect map guidelines. The "Business Model Ontology" (BMO) is a scheme that consists of 9 interconnected business model elements (Osterwalder, 2004): value proposition, market segment, customer relations, distribution channels, activity configuration, partner network, resources and capabilities, cost structure, revenue streams, profit. However, the approach is more than just creating a list since the components constitute an interconnecting system (Figure 5: the labels of the model displayed in bold are given, the actual elements of the example are to be found under those, respectively). The creation of the model is supported by a web application and online community website (http://businessmodelcommunity.com/). During the more advanced practical application, taking the individual elements into account, further key factors are to be listed, the interdependencies of which can be analyzed while "zooming in" on the given factors. Yet, due to the restrictions of the meta-model, it is frequently not the real cause and effect relationships that appear in the models created this way, i.e. the internal mechanisms remain at a theoretical level.

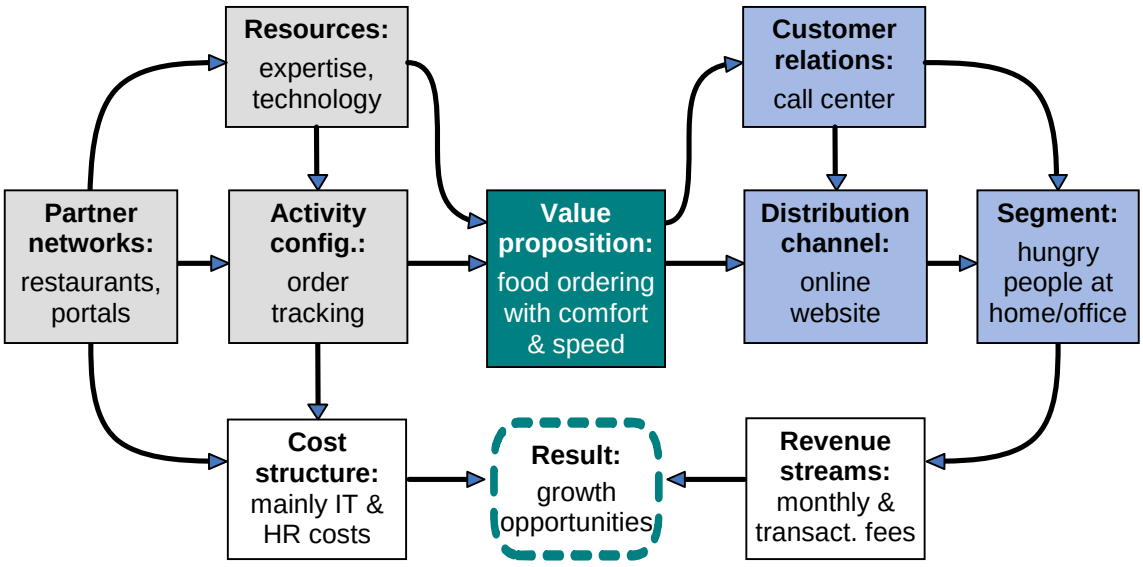

Figure 5: Graphic Representation: Example of the BMO Meta-model

(From author, using the model of Osterwalder [2004])

Cause and effect map guidelines. The approach of Casadesus-Masanell and Ricart (2008) they call "Competing through Business Models" (CTBM) is rather bottom-up: It focuses on examination of causes and effects. First, the CTBM models feature choices like policies (e.g. using secondary airports), assets (e.g. standard fleet), and governance of them (e.g. lease fleet). Second, elements are the consequences too, even rigid (follows the cause only on long term) or flexible (stronger correlation with the choice). The authors provide detailed guides for mapping these elements, yet the analyst has freedom in what kind of elements to focus on and feature in the model. The strength of this approach is that it reveals longer chains of relationships, feedbacks, and loops (vicious circles). Note, that this is a similar approach to original publication if Hall and Menzies (1983).

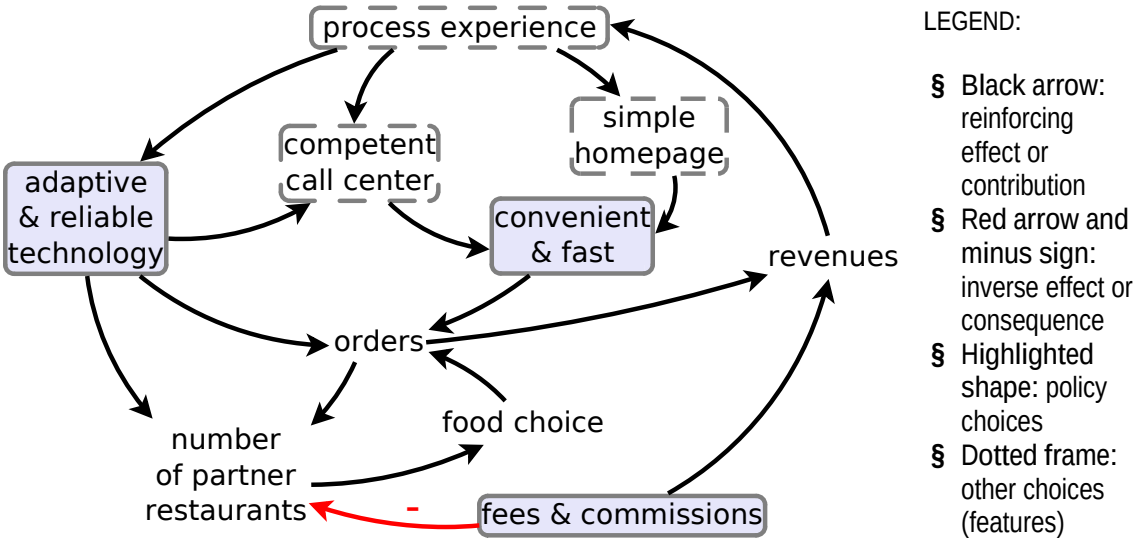

Figure 6: Graphic Representation: Example of the Cause & Effect Map

(From author)

Figure 6 above shows an example created in accordance with the author's methods, with slightly modified markings (note, that the triad of the number of restaurants, selection and consumption is a self-reinforcing loop). Although seemingly "everything is connected to everything" in the resembling figures, there certainly are options for intervention: Factors from which no arrow starts (such as commission in the actual example) and principles or other choices where the "measure" may be determined by the company (elements with frame in the figure). Optionally, the assumptions resulting in the consequence can be displayed as well (example: "people order more frequently from us if there is a broader selection"). There is an opportunity to zoom in or zoom out

during the analysis as well. It is to be noted that Casadesus-Masanell and Ricart (2008:C) extended their analysis to the joint examination of the models of two related businesses as well (their example: Intel's and Microsoft's business models linked).

Value network map meta-model. The "e3value" method by Gordijn and Akkermans (2001) focuses on the value flows between the actors affected in the value creation, also employing the UML modeling language used in the software development methodology. The business model in that approach combines abstract types of elements: Actors and market segments, value objects and activities, value ports, interfaces and exchanges. Unique schematics and rules are associated to these elements. The drawing of the model is supported by a software application (Figure 7 is prepared with it) that also makes it possible to calculate scenarios. However, the application of the e3value meta-model seems to be very limited because of the strictly prescribed abstract concepts.

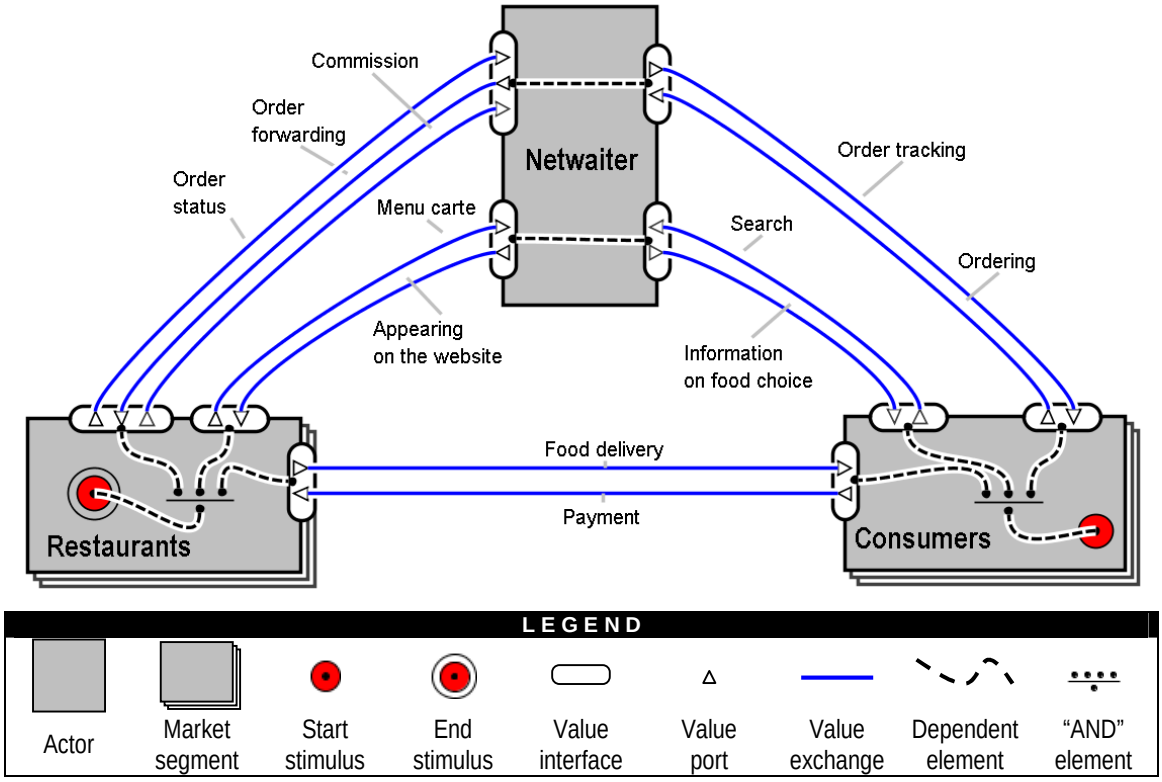

Figure 7: Graphic Representation: Example of the e3value Methodology

(From author using the model of Gordijn et al.[2005])

Value network map guidelines. Although Weill and Vitale (2001) define their approach to the model as an "e-business schematics", in fact, the system contains no e-specific element. The authors make suggestions for representation of actors, relationships and value streams. However, they differentiate between four types of actors (firm of interest, supplier, customer, ally), two forms of relation (primary, electronic) and three value streams (money, products and information) (Figure 8). Their approach seems to be more appropriate for traditional business models where the categories of supplier, customer and ally are fixed. (On conducting the case studies I was confronted with the fact that regarding the examples I analyzed, these roles merged into each other and transformed in time. Therefore, I later simplified the marking system: I did not differentiate between the actors while I included the object of the value streams on the maps). Alves and Roque (2005) used a similar methodology to represent the business model of multiplayer online games.

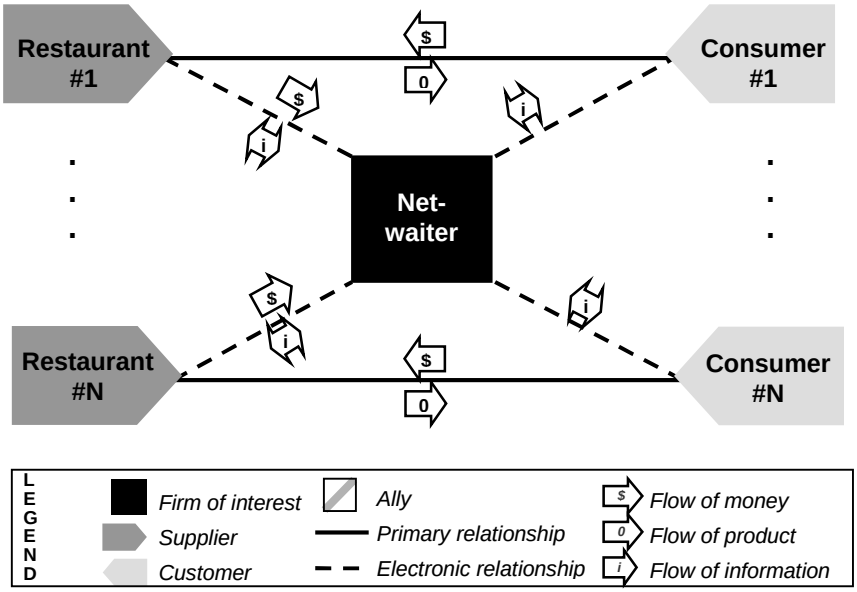

Figure 8: Graphic Representation: Example of the E-business Schematics

(From author using the schematics of Weill and Vitale [2001])

Business Models in My Ph.D. Thesis

In summary, the main strength of the business model concept is that it reveals the connections between the key factors of the core logic of the given business. I experienced that in the literature many different interpretations of this elements-and-connections system exist. In my empirical research I found four approaches to be useful in analysis, as detailed below.

- **Overview of the three layers (components) of business models.** This reveals the potential "building blocks" of business models. In the next chapter I elaborate these building blocks – regarding the e-business models – along the layers of value proposition, architecture, and revenues. Later, case studies of my thesis show an example how to summarize these components in a table systematically.

- **Graphic representation of external value relationship.** The value network map (model) enables to capture and present the complex inter-organizational relationships and the core logic of the business easily. I will show several examples on it in the case study part of my thesis.

- **Revealing internal cause and effect relationships.** Graphic representation of the core logic of the choices and the consequences in the business model is a relatively new and underdeveloped part of the literature. With my case studies, based on Hall and Menzies (1983), moreover on Casadesus-Masanell and Ricart (2008) I will present how this methodology reveals the sensibility of the model, as well as the independent variables, and the vicious cycles.

- **Placing the concept of the business models between the strategy and the business processes.** Finally, in the empirical part I will try to elaborate, how the business model serves as a linkage between the strategy and the business processes. Later, I summarize in tables those strategic and internal issues that were closely related to the success or the failure of the examined business model.

2.2. Subject of the Analysis: E-business Models

In my Ph.D. thesis I focus on the business models of the Internet. E-business models can be defined as the business model of e-business ventures, where the phrase "e-business venture" refers to companies or business units that have a value proposition fundamentally built on the Internet (about this definition also see Venkatraman, 2000, Lam and Harrison-Walker, 2003). Further characteristic of an e-business model is that it usually co-creates this value proposition with actors outside the organization; therefore it always affects two or more organizations. Therefore, despite of the fact that the Internet enables several intra-organizational applications and the transformation of the internal processes as well (e.g. internal communication, distance working, e-procurement), in this thesis these uses of Internet are out of the scope and not considered as e-business models.

At the millennium, e-business models were frequently quoted as recipe of success in the media and the literature. It was a widely used citation that from now on it did not matter what "business we were in", only what kind of business model we used (quoted by Lam and Harrison-Walker 2003:18, and Applegate 2000:2). "A company didn't need a strategy, or a special competence, or even any customers – all it needed was a Web-based business model that promised wild profits in some distant, ill-defined future" (Magretta, 2002:86). Such a "loose conception of how a company does business and generates revenue" is by no means enough, and is "an invitation for faulty thinking and self-delusion". Without defining value creation in the context of the industry and clarifying the way of gaining competitive advantage the business model "is an exceedingly low bar to set for building a company" or a business (citations from Porter 2001:73).

A comprehensive systematization that would include all the theoretically possible e business models cannot yet be found in the literature. Instead, models are distinguished by a certain classification of practical examples. However, in such lists various aspects (target market, function, price etc.) are mixed, the models overlap and yet, they are overall not collectively exhaustive. Lam and Harrison-Walker's (2003) overview was a significant achievement regarding the classification of business models found in the literature. On the basis of 5 authors' work, they distinguished between 33 e-business models, divided them into 6 major groups with respect to the purpose of value creation and that of the relationship established with the Internet (see Appendix 9 of my Ph.D.

thesis proposal). Their classification, however, proves to be too strict in terms of the fact that the actual business models – for instance, web portals – cannot be included unequivocally. Moreover, some popular models simultaneously belong to more groups. To sum up, the e-business models of the literature are various because there are too many aspects which may serve as a basis for classifying and naming a model. Table 4 summarizes the aspects considered to be the most relevant ones. It is clear that each aspect is associated with "business model" denominations well-known from the literature. These might cover the theoretical possibilities regarding one chosen aspect but the examples listed below the different aspects obviously overlap.

Distinctive aspect	*Typical examples*
Traditions of the organization	*pure click, brick-and-click, click-and-mortar*
Market focus	*B2B, B2C*
Supply chain position	*manufacturer, intermediation, e-tailer*
Participants' concentration	*one-to-tone, one-to-many, many-to-one, many-to-many*
Supply chain function (classified as value proposition frameworks)	*indirect, hereof marketplace and portal, direct, hereof e-tail and direct sales*
Mechanism of intermediation	*exchange, auction, aggregation/catalogue*
Structure/architecture	*agora, alliance, knowledge web, virtual organization*
Revenue model	*free, subscription-based, commission-based, pay-per-use*
Activity	*price comparison, product bundling, infrastructure utility*
Coordination/development stages	*publication, interaction, transaction, transformation*

Table 4: Focuses of E-Business Models

(From author, collected from Alt & Zimmermann, 2001, Chen, 2003, Essler & Whitaker, 2001, Kühn, Junginger & Bayer, 2000, Osterwalder & Pigneur, 2002)

Which aspects are the most useful for the analysis of e-business models? It is apparently justified to talk about "brick and click" or "many to many" models since they call attention to certain different, most probably essential characteristics of the operation. However, the theoretical background of business models introduced in the previous chapter suggests that e-business models should also be described using the value proposition, the architecture and the revenue model. Thus, the models found in practice are constituted by the theoretical possibilities of e-business value-propositions, architectures and revenue models. Hereinafter I am going to elaborate on the literature of e-business models along these three components.

2.2.1. Value Proposition Frameworks and Choices

Regarding the value proposition, models combining various methods, ways and sources of value creation can be defined; in the form of framework models (overall level) as well as in the form of actual principles and value choices (specific level). In Chapter 2 of my Ph.D. thesis proposal (Móricz, 2005) I discussed the framework models belonging to the e-business value proposition in detail (and grouped them from different perspectives). The e-business value propositions are centered on four main models. In my thesis I attach easily recognizable names to these value proposition frameworks.[13]

- Portal: content provider, entertainment, and community building on the Internet.
- Marketplace: online intermediation and supply chain integration.
- Shop: online selling and services, e-commerce.
- Utility: infrastructure in wider sense, providing "background" for doing business on the Internet.

In the general business model classification of Malone et al. (2006) the portal can typically be associated with the intellectual capital (intangible resource) "landlord" model. The marketplace model is equivalent to the variants of the "broker" model. The shop primarily stands for the "creator" and "distributor" models dealing with physical resources. The utility is usually a "landlord"; it uses the physical, financial, intangible and human resources under its supervision while providing the background of e-business (Figure 9). Appendix 2 lists the dozens of further variants of e-business models classified along these four major types. In the following, I am going to introduce comprehensively the four main e-business value proposition frameworks, as well as the related specific value propositions in the depth required for the understanding of the empirical section of my Ph.D. thesis (the detailed analysis of the e-business model variants can be found in Chapter 2 of my Ph.D. thesis proposal).

[13] Mahadevan (2000) described similar models but emphasized that four core value propositions serve a basis for these models: 1. Creating virtual communities, where value and knowledge flow in an unique and inimitable way; 2. Dramatic decreasing of transaction costs; 3. Profitable exploitation of information asymmetry, that is, the reduction of uncertainty of a stakeholder, the improvement of their information supply; 4. Value added market creating and matching process.

What type of asset is involved?

What rights are being sold?	Physical	Financial	Intangible	Human
Creator	SHOP			
Distributor				
Broker	MARKET		PLACE	
Landlord	UTIL		PORTAL IT	Y

Figure 9: E-business Value Proposition Frameworks in Malone et al.'s grid

(From author using the grid of Malone et al., 2006:30)

Portals: Aggregation – Content, Entertainment, Community Building

The "Portals" attract users by providing content and services, or community functionalities. In most cases advertisers are the main source of the revenues by paying for attention of the users. Therefore, in the case of the portal framework model the source of the customer value is the aggregation primarily, for example offering "everything about a specific domain" in a single place or aggregating the fragmented demand/supply (i.e. the "long-tail"). At portals' value proposition there may be a special emphasis on the "experience factor" connected to the content or to an entertainment service. In narrower sense, portals are starting pages, or doors to contents and services. Therefore, portals focus on broad reach (large user base) in a given community. Horizontal portals target a wider audience with broad selection of contents and services. Vertical portals (vortals) focus on specialized topic or an industry. According to the target group of the Internet portal, we can distinguish the business-targeted (B2B) and the consumer-focused (B2C) portals.

Portals are built around the four basic network activities that offer further opportunities for customizing the value proposition (Szekfű and Z. Karvalics, 2000, Turban et al., 2002:787):

- Providing content (links, news, analyses, images, videos, music, etc.),
- Enabling communication (forums, mailing, chats, phone, etc.),
- Entertainment (see contents above, plus games, downloads etc.),
- Supporting commerce (advertisements, classifieds, catalogues, price comparison etc.)

Accordingly, portals called navigators or aggregators may be diverse. In the majority of cases they build a community around them, which may induce a network effect and raise the interest of other organizations (e.g. advertising, database-marketing). It establishes future revenue streams for the portal (e.g. merchandising and premium functions built on the portal) as well as enables the involvement of users in the value creation process (e.g. ratings, blogs). Thus, being free of charge is the starting point for many portals. Appendix 3 introduces two concepts of the effect mechanisms expected from being free of charge.

Since portals are based on the cornerstones of the traditional media and entertainment industry in terms of content, entertainment and community, profound changes have started in these industries. The transformation of the distribution of roles between the online and offline, the mixing of content types (text, image, audio, video) as well as the transformation of the audience's role (conversation; from recipient into source, content producer) are to be mentioned.

Naturally, not all portals can be associated with the media. Price comparison sites, online games, community applications (e.g. social networking portals) or the simple Internet services attracting the audience (e.g. web directories) can also be listed here. As a new phenomenon, the mash-up models that emerged in recent years build their own businesses on an online service – usually operating as a "utility" – that opened an application programming interface (API). These generally enrich the content or have an entertaining function. (Nevertheless, a company creating three dimensional buildings for the Google Earth system on request is rather a "utility" in itself since it accomplishes a developmental task supporting the client's business activity.)

Marketplaces: Intermediation, Supply Chain Integration

"Marketplaces" focus on the intermediation in the many-to-many relationships. The main value offering of this framework model are the market making and the intermediation; these cover three functions on three areas. The three functions, based on Anderson and Anderson (2002), are the matching, the requisitioning and the problem solving, they have different sub-functions. They concluded that the Internet enabled major improvement in the field of matching and economies of scale, yet the most contribution of the marketplaces is in the field of problem solving. Namely, by providing automated evaluations and customized offers (Appendix 4, Figure 39). Holzmüller and Schlüchter (2002) identified three areas of the value propositions:

– The coordination of transactions (enabling search, comparison, catalogue browsing, auctions, ordering, order tracking, billing),
– The coordination of interactions (managing documents and logistics, scheduling, customer service), and
– The supporting services (security, system integration, availability, analytics, catalogue management etc.).

In the literature, many classifications of electronic marketplaces exist (a comprehensive overview: Bönke et al., 2000:342). Considering the (pricing) mechanism of the marketplace we distinguish the catalogue (aggregating offers), the auction, and the exchange (dynamic markets) "model" (Ordanini and Pol, 2001). On the basis of the concentration of the actors, we can distinguish four kinds of marketplaces – buyer-focused, seller-focused, concentrated, and neutral –, in which different dynamic pricing mechanisms are typical (Figure 10).

Seller / Buyer	Limited	Many
Limited	Concentrated marketplace *Negotiation, bargain, barter*	Buyers' market *Reverse auction, tender*
Many	Sellers' market *Auction*	Neutral marketplace *Dynamic pricing or any*

Figure 10: Concentration of Electronic Marketplaces and the Pricing Mechanisms
(Developed from Kápolnai et. al. 2002:101, and Nemeslaki 2004:183)

Marketplaces can be listed on the basis of participating business, consumer (citizen) and government (administrative) actors (see Table 5 – note: the two dimensions here are not the customer and the seller but the originator/initiator and the respondent/recipient). Business to business (B2B) marketplaces can be further classified on the basis whether the distributed product is direct (industry-specific materials, accessories, parts, semi-finished goods, equipment) or indirect (MRO – related to maintenance, repair and office work). Marketplaces focusing on direct products and a single industry are called vertical, while the ones offering indirect products – to the companies of any industry – are called horizontal marketplaces. The regularity of customer's requisitions is also significant regarding the role of B2B marketplaces. Kaplan and Sawhney's (2000) popular classification links this aspect to the previous one when they distinguish between horizontal and vertical distribution markets, functional and vertical exchanges.

A further classification of business to business (B2B) marketplaces, their most significant features and critical factors are shown in Appendix 4.

		RESPONDENT	
		[B] Business	[C] Consumer
ORIGINATOR	[B] Business	B2B marketplace	Virtual malls Online brokers
	[C] Consumer	Group buying, name your own price	C2C marketplace (auction sites, classifieds)
	[G] Government	Public procurement	Public auctions

Table 5: Model variants of Electronic Marketplaces Based on the Character of the Participants

(From author)

In another form of the "marketplace" framework model it is not companies but consumers who are on the respondent side. The two versions of this are the virtual malls (as online intermediator) and the online broker. Virtual malls, similarly to traditional shopping centers aggregate the selection of numerous shops. According to their value proposition, they provide companies (with the aim of selling) and customers (with the aim of buying goods) with a unified interface and system. In contrast to simple product comparison portals this value proposition offers more in the sense that they also integrate part of the material (e.g. online stock information) and financial (e.g. online payment) processes. These types of online intermediators can be general (diverse products and services in different shops) or focused (specialized in a field, for instance, employment or food ordering). In fact, online brokers are also virtual malls, in the "B2C" field, for instance, the online intermediation of financial products is popular in Hungary.

A further form of marketplaces is the consumer to consumer (C2C) marketplace. E-bay – as the pioneer of this model variant – is considered to be one of the most well-known brands on the Internet. The number of similar sites is over 10 in Hungary while it is a fact that the critical mass and turnover generally expected from marketplaces are difficult to produce on a relatively small and conservative Hungarian market. Among the price mechanisms of C2C marketplaces fixed-price, auction-based as well as all-pays mechanism can be found simultaneously.

A specific form of marketplaces is "C2B". Although consumers purchase from companies in this case as well, the bid is unusually initiated by the former. One type of this is group buying (gathering those looking for the same product in hope of a better price), name your own price (the customer claims how much they are willing to pay for the product and the seller decides about the business, e.g. Priceline.com) and consumer's tender (dynamic quote request: the consumer provides the specification, suppliers make a price offer, e.g. Yabe.hu).

An even more specific case is when the public sector is involved in the marketplaces. Online (electronic) public procurement matches the acquisition needs of public administration with the suppliers' bids. On the other hand, public administration may also start auctions (for instance, tax authorities can offer the assets acquired by dept recovery on sale in such marketplaces).

Shops: Commerce and Services

The "Shops" framework model refers to the e-commerce, i.e. selling goods on the Internet. Unique value propositions may arise in the dimensions of time, distance, relationships, interactions and products (Table 6). The added value differs based on the nature of the product, namely in what amount it can be digitalized (i.e. whether physical delivery is needed and assessing or testing without physical touching is possible). I summarize the strengths, the weaknesses, and the limits of e-commerce in Appendix 5. In this appendix I introduce the customer-supplier life-cycle model of e-commerce – target of one of my previous researches – as well.

Factor	Efficiency effect	Effectiveness effect	Strategic effect
Time	Accelerate user tasks	Eliminate information float	Establish 24x7 customer service
Distance	Improve scale to look large	Present single gateway access	Achieve global presence
Relationships	Alter role of intermediaries	Engage in micro marketing to look small	Create dependency to lock-in user
Interaction	Make use of extensive user feedback	User controls detail of information accessed	Users interact via online community
Product	Automate tasks using software agents	Provide online decision support tools	Bundle information products and services

Table 6: The E-commerce Value Grid

(Riggins, 1999:301)

The shop framework model considering the consumer-focused (B2C) commerce is frequently referred as “e-tail” model (reflecting the word retail). This model covers the selling to the consumers on the Internet, selling goods on the Internet to the consumers, independently if there is a traditional retailer, a wholesaler or the manufacturer (direct sales) behind it. The related publications often distinguish “pure plays” (started with online retail exclusively) and traditional (click-and-mortar or surf-and-turf) retailers, which is justified on the basis of the differences in the existing logistical and established trade mark background.

Among these, a stressed model variation is the direct sales model, which means the elimination of the traditional distributional channels. The advantages traditionally indicated are the reduction of costs (the elimination of the intermediary’s margins, logistical savings), and the closeness to the consumers (quick reaction, more accurate information, tighter relationships). Those analyzing this model variation raise the question of channel conflict the most often. The success of Dell Computer, the company famous from its direct sales approach, is apparently rooted in the fact that the competitors with established distribution network were struggling with harmonizing the traditional channel with the online sales (Magretta, 2002). A special form of the B2C e-commerce is the so-called affiliate model. In this case a “symbiosis” of a portal and a web shop evolves: The shop gets closer to the wide audience of the portal, making the portal able to offer more services and gain commission revenues from the transactions initiated in those small web shop boxes placed on its pages.

Online shops offered for companies as buyers are considered as a special case. The life-cycle model (Appendix 5) can be applied in this case as well. However, (1) these B2B relationships show more formal characteristics, (2) the procurement decisions of the buyers are more specific, and (3) the whole process is more interconnected to several internal processes of the buyer (logistics, financials, production, R&D, and so on). Mandják and Simon (2004) explain how these business relationships can be measured from socio-economic perspective, on different levels of the value creation. El Sawy et al. (1999) introduced a model with seven stages (Figure 11.). They quote the example of a wholesaler in the industrial electronic components industry and explain how the online supplier-customer relationship transforms from transactions to cooperation (in Hungarian see Kápolnai et al., 2002:37).

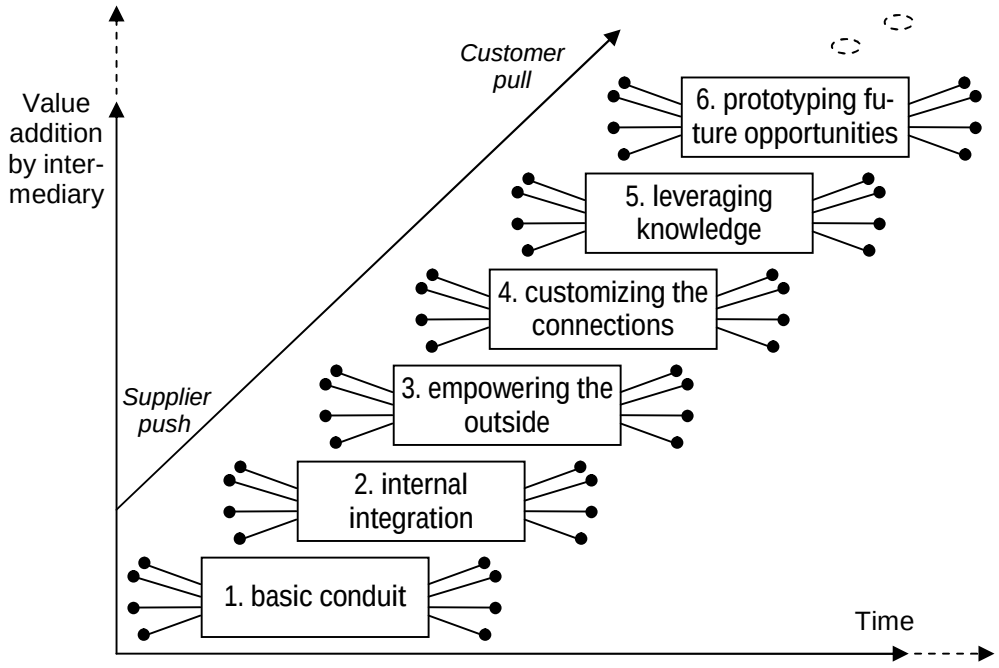

Figure 11: Transformation of the B2B e-commerce
(Source: El Sawy et al., 1999: 329)

Utilities: Infrastructure and Supporting Services

In the second half of the 1990s, the effect of the Internet was primarily looked for in the domains of commerce and the marketplaces and portals mediating between the customers and the suppliers. That time, only few researches (e.g. Whinston et al. 2000, 2001) emphasized that the IT infrastructure and the supportive service sin the background offers many new opportunities for value creation. Mojzes and Talyigás (2000) mention among the most important direct actors of e-commerce the role of banks, telecommunication, Internet, web design, logistics and authentication. Whinston et al. (2000) separates the infrastructural factors from the applications and Timmers (1998) separates the value chain services (payment, logistics) from the so-called information brokers (authentication, advising). I will summarize the possible model variations with the help of Figure 12 that emphasizes that these value creation opportunities are built upon each other.

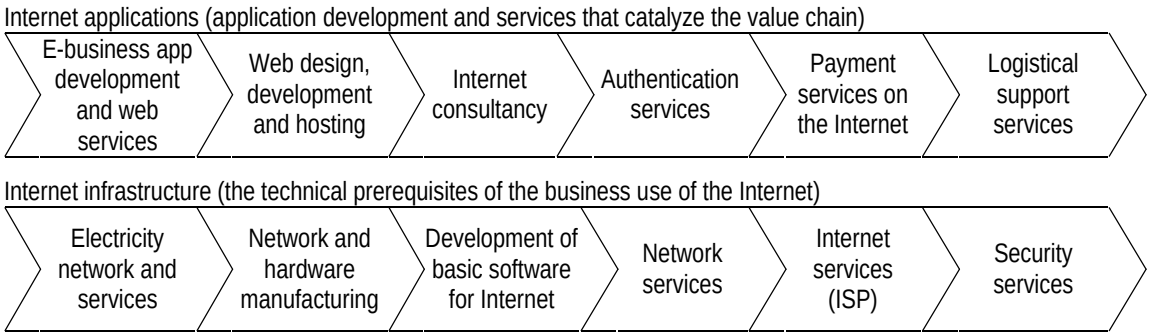

Figure 12: Layers of E-utilities

(Detailed in Móricz, 2000:24, and Móricz, 2001)

Weill and Vitale (2002) distinguished nine domains of the so-called IT infrastructure services and they examined through these, to what extent the enterprises used them during the business use of the Internet. Besides the security services, the services related to architectures and standards, information technology management and application infrastructure (about 90% use). According to the survey of the authors, four-fifth of the organizations "practicing e-business" use research-development, training-teaching, communication and database management services as well. The channel management as an IT infrastructure service only appears in half of these companies. From among these, the communication and training services have been outsourced on the largest scale, but even in the case of "clear" outsourcing, this is only 45 and 40 percent in enterprises practicing e-business.

The "utility" framework model has its renaissance today: Primarily in relation to the concept of cloud computing. This – using an IT metaphor – (in information systems schematics a cloud marks a remote part of the system, we do not have to know where it is) expresses that an increasing number of IT services operate as utilities: They provide constant remote availability, there is no need for specific local devices and the scale can change flexibly (Bőgel, 2009). Services from the cloud replace the purchasing of products more and more frequently. Both in the area of servers (co-location, hosting) and business applications (application service providers) (Kern et al., 2002). Nowadays, more and more argue that beyond the railway, the roads, and the electricity network, the Internet and the online services (browsing, mailing, or even chats, office applications) have also become part of the fundamental infrastructure (like utilities) of the society (Castells, 2009).

In a broader sense cooperation platforms (e.g. online groupware), web developers (e.g. web shop software, framework systems), consultants supporting online optimization (e.g. search engine optimization, web design, incubator houses) as well as service providers supporting the value chain (e.g. express courier service with online tracking, payment and authentication providers) can also be listed under the "utility" model.

Overall, various specific value propositions can be mentioned here, including reliability and availability, benefits from economies of scale or centralization, customization options, or supporting and enhancing business activities.

2.2.2. Architecture models

The architecture model captures the network and the relationships of the actors participating in the value creation. Rayport and Sviokla (1995) emphasize the importance of the cooperation along the information processes, with roles of gathering, organizing, selecting, synthesizing, and distributing the information. Werbach (2000:88) adds that the value creation tends to be executed with specialized actors of the value networks like (1) creators, (2) aggregators, (3) distributors and (4) consumers. Regarding these value webs, Tapscott et al. (2000) distinguish five value contributors:

- Customers, who not only receive the value offered to them, but also contribute to it,
- Context providers, who lead the activities planning and regulating value creation,
- Content providers, who represent the core of the product or service satisfying customer needs,
- Commerce service providers, who carry out transactions with the customers,
- Infrastructure providers, who ensure the IT and physical background (servers, vehicles, real estates, etc.) of the above.

Furthermore, Tapscott et al. (1998) identified five basic types of e-business value architecture models what they call as b-webs (Figure 13). This framework highlights that the value creation can be realized by the classic hierarchy, as well as by self-organizing, with different level of centralized economic control.[14]

[14] Online magazines, for instance, stuck mostly to the "value chain" model originating from the offline world. Another option may be to move towards "aggregation" by including blogs and comments written by a narrower circle of readers. However, there are portal which automatically select weblog entries for the main page on the basis of readers' ratings, which can be described with the metaphor of the Greek marketplace "agora". However, the most popular online encyclopedia, Wikipedia is committed to the continuous unification and cleaning up of entries; therefore, it provides strict supervision over the self-organized authors with minimal hierarchy ("alliance").

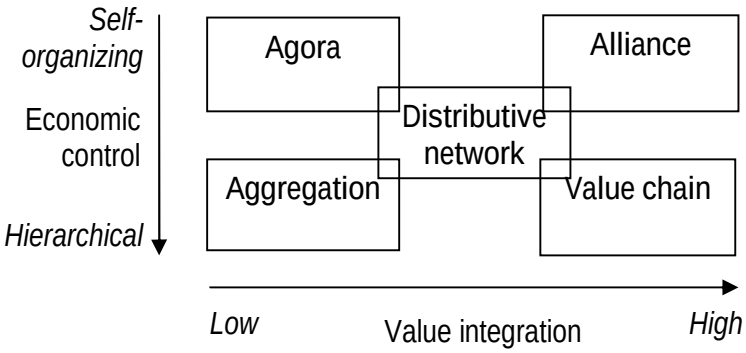

Figure 13: Value Network Architecture Models by Tapscott
(Tapscott et al., 1999:206)

Frameworks from Rayport, Werbach, and Tapscott et al. equally show that the value creation of the e-business models depends on the value proposition as much as on the division of roles between the actors, and the organization of processes in the network of the participants. Mahadevan (2000) explains that the most wide-spread e-business models build on very diverse organization/network models. While the core logic of the direct sales model is easy to capture by its name (disintermediation), portals are considered as third-parties (infomediation), and in case of marketplaces the intermediation is enhanced by additional services (metamediation).

In recent years the most significant changes have occurred not as much in the field of value proposition as in that of architecture. The set of phenomena defined as "web 2.0" in the public language[15] incorporates several trends:

- The Internet as an infrastructure acts as a utility (web services) with the trend of further standardization (open standards, application programming interfaces),
- As a response to traditionally centrally managed and hierarchically structured "production", the cooperation form of self-organized, loose networks emerge (open source communities, wiki communities etc.),
- In these self-organized networks the key principles are the openness, the peering (collaboration with equal rights), the sharing, and the global actions (Tapscott and Williams, 2006),
- There is a strengthening of the "prosumer" role, i.e. the consumer is simultaneously a professional (see also: the wisdom of the masses) and producer (content, evaluation, feedback, etc.),

[15] Although the origins of the term are debated, the use of the term in its recent meaning was introduced definitely by O'Reilly (2005). Web 2.0 is frequently used for a new generation of e-business models (See Nemeslaki et al. 2008a).

– Due the above, both supply and demand may appear within the product portfolio along the so-called "long-tail", i.e. on the fragmented market (although its proportion to the market of "top hits" is questionable).

As a conclusion, e-business models combine three core type of architecture model[16] (in certain amount these are similar to Tapscott's value chain, distributed network, and agora models, respectively):

– Value integration model: Close coordination of vertically integrated, relatively stable actors in order to optimize the value creation and realizing synergies. (Vertically integration refers to a closed system with fixed roles; however, actors are not necessarily integrated into one company.)
– Alliance network model: Network with relatively flexibly changing member organizations that are specialized in some activities. The "glue" of such network is the partnership, i.e. mutual interests and benefits and also accessing special knowledge.
– Community model: This type of e-business model architecture is more open and self-organizing, involves and empowers the wider community. The main objective is to meet the demand more directly, based on the principles like peering (voluntarily), reciprocity, and sharing – the "web 2.0" in common sense.

2.2.3. Revenue Models

There is a common belief that the naming of an e-business model (in this thesis, this is rather the value proposition framework of the model) determines the potential revenue streams as well. As an example, Mahadevan (2000) reviews the core revenue models and refers back to the value proposition variants. According to his approach, in the direct-to-customer model, the larger profit margin over the traditional activities and the pricing strategies are the main components of the revenue flows. Portals and marketplaces generate revenues primarily from mediation or advertisements, in case of marketplaces it is completed by the offset of the exploitation of information asymmetry. The specific "revenue" form, voluntary contribution may appear in all three models. From a different perspective, Applegate and Collura (2000) identified four groups of the

[16] Amit and Zott (2001:514) recommend the analytical framework of the strategic network theory for a more detailed analysis of the architecture model from a different perspective.

typical revenue streams of e-business. In my thesis proposal, continuing their work, I introduced the following revenue categories of e-business models.

- Advertisement fee: In this case, the business model entails a specific triangle in which the advertiser pays for the attention of the recipient partner in hope of a future business between the given partner and them.
- Subscription fee: A flat rate, it is most frequently the price of the provided services expressed in terms of time (possibly as a membership fee); its extreme case is the one-time registration (or participation) fee, which means unlimited "subscription" to some basic service.
- Transaction fee: A source of income depending on the intensity of the use of the value proposition with regard to a certain indicator.
- Affiliate fees: A special blend of the advertising and subscription/transaction fees since the business model allows another business model to partner (which goes beyond advertisement), in return, it receives fixed or proportional fees of the revenue streams of the other business model.
- Sales revenue from products and services: Sales revenue, price or profit margin connected to the unit of product sold or service provided.
- Donations: financial support, donations, sponsorship incomes.
- Group synergy, cross-financing: Income appearing elsewhere, i.e. the profit of the business model emerges in another place (here: at other units of the company group).

Although I argued above that – instead of costs – choices and tasks which induced costs are more important, therefore considering revenue model instead of profit-generation model can be justified, now I add some comments regarding the cost structure of e-business models. There was a common belief before the new millennium, that e-business models are "cheaper" than the traditional business because "you only need a computer and some minimal personnel". In fact, it is the contrary; at the e-business models we have to plan and control the costs more carefully, because the cost categories and their "behavior" may differ from the "regular way". Applegate and Collura (2000:16) highlight the following cost categories:

- People and partner relationships (acquiring, developing and retaining the skills and expertise needed),
- Advertising, marketing and sales (in the online or also in the offline media),

- Business development (launching new business, or setting a joint venture),
- Materials and supplies (goods used in production, including accessories),
- Specialized equipment without IT (investments, including opportunity costs),
- Research and development (designing and implementing digital goods and services),
- Physical facilities and infrastructure (headquarters, offices, factories, warehouses, distribution centers, retail stores, service centers),
- Information technology infrastructure (computers and equipment, operate and maintain databases, design, develop, implement and maintain software, operate and maintain network).

It is to be noted that the harmony between the cost structure and the revenue streams is just as desirable in the case of e-business models as otherwise. It is hazardous to maintain a system operating with high fixed cost rates exclusively from transaction fees, or there should be a clear concept at least about achieving the break-even point. On the other hand, the expansion possibilities of models operating with significantly size-dependent costs can be considerably restricted by fixed revenue streams (subscription fees, donations). It is also a fact that e-business models can rarely break through the pricing conventions; thus, the selection of the potential revenue streams often is very narrow indeed (e.g. it is hard to persuade the readers to pay for the online versions of the newspapers).

2.2.4. Summary of E-business Models

My goal with the description of e-business models in this chapter was to enable the presentation of the business models of organizations operating in practice with the components of the models, in a unified system. In doing so I prepared a short description for the individual types or variants and spelled out further definitions and classifications. As part of the (general) business model approach, the methods and schemes introduced there are also applicable here. Selecting from these the three fundamental components of business models – value proposition, architecture, revenues –, within these components, I designed a classification relevant to e-business models (Table 7). As I am going to show it in the empirical research section, any of the components may change during the evolution/adaptation of the business model; thus, these possibilities can be regarded as the building blocks of e-business models.

Nevertheless, it does not replace the role of mapping of the value network or the internal cause and effect relationships.

Value proposition: framework model	Architecture model	Revenue model
§ Portal § Marketplace § Shop § Utility	§ Value integration (group-wide) § Network alliance § Community	§ Advertising fees § Subscription fees § Commission or transaction fees § Affiliate and referral fees § Product/service sales § Donations § Group-wide synergies

Table 7: E-Business Model Components Set
(From author)

In practice, an e-business venture can select a unique set of these elements/blocks. Obviously, these options are not mutually exhaustive; moreover, it is often reasonable to combine more variants of the model components. Along the value proposition, basic frameworks of value proposition can be combined: A portal may include a marketplace or provide infrastructure services for example. Moreover, the architecture part of the business model rarely equals to one type of the architecture models described above. In practice, a unique mix of value integration, network alliance, and community movement arise. Third, the revenue model combines several revenue streams usually. In my research I found that the value proposition framework does not determines the architecture that creates the value. Table 8 gives international e-business examples on all of the theoretical combination of the four value proposition framework and the three core types of architecture.

Model	Value integration	Network alliance	Community
Portal	CNN.com, WSJ.com, Britannica Online	Hulu.com, Google Monopoly	Wikipedia, Twitter, Youtube, Digg
Marketplace	Alibaba, Chemconnect, Bizmarket	Covisint, Shopping.com	E-Bay, Priceline
Shop	Tesco.com, Buy.com	Dell, HomeDepot	iPhone App Store
Utility	Adobe Flash, PayPal, MS Windows	OpenID, Skype, OpenSocial	Mozilla Firefox, Kiva, FON

Table 8: Examples for Constellations of Value Proposition Frameworks and Architecture Models
(From author)

For instance, content providers producing the majority of content “in house”, such as the online versions of major media corporations (e.g. CNN, Wall Street Journal) or Britannica Online, can be listed under the “portal” framework model. There are portals which emphasize alliances and operate in partnerships: Hulu.com collects the videos and TV serials of NBC, Fox and ABC among others while Google Monopoly City Streets is a one-time ally of Google (online world map), Hasbro (Monopoly license), and Tribal DDB (online game developer). There are several examples of community based content providing: Wikipedia (encyclopedia), Twitter (microblogs), Youtube (originally: users’ videos), Digg (content recommendation).

The “marketplace” framework model used to gain popularity with numerous independent actors, many of which, however, have since been ceased (e.g. Ariba, CommerceOne, Chemdex) – examples still on the market today are Alibaba.com or B2Bvector (B2B platform), Bizmarket (Australian MRO marketplace for small- and medium-size companies), ChemConnect and PlasticsNet (industry marketplaces). Today marketplaces founded on the partnership of dominant actors seem to be more successful: For instance, Covisint (started out as the unified procurement market of GM, Ford and DaimlerChrysler), or Shopping.com (the gathering place for B2C web shops; a more prominent example is the Hungarian Fotexnet). E-bay (online C2C bidding) or Priceline (C2B marketplace) are examples of the marketplace relying on the community.

As value-integrative architecture within the “shop” framework model, the online shop of Tesco or the store of Buy.com can be mentioned. Others line up their partner network behind the shop: Such are Dell or HomeDepot (the order simultaneously mobilizes the supplier network as well). As opposed to this, in the iPhone AppStore iPhone software developed by the community are purchasable and Amazon also relies strongly on the community when enhancing the value of its store by collecting evaluations and experience or distributing the second-hand books of users.

One part of “utilities” can be associated with a company or integrated company group (Adobe Flash, PayPal online payment system, Microsoft Windows operating system). Other utilities are based on partnerships: E.g. OpenID supported by Facebook, Google, IBM, Microsoft, PayPal, VerySign and Yahoo!, or the OpenSocial standard for APIs developed by Google and MySpace (TimeWarner), while Skype formed alliances with a series of service providers. At the same time, the role of the community should be emphasized for example in connection with the browser of Mozilla Firefox

(community add-ons, extensions), while Kiva mediates community donations or investments for online start-ups, and FON is the global community of sharing Internet access on a wireless (WiFi) network.

In summary, the building blocks of an e-business model are different value proposition frameworks, realized by different architecture logics, and sustained by a mix of the potential revenue streams.

2.3. Focus of the Analysis: Approaches of the Context of the E-business Models

In the last one and a half decade several new or renewed theoretical concepts evolved in order to explain the conditions or settings of the (successful) realization of e-business models. In my Ph.D. research I try to identify the key factors that shape the evolution and the implementation of e-business models. In this chapter I will focus on those theoretical approaches I found to be widely accepted in the literature, as justified approaches for understanding e-business. Because I provided a more comprehensive overview of the literature background in my thesis proposal (see Móricz, 2005, and as a "table of content", Table 9 below) now I focus on those that are important in order to answer my research questions.

E-business relevant economic, business and management literature	E-business-focused literature
§ Value chain analysis (3.1.2) § Neo-institutional economics, transaction costs, electronic markets (3.1.1-3.1.2) § Industry life-cycles, (strategic) innovation, diffusion theories (3.1.3, 3.3.1) § Research on management fads (3.3) § Strategic and dynamic networks (3.1.2) § Strategic information systems (3.1.4) § Social network theory (3.1.2) § Business model analysis (3.2)	§ Value networks: role of intermediation and partnerships (1.3, 3.2.4) § Network economics (1.2-1.3) § Information economics (1.2) § E-business models (2.) § Defining and measuring the Internet economy (1.1) § Strategy and the Internet (1.4) § Knowledge Economy (1.1-1.3, 2.5)

Table 9: The Theoretical Background Detailed in my Ph.D. thesis proposal (with reference to its chapter numbers)

In line with my empirical analysis, I cover the relevant literature background in five blocks. These blocks are representing theories and approaches as the nodes of key issues in e-business, referred later in my empirical findings.

- Social embeddedness (capturing e-business with definitions and theories, technology assimilation, actor-network theory, system thinking, social capital).
- Information technology and competitive advantage (economics of information, strategic information systems perspective),
- Transactions, knowledge, and partnerships (institutional economics, transformation of value chains and networks, core and dynamic capabilities, patterns of use of knowledge, strategic networks),
- Critical mass and trust (network economics),
- Strategic innovation (business policy, Schumpeterian innovation).

2.3.1. Research on Social Embeddedness

In this chapter I focus on the theoretical background of the research of socio-economic embeddedness and how it leads to the comprehension of e-business models. First I present the general theories of embeddedness, and then I explain the theoretical approaches of e-business models. The latter issue provides a broader context of e-business models, though it interacts and interweaves with the comprehensive system of society, economy and culture itself.

Above, I defined the e-business models as the system of value creation, technology, individuals and organizations. This definition fits to Latour, Callon and Law's actor-network theory that it considers the business models as the interacting network of human, material and institutional elements. However, the actor-network approach points out that this network itself is active in one or more networks. In addition, the actor within the network is not necessarily separated: The limits become indistinct and rather than pondering alone, it acts collectively with the other elements of the network (Latour, 2005; critical summary in Hungarian: Szabari, 2007; about following patterns on the Internet see Szabó and Hámori, 2006:62). Consequently, the evolution of business models (as an action) is a more important issue than the composition of one business model itself.

Although Latour (2005) does not distinguish between technological and human components, the evolution of e-business models is closely related to the relationship to technology. This relationship is defined – according to the institutional approaches – by norms, cultural context, historical background and regulations (Orlikowski et al., 2001). The proliferation of new technologies had accelerated constantly in the past one and a half centuries according to various surveys (Cox and Alm, 1997a:22). During the time of adapting to innovation people had acquired skills that established the possibility of the application of further new technologies (Nemeslaki, 2004:19). Companies on the different levels of technology assimilation (innovators, early adopters, early majority, late majority, laggards) encounter different business opportunities (Rogers, 1962). Moore (1991) points out that the widest "gap" lies within the early adopters and rest. The first step in surmounting this gap is to conquer a narrow market, he suggests.

Kumar, van Dissel and Bielli (1998) analyzed the history of the inter-organizational information system of Prato textile manufactories. They discovered that the events can be explained – besides technical-economic and socio-political perspective (Kling, 1980) –, a third way called "third rationality". The key concept elements of this third rationality are trust, social capital (Fukuyama, 1995) and cooperative relations. This is essential from the point of my empirical research. In connection with this stands the approach of system thinking (primarily elaborated by Hughes). This concept redefines the process of social embeddedness of technologies by introducing the definition of "momentum". This is the point where the technology is so prevailing that it reacts upon the society, transforming it (Hughes, 2000). (The fact, that Latour criticizes the approach of the society, exceeds the focus of present thesis.) The theories of social networks are related to this approach. The essential characteristics of the Internet – i.e. that it is a global, open, standard and scale-free network environment – strengthen these characteristics in the social relationships as well. For example, Kumar and Zhang (2007) showed how the network approach can be used to understand the marketplaces of the Internet. Their analysis on the user database of the E-bay auction portal showed that networks evolve on other principles than geographical location or the marketplace visibility: centrality and relationships are driven by the dynamics of the social network, often independently from the location and the visibility. About the dynamics of these networks, the above mentioned scale-free nature describes that the number of elements rise and the number of relations shrinks exponentially from the largest network hubs to the smaller ones (Barabási, 2002). Many consider this as the principle of the new global environmental context of doing business.

In my Ph.D. thesis I call this innovative, global, information and knowledge based network environment that is based on the Internet as the context that determines the successful realization of e-business models. Many similar definitions are used in the Hungarian and international literature. New economy, a popular name a decade ago faded by querying its novelty (see my Ph.D. thesis proposal, Chapter 3.1. and 3.3.). The definition Internet economy gathering all business opportunities related to the Internet can be criticized due to its sector-focused tone (Whinston et al., 2000). The terms of digital economy or information economy (Tapscott, 1998, Szabó and Hámori, 2006), network economy (Shapiro and Varian, 1998), Nemeslaki 2004) and knowledge economy (Drucker populated this already before the emergence of the Internet) are used nowadays as synonyms because the different phenomena – globalism, digitalization, networking and the growing importance of knowledge – became the substantive (but not exclusive) feature of the economy and the society. Not criticizing any of these terms, nowadays a "diffuse" term usage is justified: The infiltration of the e-business in the "traditional" economy or sector is emphasized. The economy becomes more and more Internet, information, knowledge or network based in a growing number of industries.

Further dismantling of e-business – using the approach of the Texas University – shows that the core of the business opportunities is the infrastructure: The information and communication technology (ICT) sector that is more and more considered as a utility. Three more layers are relying on this: the applications, the intermediators and the transactions (Whiston et al., 2000 and 2001, see Appendix 6, Figure 41). E-business is not limited to the business sphere; it appears in relation to individuals and public administration (about B2B, B2C, C2C, etc., see Appendix 6, Figure 43). Mixed cases of online (Internet) and offline (personal, physical) elements constitute as the part of the definition as well. The product can be digital or tangible, while the process is informational or physical, the "actor" is online or present in person (Appendix 6, Figure 42). Finally, as the e-business refers to the Internet as a basic infrastructure it is not attached specifically to any device (Internet-connected computer, cell phone, terminal, e-book, digital audio player etc.)

The particular context of the e-business, the specific set of macro-level[17] phenomena can be summarized as follows (Tapscott, 2001, Czakó, 2003, Szalavetz, 2004, Tapscott and Williams, 2006):

- The information technology penetrates into every segment of the economies, resulting in a new infrastructure of value creation. By the end of the first decade of the new millennium the Internet evolved to being the infrastructure of the society itself (Castells, 2009).
- As a consequence, the economic activities are more intensively allocated to smaller units; the networks/organizations becoming more "horizontal" make the boundaries of enterprises and industries fluid.[18] The importance of the geographical boundaries decreases, strengthening the internationalization and the globalization as a consequence.[19]
- New sources of value like the human capital, or the knowledge contribute to an increasing proportion of the value of the goods traded.[20] The shortening of product life cycles continue to accelerate.[21]
- Therefore, the role of the research and development and the education increases. New teaching and learning models appear and R&D becomes even more "networked". Both area, supplemented by government interventions (central projects, e-government, e-democracy), provides a catalyst of the macro-level processes listed above.

However, Fekete (2004) highlights some contradictions between the "rhetoric" and the reality. He notices: "With the appearance of the World Wide Web, many have seen to come true the utopias that […] the global network communication […] will create the opportunity for an almost limitless growth, the knowledge- and information-based production, the increasing efficiency, and the perfect competition of the

[17] I will turn to the micro-level context of e-business in the next chapters, these are: The assumptions on the economics of information (Chapter 2.3.2.), the transformation of the architecture of the value creation (2.3.3), the network economics (2.3.4), the reinterpretation of strategy by speed (2.3.5).

[18] This process is sharply visible in the automotive industry. BMW does not have its own production capacity eventually; competing automotive companies form alliances to common R&D of some parts, and the suppliers are organized into a multi-tier system.

[19] This theoretical assumption is questioned by legal and strategic issues in practice. Think about the video sharing portals or the online radios that limit their services to the geographic territory of the U.S., or the business policy of companies like Apple, or Amazon, that hesitate to open their online stores in several European countries.

[20] BMW estimates that, in the near future, 90% of its development activities are expected to focus on software and electronics (Tapscott and Williams, 2006). Yet, the ambitious prediction of General Motors said before the new millennium, expecting that by 2010 the company's main revenue driver will be the commission on the online transactions carried out in the car (location-based services, purchasing), does not seem to be realized.

[21] Think about not only the cell phones getting obsolete in two years, but some financial instruments offered by the online brokers to be available for a few hours only, as well.

microeconomics". By contrast, he adds, in reality we experience the unilateral extension of property rights, the creation and growing protection of new monopolies, all in all the strong limitation of digitized and accessible contents. This is not a surprise considering the literature that agrees that – compared to the former approach of technology determinism – the dominant actors try to shape the new technology according to their own interest, using the IT to sustain the status quo (Drótos, 2001).[22]

Macro-trends in e-business, despite the promise by globalism, do not occur in the same rate in the different regions, economies. The infrastructural perspective that is closely related to the key assumption of social embeddedness shows that these differences evolved as the result of the different development pace of several factors. Since 2001 the Economist Intelligence Unit evaluates the position of 60 to 70 countries by six indicators from the viewpoint of e-readiness. The higher rate of an index always means more favorable e-business environment. The six indicators summarize the environmental dependencies and social environment raised in this chapter. As a preface to the introduction of the results of my research I use this approach in Chapter 4.1, as the matter of this conception is that e-business models relate to the following factors in a decisive (mutual) way (Economist Intelligence Unit, 2001):

- Connectivity and technology infrastructure (Internet and mobile penetration, broadband affordability, international Internet bandwidth, Internet security),
- Business environment (political and macroeconomic environment, economic policy, tax regime, financing, labor market),
- Social and cultural environment (educational level, Internet literacy, technical skills and degree of innovation, degree of entrepreneurship),
- Legal environment (transparent and effective legal framework, laws covering the Internet, level of censorship, electronic ID),
- Government policy and vision (government ICT spending, e-government strategy, online public services and procurement),
- Consumer and business adoption (consumer ICT spending, Internet usage patterns of citizens and businesses, use of online public services).

[22] Due to the above mentioned basic characteristics of the Internet, however, it is far not clear if this endeavor will be successful. A perfect example is the situation of the traditional media companies (Reuters, 2009). The leaders' statements are about making the online content subscription-based. Rhetoric in this case is an instrument for conviction to change the public opinion that the content on Internet is free of charge. In the meantime, however, another generation of entrepreneurs "grew up" that is interested in the free Internet. It seems like that Google as the leader of this generation is able to shape the "rules" to his own vision in any industry (see the case of navigation industry: Wortham and Helft, 2009).

2.3.2. Research on the IT and Competitive Advantage

In the case of the e-business models, information technology plays a key role. That calls for the analysis of two theoretical approaches: the information economics, and the research on IT and competitiveness.

It is known as a basic assumption of the e-business context that the information process becomes detached from the physical processes, resulting in a separated business opportunity (Rayport and Sviokla, 1995, Evans and Wurster, 1997, Shapiro and Varian, 1998, Szabó and Hámori, 2006). Traditional physical processes follow linear process through intermediaries. However, with the help of the World Wide Web, everything and everyone becomes connected with one another (viz. along interoperable communication standards), thus information can move directly and freely. The deeper analysis of information as a specific economic good focused the attention to the interconnectivity.

The production (acquisition, creation) of information is regularly expensive, while its reproduction (copying, forwarding) is cheap. And generally, it does not encounter capacity limits (Shapiro and Varian, 1998). However, the facility of copying makes the defense of information content as a property more difficult.[23] It follows from the cost structure of the information products – high fixed and low variable or marginal cost – that the cost-based pricing is problematic. Instead, the perceived customer value is the starting point, that value can vary from customer to customer and it can be driven by diverse sources (e.g. entertainment, business use), though. This leads to the varying forms of price discrimination, Shapiro and Varian (1998) argues.[24]

The other characteristic of information is that it is a so-called experience product, because consumers will only get to know what it is worth for them when they "consume" it. Therefore, convincing the consumer of the value of the information is of essential importance. One way of doing this is to publish a part, i.e. a limited version of the information, but this can cause tension with the price of the full information that has to cover the fixed expenses of the production. The other way is to establish the reputation and the acceptance of the producer, mainly based on the brand(ing).

[23] Not every information content is under protection of property. Kelen (2004) exactly mentions the rebirth of the notion of undivided common property among the determinant phenomena of the new economy. That is, the fortunately enriching informational public property, the free software, the parts of the electromagnetic spectrum distributed "outside" the frequency economy, the informational public utilities and even the "information freedom" by the trial versions of legally protected contents.

[24] Shapiro and Varian (1998) discuss the personalized pricing, the creation of product variations (versioning), the separation of consumer groups in detail, while Varian (2001) adds the pricing issues of product bundling. The literature details the role of the dynamic pricing as well (Geoffrion and Krishnan, 2003, Applegate and Sasser, 2000), in Hungarian: Kocsis and Szabó, 2002).

Finally, the growing quantity of information can come up against a special limit of capacity and this scarce resource is the attention. According to the argumentation of Davenport and Beck (2000), this is an additional economic good that can be bought and measured. Schmid (2001) regards scarcity the communication (towards the consumers) in the same sense. While the "physical" side of the designing and the introduction to the market of a new product became cheaper, the "implementation" into the thoughts of the consumers is more costly than ever before.

The production and the consumption of the information meet where the richness and the reach of the information are traditionally inversely proportional. The former means the quantity, the customization, the interactivity, the reliability, the security and the actuality of the information. The latter means the audience that one can access with the information, that is, width of the targeted group (Evans and Wurster 2000). There is a popular argument that the traditional trade-off between the richness and the reach of the information "blows" in the e-business (Figure 14.). The explosion of connectivity and the dissemination of content standards enable both enhanced richness and broadened reach at the same time (Evans and Wurster, 1997, Ordanini and Pol, 2002).

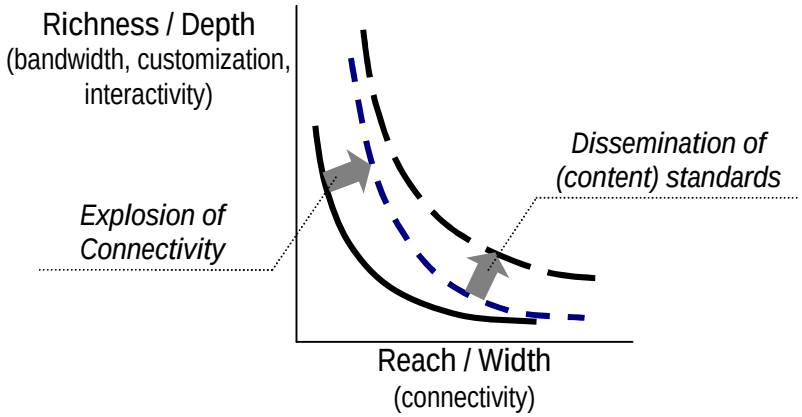

Figure 14: Trade-off between the Richness and the Reach of Information
(Based on Evans and Wurster, 1997:74 and 2000:31)

The even cheaper and faster data storage, transfer and processing (about the so-called Moore's Law, and Gilder's Law, see the summary of Kettel, 2001), supported by the open network and the spread of the Internet enables the distribution of a unit of information with a wider reach. The content standards like the TCP/IP protocol, the web browsers, or the XML, contribute to the enrichment of the transmitted information. As a consequence, the costs of mass customization and the one-to-one marketing diminish.

It is still debated whether the information business separates from the "physical" one. While promoting the blow of the richness and reach trade-off, even Evans and Wurster (2002) show examples that the success in the information business can be realized through the right decisions on the most crucial material processes (e.g. Amazon's logistics). On the other hand, even more businesses become "physical plus informational" business, as the information intensity of the industries is extensively growing. However, information intensity has been long examined for example by the researchers of the strategic information systems.

Porter and Millar (1985) classified the industries with the help of a two-dimensional matrix. Besides distinguishing the information intensity of the product and the value chain they point out that it is possible to acquire competitive advantage by information technology (Hungarian surveys: Balaton, 1988, Drótos and Nemeslaki, 1992). With the usage of information technology (IT) industrial bargaining positions can be changed. Such innovations can be introduced that force the competitors to introduce similar systems, or even brand new business opportunities can be opened up.[25] The researches on the strategic effects of IT provide experiences that are useful in the e-business as well. According to Parsons (1983) the information technology – moreover, I added the key issues regarding the Internet in brackets – on the business level transforms:

- The nature of products and services (cf. information products), the product life cycles (cf. "Internet time"), the efficient frequency of distribution (cf. reduction of order quantities),
- Size of market (cf. new product and service markets), depth of segmentation (cf. mass customization, one-to-one marketing), geographical spread opportunities (cf. market expansion, world market "at a click"),
- The economic production quantity (cf. custom manufacturing), flexibility and the role of the standards (cf. modular production), and the barriers to entry (cf. their expected disappearance).

The phenomena appended in the brackets show that by using the Internet strategic information systems (competitive weapons) can be expected to appear – according to Wiseman's (1988) classic definitions – that helps companies change or otherwise alter their business strategy. This happens especially in industries considered to be in the

[25] According to Sambamurthy and Zmud (2000:109), the IT-based competitive advantage is enabled by one or more of the six key IT capabilities: Value innovation, knowledge work leverage, IT-enabled business platform, operational excellence, value-chain extension, solution-delivery.

“transforming” or in the “strategic” segment of the strategic grid model by Cash, McFarlan and McKenney (1992). In “transforming” industries the contemporary use of IT has not a strategic effect, but it is expected to be a competitive weapon in the near future. In the “strategic” segment of the grid the strategic effects of IT renew constantly (see more in Nolan and McFarlan, 2005, and, related to the Internet, Kápolnai et al., 2002). According to the general view of the 1980's, sustainable competitive advantage can be reached by using information technology. Nowadays three forms of strategic information systems are distinguished, based on the sustainability of the competitive advantage it contributes:

- Sustainable competitive advantage concept. According to this concept, it is possible to sustain the competitive advantage even in the long term, for example by using the first mover strategy, by creating switching costs for the partners (resulting in lock-in), by profiting from the network effect, or by establishing “organizational memories” (Drótos, 2002). Amazon's web store is utilizing these tactics. As the first company on the Internet it is still one of the most widely known web brand, and by gathering information of its customers the web store can offer such customized services that the competitors cannot provide. As a widely known brand Amazon transformed the network of its customers to a community, and develops itself constantly by finding out the habits of the customers.
- Contestable competitive advantage concept. In terms of this concept the IT based competitive advantage is temporary and new developments are required in order to extend it (Scott-Morton, 1991, Brady et al., 1992). The competitors probably copy these developments; furthermore by learning from the mistakes of the first system (and by using cheaper technology) they can even succeed the original company. For example, a Hungarian leasing company introduced an on-line actuary system for cars so that the customers could send the data directly from the car dealership. The company answered with the deal in a short time so the customer usually did not wait for the proposal of the other offline companies. However, the competitors have soon made a similar solution, therefore to keep the competitive advantage constant innovations are necessary.
- Competitive necessity concept. Information technology in this concept has a strategic importance in the organization; however, the use of IT is a standard among the competitors as well. None of the companies is able gain competitive advantage although none of them can waive the usage of informatics (Drótos, 2002). An

example for this is the spreading of online bank services in Hungary. The new channel transformed the function of the bank sector, although it did not provided any introducing company with competitive advantage because most banks established their similar service in a short time. However, any company that would not want or not be able to meet this strategic necessity would have been at a disadvantage.

The literature of strategic information systems directs the attention to the planning and the implementation of the systems as well. The developed methodology (for example Lederer and Sethi, 1988, Galliers, 1991, Chu, 1995) and the organizational principles (for example Ciborra, 1994, Aral and Weill, 2007) function well in the case of the e-business initiatives as well. Hooft and Stegwee (2001:45) rearranged the rational methodology to the e-business environment. Several examples for the application of the traditional strategic planning and strategic information system planning frameworks can be found in their article. Besides the formal methodologies, however, the organizational and behavioral principles can have at least the same role (by using Cibrra, 1994, Drótos, 2002, 2007):

- Monitoring the technology of best practices (e.g. the Hungarian new portal Index continuously analyses the international experiences with the implementation of new trends like blogging, photo-sharing, video watching, social networking etc. to the news portals),
- Enabling the "fabrication" with existing tools and knowledge (Google is famous on their policy of devoting the fifth of the working hours to autonomous hobby projects that serve as a creative pool for Google's future official developments),
- Leveraging successful local initiatives for extensive implementation with strong management support (the Hungarian Bookline noticed that their system that is successful as an online antique book store can be extended and applied to the new book market as well),
- Maintaining an innovative organization culture (the Hungarian Post Insurance introduced the online selling based on the fact that their workforce consists of advanced IT users who use Google Calendar for organizing meetings for example).

2.3.3. Research on Transactions, Knowledge, and Partnerships

In parallel with the emergence of the e-business, new patterns of value creation evolved. In this chapter I introduce the value chain approaches and the relevance of the transaction costs theory. These to provide the basis for understanding the conclusions like the increasing importance of knowledge and partnerships, and the emergence of the value networks.

The literature traditionally considers the value chain as the basic model of value creation where primary and support activities can be distinguished (Porter, 1985). By linking the value chains to each other a chain will be developed, a chain from the materials to the consumer called as supply chain by Oliver and Webber (Reingoldt, 2001).[26] The fundamental explanation of the organizational boundaries that evolved along the supply chain was given by institutional economics. According to Coase (1937) the role of open market exchange was taken by the intra-organizational coordination (hierarchy) because the transaction costs are reduced this way. While the in-house cost of production can be higher, but Coase pointed out that technologies such as telephone or telegraph make the coordination profitable within geographically extensive organizations (Ticoll, 2001). 2009 Nobel award winner Williamson (1975), the founder of transaction cost theory analyzed the role of production and transaction costs[27] in relation to the choice between market and hierarchy, the two extreme ends of coordination of activities. Hierarchy is basically described with higher production and lower transaction costs than market (Williamson, 1975). However, between these two extremes many intermediate forms can be found in literature. Williamson focused on the long-term contractual relationships as well (quoted by Kieser, 1995), Powell (1990) drew attention on the characteristics of the networks (see more Angyal, 2003), and Gulati (1995), after examining the strategic allies, added the quasi-hierarchy and quasi-market structures to the concept (an overview of strategic alliances in Hungarian: Tari, 1998). Dobák (2008) examined the importance of the processes that cross the

[26] Makó et al. (2003) analyzed the digital value chains of the "new economy" through the business model methodology in six region of the European Union.

[27] The production costs emerge with the manufacturing of the exchanged goods and services, while the transaction costs emerge during the execution and organization of the exchange. A part of the transaction costs arises ex-ante (information collection, negotiation, costs of the contract), another part aims at the maintenance, security, control or modification of the contract (Kieser 1995). The level of costs related to the execution and acquisition of the transactions is primarily influenced by three contractual factors: the frequency of the transactions, their uncertainty and the transaction-specific investments (Williamson, 1975).

organizational boundaries.[28] Adler's (2001) model (with the help of Ouchi, 1980) points out that at the intermediate forms besides the prices and the power, trust plays an important role in coordination and control (Figure 15, left). Clemons and Row (1992) separated ownership and coordination. According to their reasoning control (coordination specifically) of the activities is sustainable with the development of IT as an intermediate form, even by giving up the ownership (Figure 15, right).

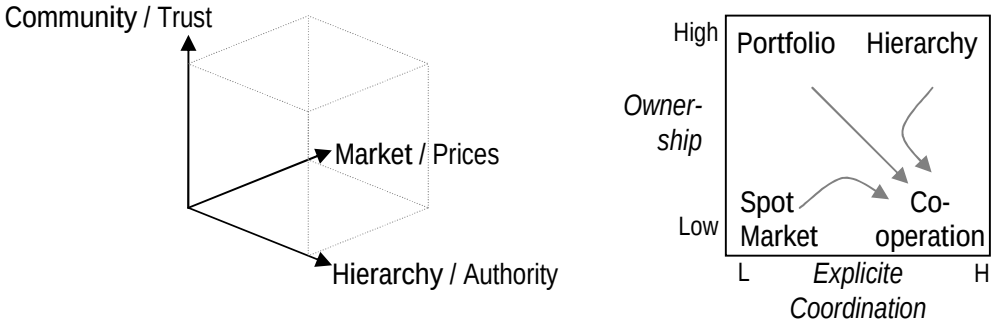

Figure 15: Classification of the Types of Transaction Government

(Based on Adler 2001:219 [left], Clemons and Row 1992:22 [right]; see also Riemer et.al. 2002)

Malone, Yates and Benjamin (1987) introduced, Bakos (1991) further elaborated the concepts of the electronic market and electronic hierarchy.[29] According to them, "by reducing the cost of coordination, information technology will lead to an overall shift toward proportionately more use of markets – rather than hierarchies – to coordinate economic activity" (Malone, Yates and Benjamin 1987:484). On the theoretical basis of the institutional economics, several authors argued that the Internet lowers the transaction costs (Benjamin and Wigand, 1995; Rayport and Sviokla, 1995, Dyer, 1997, Strader and Shaw, 1997, Sarkar et al., 1998).[30] Based on the analysis of the potential consequences they formulated different conclusions. On the one hand, the literature draw attention to the role of the intermediators (the "middlemen"), and to the deconstruction of the value chains on the other.

[28] The model provided by Afuah (2001, 2003) reveals that the Internet affects both the horizontal and the vertical boundaries of the organizations, while lowering both the production and the transaction costs in general. It is a question still, whether it results in smaller organizational sizes or extended organizational boundaries. The answer depends on, Afuah argues, the information intensity of the activity, the programmability of the value creating processes, and the organizational technology (interdependences).

[29] By examination of classic inter-organizational information systems with strategic effect, they supposed that the electronic markets follow stages like biased, neutral, and customized, while the electronic hierarchies start with separated databases and processes to be integrated as a second stage, and shared in the third (Malone et al., 1987).

[30] See Amit and Zott (2001) about the limitations of the adaptation of these theories to the e-business. See Kumar et al. (1998) about how these theories are related to the information technology, the trust, and the social capital. Grover and Ramanlal (1999) provided a remarkable summary on the further "myths" of the IT-market relationship.

In the industries of the twentieth century, the actors that were filling some kind of an intermediary role between two activities were ordinarily found in the supply chains. To the services of these intermediaries belong the product information, the customization, the quality assurance, the lot size adjustment, the one-stop shopping convenience through maintaining assortment, proximal and temporal availability, after-sales service, and logistics (Rangan et al. 1992 quoted by Sarkar, Butler and Steinfield 1998). The concept of *disintermediation* was already used in the 1970s in the banking sector. The above explained characteristics of the e-business context, including the change in the information richness and reach trade-off, or the decreased transaction costs, challenge the traditional role of intermediaries[31], but encourage the entering of new intermediaries at the same time[32] (Strader and Shaw, 1997, Sarkar et al., 1998, Evans and Wurster, 2000, Gallaugher, 2002). In the literature, several new terms arose considering these new types of intermediaries.[33] In my Ph.D. thesis, all of the three empirical case study show example on a certain type of online intermediation. Driving forces, functions and types of the online intermediation are summarized in Table 10.

NEW (INTERNET) INTERMEDIARIES		
Driving forces	Functions[34]	Types
§ Abundant Connectivity § Common Information Standards § Infinite Choice § Negligible Searching and Switching Costs § Fluidity of the Combination of the Participants § Lack of a Dominant Center § Adaptability of the System	§ Repository of Information § Compare and Search Capability § Validating the Accuracy of Information § Evaluation and Advice § Authenticating the Identities of Participants § Providing a Payment System § Guarantee the Performance of One or Both Participants	§ Software Programs § Databases § Evaluators § Search Engines § Trusted People

Table 10: Overview of the characteristics of the new (Internet) intermediaries

(Compiled from Evans and Wurster, 2000:64–65,108–109,239)

[31] Typical examples were the Dell Computer with its direct sales, or Charles Schwab selling its financial products by bypassing the banks and the brokers.

[32] Sarkar, Butler and Steinfeld (1998) reveal: Although the direct selling became cheaper because of the decreasing channel costs, this advantage cannot be exploited as long as the same happens to the intermediaries who are in better position to further decreasing the transaction costs.

[33] The name *cybermediary* (Sarkar, Butler and Steinfeld 1998) emphasizes the difference from traditional intermediaries, while in the concepts of *navigator* (Evans and Wurster 2000, Evans 2000), *aggregator* (Madnick and Siegel 2002) and *syndicator* (Werbach 2000) the idea of collecting and presenting information appears. The expression *infomediary* is used with similar meanings sometimes, and the term *hypermediary* (Carr 2000) exists as well. Among the pre-Internet classifications of the IT-based intermediation think about Konsynski and Warbelow (1988) who distinguished marketing, logistics, virtual, and industry platform type of systems (Antal-Mokos et al., 1996).

[34] Also see: Sarkar, Butler and Steinfeld (1995).

Beyond the role of the intermediaries, another set of the conclusions regarding the value chains in the e-business emphasizes the deconstruction of the value creation processes. That is, organizations increasingly focus on a specific part of the activities. The deviation from the "perfect market" as it is described by the neoclassic economics is materialized in frictions (e.g. information asymmetry) that damaged the efficiency of the economic transactions. Argumentations based on the institutional economics explain that these frictions had a decisive role in the twentieth century in the formation of dominant forms of organization such as vertical integration (the internalization of the relations, that is, the transactional costs) and the intermediaries (e.g. wholesalers who decrease the searching costs of the manufacturers and the retailers). Evans and Wurster (2000) argue that, with the decrease of the transactional costs and these frictions, the integrated value chains "blow to bits" (deconstruction of the value/supply chains). As a consequence, the coordination and the communication with the market players specialized for smaller and smaller activities become profitable.[35] Given that every small element of the supply chain is an independent market, the organization that can the best manage that specific part of the task – by means of its core competencies – gains the competitive advantage.[36]

The specialization of the organizations is justified by three theoretical approaches. Core competences refer to special expertise and core activities built around that secure competitive advantage for the organization (Prahalad and Hamel, 1990). By introducing the concept of dynamic capabilities, Teece et al. (1990) emphasizes the process of learning, the acquisition, the development, the sharing of knowledge and capabilities. There is a relative "rigidity" of core capabilities (these could be changed very slowly and dearly), therefore the capability of the dynamic adaptation of the capabilities is crucial (regarding the Internet portals, Rindova and Kotha (2001) provided a detailed explanation). Therefore, the research based view of the firm (Wernerfelt, 1984, Grant, 1991, Barney, 1991, Amit and Schoemaker, 1993) became even more important in the

[35] Here relates the concept of Esther Dyson (Electronic Frontier Foundation), namely that scale is irrelevant (quoted by Coltman et al., 2001): Because the organizations along the supply chains focus on even smaller and simpler parts of the processes, the former advantages of economies of scale become a burden.

[36] In many industries, this deconstruction has already happened earlier. In the film industry, for example, in the first, and in the financial sector in the second half of the twentieth century (Evans and Wurster, 2000). The social capital within an industry plays a key role, as shown in the example of the textile manufacturing region Prato (see Malone and Laubacher, 1998, Kumar et al., 1998). Nowadays more and more traditional enterprises are reinterpreting their industrial role according to the phenomenon of the deconstruction. Tapscott (2001), and Tapscott and Williams (2006) quote the examples of IBM, Boing, and several car manufacturer, showing that these companies focus on the organization of the supply chain, instead of the production processes.

e-business. The concept has been further developed by Grant, revealing the relationship between resources, routines, and knowledge (about the resource based view and the e-business see Bharadway, 2000). As a summary, the deconstruction of the value chains is strongly related to the resources and the capabilities. Based on Evans and Wurster (2000), the most important conclusions are as follows:

- It is not sufficient to be good in the "average" of the elements. Every element of the value chain has to possess competitive advantage. The vertically integrated organization that maintains its weaker activities from the extra-profit of certain activities has to take into consideration the appearance of organizations that will replace it in both activities.
- It is not sufficient to be good at the "physical business", since the role of "information business" has grown in the value creation. In the e-business, the industrial competition follows different rules, e.g. the effort for a monopolistic position is much stronger. However, e-business exactly raises new physical business opportunities, primarily in the domain of logistics.
- The deconstruction of the value chains simplifies the activities, which "escalates" the competition. Some intermediaries can be removed, while new intermediation businesses emerge along the supply chain.

In parallel to the assumption on the "value chain deconstruction", the literature questions the linear-sequential logic of the supply chains as well. The concept of the value networks[37] – already introduced as a third architecture beyond the value shops and the value chains (Stabell and Fjeldstad, 1998) – covers the phenomena as follows:

- The value creation is realized through more distributed and horizontal collaborations, instead of a linear and vertical pipeline. The value created will be reinvented continuously that rewrites the system of activities to be carried out, which requires the reconfiguration of the roles and the linkages in the value chain (such as supplier, partner, customer) and the linkages (Evans and Wurster, 2000, Tapscott, 2001),

[37] The literature offers several competing terms and concepts for describing the transformed architecture of value creation. El Sawy et al. (1999) propose the concept of the value constellation instead of the model of value chain. Evans and Wurster (1997) named the collaboration pattern with rich communication, amorphous and penetrable barriers hyperarchy. Tapscott et al. (1998) use the term b-web (business webs). Iansiti and Levien (2004) explain business ecosystems that are loose networks crossing the industrial boundaries, where the members have influence on the production of a given product or service, which reacts upon the members. Although focusing on the traditional organization structures, the E-form provided by Moore (1993) and the sense-and-response model by Haeckel and Nolan (2003) can be listed here.

– The small unites of resources, applications, organizational capabilities and business processes create modules that can be aligned to the other actor in a fast, rapid and seamless way.[38] Therefore, the challenge in the values networks is to render modules (parts of activities) that can be exploited or recycled in several ways, in several supply chains (Sawhney and Parikh, 2001)
– The consumers with their needs, capabilities and contributions become more and more members in the value networks instead of being simply customers (Prahalad and Ramaswamy 2000, 2002). In the value networks, the knowledge and the feedback of the customer is much more the starting point, than the end stimulus (Tapscott, 2001). The customer is the source of innovation, or with the terminology of Kim and Mauborgne (1997), the value innovation. These consumers acting as professionals and producer as well are often quoted as "prosumers".
– The organization of the value networks can be done without strong central leadership and control as well (Tapscott and Williams, 2006). Evans and Wurster (1997) call these self-organizing networks as hyperarchies. In other value networks a dominant player exists, called as context provider by Tapscott (2001), or orchestrator by Sawhney and Parikh (2001).
– Instead of competition, value networks are increasingly built on the principle of the partnership. Some competitors may act as partner in the same (or in another) value constellation. The rationale for this is that all members of a value network share the success (or the failure) of the network, regardless the member's position in the network (see examples from Iansiti and Levien, 2004). The state of "health" of the ecosystem, that is the efficiency (the output of the invested capital), the robustness (the number of enterprises) and the diversity (the number of the market niches discussed) draw the picture of their fate (see Moore 1993, Hagel III and Brown, 2001, Szalavetz, 2004).
– The increasing role of partnerships is justified by the increasing role of knowledge as well (Makó and Csizmadia, 2003). The critical resources extend beyond the organizational boundaries; and the success of the value network depends on the knowledge sharing (Dyer and Singh, 1998). Value networks compete by the new forms of the use of knowledge. In networks, the time necessary to get to the market can be shorter (Kogut, 2000); the access to information and the fast-developing

[38] On the importance and the consumer effect of modularity see Kocsis and Szabó (2001).

technologies and the transactional efficiency can be improved through the approach of partnerships or strategic networks (Gulati, 1998, 1999).[39]

2.3.4. Research on Critical Mass and Trust

I already introduced the concepts of technological, social, value, and strategic networks. In this chapter I explain the economic characteristics of networks on the micro-level. The literature exposes specific phenomena like critical mass, network effect, or lock-in, closely related to the role of trust.

The concept of the network effect (or network externality) assumes that the value of the network is proportional to the square of the number of the members (users, stations, etc.), sometimes considered as the increasing economies of scale of the network expansion. As a consequence, the demand on joining the network is a function of the value, and therefore the size (members joined) of the network.[40] Hence, there is a certain size called *critical mass*: Above this, new members further stimulate the expansion, while the network is extremely vulnerable below the critical mass. Because it is often not reasonable to join more than one similar networks (e.g. because of several forms of transaction-specific investments), the first network that achieves the critical mass may gain a major advantage. The literature calls this as *first mover* strategy or advantage (Table 11).

[39] Beyond the authors named above, the arguments of Ebers, Grandori, Jarillo and Nohria–Eccles on strategic networks are summarized by Ebers and Jarillo (1998). Regarding the e-business, Amit and Zott (2001) evaluated the relevance of the strategic network theory as well.

[40] Varian (2001) reveals that interdependent networks may produce indirect network effects as well. That is, it can be attractive to get connected to one of the networks if the number of the users of the other one is high. This can be illustrated by the buying of a DVD player (which presumes a high amount of content published on DVDs) or by the entering to an electronic market as a seller (which is explained with a tempting number of buyers joined already). The indirect network effect points out the importance of the search for complementary products and, partly in connection with this, the search for partners. Porter (2001) disputes these two suppositions. According to him, the complementary products can also impair the profitability of an industry – for example by the standardization of the product offers – therefore the strategy of partnership can be doubted as well.

"Logic"	"Consequence"
Achieving the critical mass is the key for the future growth.	Free products are the basis of the market share and premium services deliver the profit.
Slow adoption results serious handicap.	Profit originates from innovation and not from optimization.
The number of users and the value stimulate each other.	The value of the company is the value of its network (community and infrastructure).
Scarce resources disappear except for attention, which is becoming the bottle-neck.	Expanding the network also increases the value of the existing elements (members)

Table 11: Characteristics of the "Network Economy"

(Source: Szekfű and Z. Karvalics 2000:58)

The knowledge gained in the leader position leads to the *increasing returns to scale of the buyers*, because the organization enjoying the first-mover advantage[41] can make more individualized offerings than its rivals. By this means, the loyal users can get a bigger value for their money, which increases their satisfaction and their loyalty. The building of *loyalty* is indispensable for the refund of the investments devoted to the network members' acquisitions (Reichheld and Schefter, 2000). In the establishment of loyalty, the investments of the members of the network play a part as well. The connection to the network and later the use probably implied considerable *learning* and primarily, the acquisition of network-specific knowledge.[42] In the course of this, he can acquire detailed information about the network, which can reinforce his *trust* in the network. The user of the network will only cancel this trusted relationship if the rival network offers a significantly more favorable price position. Therefore the trust built up from the earlier successful transactions (reduction of risk) creates *switching costs* (Strader and Shaw, 1997, Chen and Hitt, 2002).

The critical mass, the increasing return to scale of the buyers, the loyalty, the invested learning and the confidence all contribute to the appearance of the switching costs and to the attachment of customers to a given network, that is, the *lock-in*. Additionally, the dominant network can become the industrial *standard*, or it can get the possibility of setting up a standard. Since these factors reinforce even further the position of the given network, the rivals' opportunities will get limited, which can lead

[41] About the first mover advantage see Lieberman and Montgomery, 1988).

[42] The example of the (QWERTY) arrangement of the keyboard of the typewriters and computers is often cited – e.g. we can find it in Shapiro and Varian (1998) as well as in the book of Evans and Wurster (2000) – which has been designed so that typing be more difficult and slower in order to avoid the jamming of the arms writing. If someone learns to type today, he or she will only be able to type on this type of keyboard, which makes the research and development of a more comfortable keyboard arrangement fairly unreasonable.

to a *winner takes all* situations. According to Evans and Wurster (2000:61), the most important drivers of the competition in the e-business are as follows:

- "Setting and controlling standards,
- Achieving preemptive critical mass,
- Controlling patents and copyrights,
- Making alliances,
- Adapting to an order-of-magnitude shift in the underlying technology every five years,
- Shifting the business boundaries".

The literature also makes doubts regarding the argumentation about the network effect, the switching costs, and the lock-in – as detailed above.

- The first mover advantage – quoted as a myth by Porter (2001) – can be a disadvantage in turn. The first mover strategy focuses on the needs of the firstly joined groups of members, i.e. the innovators and early adopters. However, the followers can find a segment that targets a given consumer group better (Evans and Wurster 2000). Furthermore, the followers can learn from the mistakes of the first-movers and they can possess complementary devices that can render possible the providing of a higher value, e.g. a logistical system or a good brand (Coltman et al. 2001).[43]
- In the building of loyalty, the network's brand plays an essential role. However, the brands of the new economy prove to be weaker than the traditional brands, thus loyalty and barriers to entry do not come into being (Porter 2001).
- If a network depends on some other network (their interconnection is necessary), the increase of the customer value can come up against limits. The network establishing the dependency can also use its advantageous position for winning over the critical mass attained by the dependent network. The once market leader Netscape browser lost the competition to the Internet Explorer that launched years later, because every browser rely on the operating system running it, where Microsoft enjoys the priority.[44]

[43] There are several examples for the advantage of first-movers. Amazon and E-bay established a dominant brand on their market with their constant innovations. Because of the former argument, one would expect that the social network portals would be especially produce lock-in. However, the first move (internationally) relates to the website Friendster. This site, however, was exceeded so much by MySpace in terms of bandwidth and services that it was able to attract the users and defeat the first mover. But more recently, later launched Facebook with its open application development strategy seems to be the winner as of now, while MySpace declined to remain the social network of the pop music scene.
[44] Several chapters in the book of Shapiro and Varian (1998) detail the evolution and the role of standards and the interconnection.

- On the other hand, standards can eliminate network effect as well: if more networks follow the same standard – see the open standards of personal computers (PC) – the importance of choosing the largest network is lost for the new users (Varian 2001).
- The standards and the development of informatics in general can decrease the demand on the investment in the learning of the systems. This, and the growing competition on the expanded markets lead to the decrease and not to the increase of switching costs, thus lock-in does not develop (Porter 2001).
- It follows from the foregoing that the resources and discounts given devoted to the building of the critical mass are often not returned, because the critical mass either does not even develop at all, or it departs quickly. The preservation of the critical mass needs further investments; the position of the first-movers can only be maintained by innovations. (Coltman et al., 2001, and Evans and Wurster, 2000).
- The possibility of the winner takes all situation often clashes with the demand for diversity of the social and customer groups. We perceive the impenetrability[45] (a consequent on the diversity of the networks) as an annoyance, but if only one supplier is behind a standard, this can catalyze a counter-movement. In this case, the building of a "challenging" network is exactly helped by the relative autocracy of the dominant network. For example the sudden success of "alternative" browser Firefox was eventually leveraged by the fears from the domination of Microsoft's Internet Explorer.
- The winner takes all idea has two more unforeseeable obstacles: (1) the critical mass in a given domain can be in a proportion so that there is room for more "winners", (2) it is not obvious whether the winner obtains considerable profit at the same time (Coltman et al. 2001).

Based on the literature review above, the potential for a network effect can be understood through the analysis of the social embeddedness. The contradictory argumentations call for a deeper examination of the focal network in order to asses the consequences. Using the literature on strategic network can be employed as well. The big picture on the initial settings in the value network – thus the expected behavior regarding the network effect – can be identified with the help of the dimensions provided by Amit and Zott (2001): (1) The resource that actors can access; (2) the size, the density, the centrality of the network, and the nature of the ties – about the strong

[45] There is such an impenetrability between the mobile phone systems (e.g. GSM) on the different continents, but we can also mention the difference of the power sockets inside Europe.

and the weak ties see Granovetter (1973) –; (3) trust issues and reputation. Regarding my Ph.D. thesis, I highlight the role of

- the knowledge (as a key resource of the network),
- the size of the network,
- the trust in the network,
- and the social capital (including the role of the strong/weak ties) built on this.

In summary, the last two chapters on transactions and networks raised and justified several contradictory effects. I grouped these argumentations into two "thread" (Table 12). Based on the decreasing transaction costs we can conclude that offering become comparable. That lowers the switching costs, diminishes the barriers to entry, and threatens the brands and the intermediaries. Overall, increases the competition. Assuming the network effect as a starting point, however, the learning invested into the network enables to lock-in the actors, and enhances the role of the knowledge, the standards, and the partnerships. In these settings, first movers can benefit or even gain a dominant position.

Shrinking transaction costs	*Thesis*	*Network effect*
Comparable offers	Customer behavior	Learning investment into the network
Easy of switch	Switching costs	Lock-in
Scale is irrelevant	Critical mass	The winner takes it all
Lower investments required	Barriers to entry	First mover advantage, standard-setting
Commodity, sometimes drawback; brand is less important	Traditional resources	The role of intangibles increases
Increased competition	Inter-organizational relationships	Partnerships and ecosystems
Disintermediation	Intermediation	New intermediaries; cybermediaries and navigators

Table 12: Arguments and paradoxes about the conditions affecting the e-business models

(From author)

2.3.5. Research on Strategic Innovation

Regarding e-business models the innovation is considered as a key issue. In this chapter I review the theoretical background of innovation, followed by an analysis about the effect of the pace of innovation on the strategic planning.

Economics of innovation is rooted in Schumpeter's (1934) work. Schumpeter identified the innovation as a driving force of the economy, realized by new combinations of the productive resources. Schumpeter (1934) distinguishes five areas of these new combinations. Below I comment these five with e-business (or related) trends that enhance the importance of these areas of innovation.

- New products (cf. the information as product),
- New production processes (cf. modular production, custom manufacturing),
- Creation of new markets (cf. global market reach),
- Discovery of new sources of supply (cf. the customer as a resource),
- Reorganization of industries (cf. disintermediation, value constellations).

Considering innovations, we can distinguish technology-driven "push" and market-driven "pull" type of innovations (Nyström, 1983). Based on the measure and the extension of the innovation, we distinguish the incremental and the radical innovations, the technological systems opening new profound changes (systematic innovations), and the techno-economic paradigm shifts (Freeman and Perez, 1998). The latter case is triggered by technological revolutions (such as railroad, telephone, the Internet). On the one hand these innovations can confirm the capabilities existing in the society and economy; on the other hand they can also destroy them (Tushman and Anderson, 1986).[46] The phenomenon, when the new way of the use of technology makes the "old" processes obsolete is called "creative destruction" by Schumpeter. That means that under uncertain and complex environmental circumstances the high-risk initiatives and the entrepreneurial thinking can "stormily" change the markets and the industries. It allows the entrepreneurs to realize "certain (i.e. Schumpeter) rents", which perish afterwards, as their knowledge spreads and the given innovation becomes general practice in the economic life (Amit and Zott 2001).

[46] Further elaborated by McGahan (2004) who distinguishes the changes in the core capabilities and the changes in the core activities. McGahan describes four industry trajectories based on these two.

The literature on strategic innovations reveals the organizational background (prerequisites) of new mental patterns.[47] Markides (1997, 1998), by the examination of the successful challengers of the traditional market leaders, came to the conclusion that market breakthroughs happen through new answers to the "what?" , "for whom?" and "how?" questions; where the answers break with the hidden "mental model" of the industry. In what extent such an innovation is able to provide Schumpeterian rents depends on the pace of the technological and the market changes as well (Figure 16). In rapidly moving markets only short-term advantages can be expected, but even these are almost impossible to achieve if the pace of the technological change is fast as well (Suarez and Lanzolla, 2005).

THE SITUATION YOUR COMPANY FACES			FIRST-MOVER ADVEANTAGE		
Pace of technological evaluation	Pace of market evaluation	Name of category and example	Short-lived	Durable	Key resources required
Slow	Slow	Calm water (Scotch Tape)	*Unlikely* Even if attainable, advantage is not large.	*Very likely* Moving first will almost certainly pay off.	Brand awareness helpful, but resources less crucial here.
	Fast	The market leads (Sewing machines)	*Very likely* Even if you can't dominate the category, you should be able to hold onto your customer base.	*Likely* Make sure you have the resources to address all market segments as they emerge.	Large-scale marketing, distribution, and production capacity.
Fast	Slow	The technology leads (Digital cameras)	*Very unlikely* A fast-changing technology in a slow-growing market is the enemy of short-term gains.	*Unlikely* Fast technological change will give later entrants lots of weapons for attacking you.	Strong R&D and new product development, deep pockets.
	Fast	Rough waters (Personal computers)	*Likely* A quick-in, quick-out strategy may make good sense here, unless your resources are awesome.	*Very unlikely* There's little chance of long-term success, even if you are a good swimmer. These conditions are the worst.	Large-scale marketing distribution, production, and strong R&D (all at once)

Figure 16: Advantage through Innovation
(based on Suarez and Lanzolla 2005:124&126)

[47] See works from strategic management professors Burgelman, Hitt and Tyler, or Ireland.

Various authors claim – regardless of the increasing role of the Internet in the economy – that the innovation environment is "rough water" to even more companies and industries, i.e. the technological and the market change are at faster speed than ever before. While the Internet is regarded as a breakthrough in several industries, the e-business models themselves are constantly threatened by the creative destruction. Journalists often call "killer applications" those innovations that extorted the other successful innovations. The enlarged volatility is not reduced but is increased by the growing power of the communities in the "wikinomics" era (see Tapscott and Williams, 2006). It is hardly predictable that when a community alternative questions the viability of a business model or when the decision of a service provider that is the basis of a mash-up business pulls the business model from the ground.[48]

Because the speed of innovation was growing continuously in the last century (i.e. not the Internet in itself is the driver of these changes), the literature proposed the necessity of the rethinking of the strategic planning approaches even before the emergence of the e-business. Stalk and Hout introduced the concept of the time-based competition, Bettis and Hitt described strategic discontinuities, Brown and Eisenhardt discussed the necessity of competing on the edge of chaos (summarized by El Sawy et al., 1999). Based on these approaches, the successful value creation depends on the implementation of the continuous reinvention of strategy. This perspective has been leveraged by the emergence of the e-business. Many authors argued that in the e-business there is a shift in the strategic planning towards a more risk-taking, rapidly moving, and intuitive type of strategic thinking.

- The new information technology questions the former organizations and it strengthens the uncertainty (Demos, Chung and Beck 2001). It absorbs all the existing communication technologies and it expands its accessibility, its power and its functionality (Tapscott 2001).
- The deregulation and the globalization increase the efficiency and the volatility of the economy at the same time (Demos, Chung and Beck 2001). These two phenomena also push on the continuous and unpredictable change of the customers'

[48] Let's take the example of the Budapest-based firm Virtual Hungary Kft. The company is active in the 3D rendering business and focused on business customers who wanted to create the three dimensional image of their headquarter building to include it into the Google Earth geographic information application. Virtual Hungary had built its model on the free development tools of Google, and added these buildings to the popular desktop cartographic software. However, Google unexpectedly launched an almost full coverage of Budapest with its own 3D buildings, replacing some more detailed versions of the third-party developers like Virtual Hungary in Google Earth. The company has lost not only these buildings, but the opportunity for further orders as well.

demands and needs, which essentially affects the method of the competition even beside the ICT development helping in the knowledge of the customers (Tapscott et al. 1998).

- The unpredictable development and assimilation of the standards also renders the strategy uncertain. "The need and the value of standards are easy to identify; but whether and where they will emerge, and who will control them, may be impossible to predict" (Evans and Wurster 2000:191).
- With the becoming more efficient of the capital market, the managers are more and more nailed down to the increase of the shareholder's value. The skilled management of the existing business domains is not sufficient anymore; the leaders are under more and more pressure to hunt after new paths of value creation in order to prominently increase the shareholder's value (Demos, Chung and Beck 2001).

On the basis of these trends, radical consequences can be drawn for strategy formulation and strategic planning. The literature at the millennium was divided into two main approaches. One part of the literature continues to consider the traditional methods and tools of strategic planning an important opportunity to make calm maneuvers in an accelerated environment. The other part sets a radically different approach of strategy as a counterpoint. Table 13 compares the view of the two extremes.

The key question of the way of strategic planning is that whether it is possible at all to formulate strategy the same way as in the past. The traditional strategic planning assumes manageable uncertainty at the most, and because of this it calls for the avoidance of errors.[49] This approach emphasizes thorough analysis and slow progress, while the speed of e-business – the "Internet time" – requires bravery and speed according to other researchers (El Sawy et al., 1999). According to the "disruptive" side, improvisation is more important as response to the trends, as well as detecting and correcting the errors in the assumptions and the strategic maneuvers continuously (Evans and Wurster, 2000, Evans, 2000, Hamel and Getz, 2004). This is more like gambling, following the rule of thumb loosely, resulting in chaos theory logic rather than foreseeing and profound planning (Evans, 2000).

[49] On strategic planning in Hungarian see: Balaton et al. (2007), Mészáros (2005), or Mészáros and Bálint (2002).

Strategy…	"Traditional": strategic planning	"Disruptive": strategic intuition
Ultimate characteristics	Business policy	Strategic experimentation
	Risk avoiding	Risk embracing
	Minimize the probability of getting things wrong	Maximize the probability of getting things right (strategic innovation)
	Optimization, accuracy (like Pareto)	Gambling, speed (like Poker)
	Methodology-based	Intuitive, inventive, fast
Scope	Vertically integrated organization	Deconstruction, smaller objects
	Individual value chains	E-business community, value networks
	Competition in an industry	Extended radar, capturing the fluidity of the competitive forces
	Five forces are premises of the answer	Five forces are the essence of the question
Content	Solution: where to arrive?	Direction: generate an option horizon
	Achieving competitive advantage	Survive, "to be there in the next round"
	Sustaining competitive advantage	Evolving from a strategic position to another
	Exploiting resources possessed	Accessing resources
	Organizational resources: secure	Resources in communities: share
Process	Periodical	Continuous
	Strategic foresight	Strategic learning

Table 13: The "Traditional" and the "Disruptive" Approach of Strategy Formulation

(Sources used: Evans, 2000, Tapscott et al., 1998, Evans and Wurster, 2000, Demos et al., 2001, Shuman and Twombly, 2001, Hamel and Getz, 2004)

The scope of the strategy is not independent of all this. If it seems more appropriate to think about the partnership in the value networks than the classic industry competition approach, than new aspects arise in the strategic planning. The traditional industrial competitive analysis will become problematic. Namely, this analysis considers the definition and the boundaries of the industry and organization fixed (Shuman and Twombly, 2001). However, during the strategic innovations these are became questionable, the most important issue is how a company defines the industry, customers, suppliers, etc. (Evans, 2000). Compared to the approaches focusing on industry analysis, the organizations should broaden the range of their "radars" during the strategic analysis (Tapscott et al. 1998). Tapscott (2001:6) argues that "strategy orthodoxy blinds managers to these unprecedented corporate opportunities". Tapscott concludes that in the e-business, companies need new strategic tools.

The traditional approach of the strategy also has been criticized on the basis of e-business from the point of view that when the company finds the solution for a particular competitive situation, it will be already in a different position. According to Demos et al. (2001) a more important issue for the company is how to reach from one strategic position to another. They argue that the response is to keep "in stock" the

strategic options; these development lobes can be the key to survive a sudden environmental change. Another consequence of value network approach is that capabilities and knowledge do not necessarily belong to a single organization and do not participate in shaping the future of this organization "in that way" (Evans, 2000). Capabilities inevitably move throughout the e-business community, crossing organizational boundaries (Evans and Wurster, 2000).[50] Knowledge-sharing becomes the elementary interest of the network (community) in the competition of value networks (Tapscott et al., 1998).

The consequence of these trends may be that the ongoing strategic thinking is more important than long-term strategic planning in terms of strategic innovations. The boundaries between the strategy and the operative level decision-making become blurred; the focus is shifted from planning to learning, from prevision to implementation (Demos et al., 2001). Previously emphasized organizational practices of strategic information systems planning can be repeated: Quick uptake of leading innovations, enabling the "fabrication" of the members of the organization, encouraging and extending the successful local ideas, or creating an organizational culture that supports innovations.

Under the years of the debate of strategic planning mixed versions of the "traditional approach" and the "radical counterpoint" had appeared. For example, Kim and Mauborgne's (2005) "blue ocean strategy" supports the systematic planning (standard toolbar) of unconventional strategic actions ("turning off/avoiding the competition"). However, the literature does not answer that the success of e-business companies is whether related to the systematic planning or the strategic instinct. Obviously, the role of the two approaches depends on the speed of industrial innovation cycles. Williams (1992) distinguishes between fast, medium and slow industrial cycles based on the level of innovation "threat". While in case of fast cycles the competition process quickly breaks down and re-evaluates the added value, in slow cycles the organizations can control the market factors with their resources permanently. Williams (1992:32) shows that the prices of products of the slow cycle industries had increased slightly in 8-10 years average. The commodity prices of the medium cycle industries had slightly decreased, while the fast cycle industries had brought dramatic fall in prices in a few

[50] One of the examples is the Silicon Valley that is regarded as the cradle and the acropolis of modern computer technology. In this community, the innovations can rarely be kept within the organizational boundaries (provided that these even exist), as opposed, for example, to the motor industry. However, the primarily innovational achievement of this e-business community is breathtaking, since the "promiscuity" of the resources outweighs the "dilution" of individual paternity (Evans, 2000).

years or even months. The reason is primarily the creative destruction, i.e. the devaluation of the key resources of the earlier competition. As the industrial cycles – as a result of the Internet among the others – accelerate, the radical approach of strategy arises in more and more industries.

In my Ph.D. thesis proposal (Móricz, 2005) I discussed in detail the issues of the Internet-based strategy (Porter's Internet strategy approach, strategic planning methods and tools). As this Ph.D. thesis emphasizes more the business model, I do not discuss these in detail here.

2.4. Open Questions in the Literature

There are relatively few researchers who associated the key conditions of the effective realization of the e-business models and the literature background of e-business. Around the millennium many had argued for the novelty of the e-business models and questioned the validity of previous theoretical background. In recent years, however, the scientific attention to the e-business models was reduced (this can be traced back to the questioned former rush predictions and the blurring distinction between the traditional and the e-business companies). Therefore, very few scientific works was written that associated the effective realization of e business models to the traditional theoretical background. Amit and Zott's (2001) approach can be highlighted. The authors introduce the key factors of the value creation with e-business models, and then combine these factors to the different approaches on organization theory, strategic management, and economics (Table 14).

Theory	Novelty	Efficiency	Complementarities	Lock-in
Schumpeterian analysis	High	Low	Low	Low
Value chain analysis	Medium	Medium	Medium	Low
Strategic network theory	Medium	Medium	Medium	High
Resource-based theory	Medium	Low	High	Medium
Transaction cost economics	Low	High	Low	Medium

Table 14: Theoretical Background of the Value Creation with Business Models
(Source: Amit and Zott, 2001:511, applied by Keen and Qureshi, 2006:3)

In their view, the literature on innovation especially can help the interpretation of the role of new use of technology, while the transaction cost theory primarily supports the analysis of how the efficiency changes with value chain decisions. The resource-based

view seems to be the most useful in studying the distinctive capabilities of the business model, while the strategic network concept may prove to be applicable particularly at the analysis of the potential for lock-in.

Reviewing the literature of business model approach, e-business models, and the socioeconomic background of successful realization of e-business models, I identified three areas (research gaps) for further research and to respond the open questions in the literature.

- There are very few examples for practical application in the business model literature. There is a lack of publications that (1) examine the relationship between strategy, business model, and processes at a specific case, (2) analyze real-life business along its main components, (3) compare different methods for graphic representation of business models, and (4) provide a longitudinal follow-up of a business model instead of a "snapshot view".
- After the fall of the dot-com ventures, analyzing the e-business models became less popular in the literature. At the same time, the business model method improved significantly, creating a research gap: applying the improved method for e-business models. Therefore I identified approaches to test, i.e. options for graphic representtation (Figure 4), and methods like the "e-business model components set" (Figure 9). In addition, it is a special opportunity to examine e-business models in Hungary. The research in this field is limited, mainly focusing on one specific aspect (e.g. entrepreneurship, marketing, market research, specific case studies), and these publications do not cover longer time periods (e.g. a business model evolution).
- At the time when doing business on the Internet was a novel phenomenon, many authors focused on the special conditions of e-business. Recently, Internet increasingly affects the economies – the question is: how? – and the conditions of e-business and its theoretical background penetrate even wider. Therefore it is reasonable to compare the recent e-business operations and the assumptions described before. Which e-business conditions remain dominant, which assumptions seem to be valid 10 years after the "dot-com bubble"? There is another research gap: to relate the key success factors of e-business models to the theoretical background of the conditions. Applying the social embeddedness theory at the field of e-business is also a promising research opportunity. On example in the literature is the case study research of De Reuver et al. (2007). This research examined the role of

technology, market evolution, and regulations in the process of business model design and implementation. This inspires further research on these topics.

- During the last years, several researches about the Hungarian practice of e-business models arose. Most of these analyses, however, naturally take one aspect (such as business economics, marketing, market trends, or specific case studies). The Ph.D. thesis of Csendes (2004), Duma (2005) and Gyulavári (2005), and the articles of the E-business special issue of the journal Vezetéstudomány (Budapest Management Review) count as significant research results (see Nemeslaki et al., 2008b). In relation to e-business adaptation the Badinszky (2008) thesis is remarkable who examined the role of the leader/leadership and the cultural environment. (The attitudes and skills of leaders and the social capital proved to be more influencing factors rather than the business and economic environment.) Several open questions remained for Hungarian researchers: the evolution and the development of e-business in Hungary analyzed with the business model approach, as well as the exploration of the motivations of the e-business model evolution.

Beyond the research gaps and open questions in the literature, my practical objective is to demonstrate the benefits of applying the business model method for business leaders, and to help them to make decisions based on my findings about the relationship between e-business models and its key operating conditions. Business models are often rooted in the “thinking” of the managers; revealing this knowledge is related to many benefits (see above), where I would stress the test of hidden assumptions as the keys in the competition.

3. Research Design

Based on the target and the basic correlations of the research plan as described in the Introduction part, now I am going to deal with the main questions of my research in detail. Furthermore, I am going to highlight the applied research methodology, including the issue of reliability, validity and generalizability. I am also going to describe the way how I selected the appropriate examples to be used, as well as the method of data collection and data processing, and – finally – the time planning of the research.

3.1. Research Questions

As I have mentioned it in the Introduction part of my thesis, my research focuses on the development of the leading Hungarian e-business companies, examining them from business model aspects. I have also defined earlier that the expression 'leading e-business companies' refers to such innovative business entities having leading position in some respects which offer Internet-based value proposition. Considering the open issues of the literature described above, as well as the aim of my research, I have drawn up two main questions. Based on the overview of the theoretical background, these questions have been divided by further sub-questions.

1. How can the business model method be used to explore and understand the way of operation and value creation at leading Hungarian e-business companies?

- 1a: How can we describe the changes along the business model components – value proposition, architecture, revenue streams?
- 1b: How can the methodology be used for mapping business models, with particular regard to the value flows between actors and the cause and effect relationship between model elements?
- 1c: What type of conclusions may be a result of the analysis of business model maps?
- 1d: Can we distinguish between strategy, business model and key processes when we use real-life examples?

2. How do the conditions of e-business as it is specified in relevant publications explain the evolution of business models at leading Hungarian e-business companies?

- 2a: How does the social embeddedness affect the e-business models?
- 2b: Is the "economics of information" evolving to a separate business from "economics of goods" (physical business)?
- 2c: Is it possible to obtain IT-based sustainable competitive advantage on the Internet?
- 2d: Regarding the governance of value creation, which trend can be observed more widely: vertical integration or network forming/partnerships?
- 2e: How is knowledge captured and spread in e-business models?
- 2f: Are there any network effects, switching costs, or lock-in, considering the e-business models?
- 2g: What is the role of critical mass and trust in the realization of e-business models?
- 2h: To which extent the planning (business policy) and the experimenting (strategic intuition) nature appears when we lead an e-business model innovation with strategic choices?

The first question employs the literature of business models. Table 7 serves as a framework for capturing the business model components (1a.). Regarding the graphic representation of the business models (1b. and 1c.) I applied both a value network approach simplified from Weill and Vitale (2001) and the cause and effect map based on the idea of Casadesus-Masanell and Ricart (2008). Finally, Figure 2 provided the framework for revealing the links between the strategy, the business model, and the processes (1d.).

The second main question deals with the required conditions to the successful realization of e-business models. This analysis has been built upon the theoretical framework described in Chapter 2.3. Hence, questions are examined with the help of the diffusion of innovations and the actor-network theory (2a.), the economics of information (2b.), the strategic information systems perspective (2c.), the transaction costs theory and the value chain approach (2d.), the research on the changing patterns of the use of knowledge (2e.), the network economics and the strategic network theory (2f. and 2g.), the innovation theories and the concepts of strategic planning (2h.).

3.2. Research Methodology

In my thesis I examine these research questions with qualitative research, namely with the case study method. According to Creswell (1994) and Maxwell (1996), qualitative research is suitable for questions beginning with "how". They also populate these methods, when the question aims to discover new relationships between factors, rather then trying to asses the quantity of the effect between them. Yin (1981:59) suggests the case study method when we intend to examine

- "a contemporary phenomenon in its real-life context", where
- "the boundaries between the phenomenon and context are not clearly evident".

That is "the case study is a research strategy, which focuses on dynamics present in single settings" (Eisenhardt, 1989:534). Based on Creswell (1998:65) case study as a methodology

- Focuses on the detailed analysis of one or more cases,
- Relies on multiple sources of evidences.
- Analysis may combine description, the collection of topics and verification,
- The narrative form is determined by the case itself, the presentation of the results is the detailed description of the case.

The qualitative case study methodology does not determine the epistemological perspective and the data collection approach (Yin, 1981, Myers, 1999, Klein and Myers, 1999). My approach that reflects my research questions is "functionalist", considering the paradigms of the organization theories identified by Burrell and Morgan (1979). Within this paradigm, the research object can be seized and described "objectively" (instead of interpreted subjectively) and the research questions are "accepting" the status quo (instead of asking for radical change). Yet, some characteristics of the interpretative and the critical paradigm (described by Kuhn, 1970) appear in my research. In the analysis of the social embeddedness I raise some questions of the social constructivist approach, as well as the limitations of the technological-economical rationality, and finally provide some answers with reflecting different perspectives of the stories. The qualitative research methodology is not limited to qualitative data collection methods. Yet, the use of quantitative data collection was rather limited in my research (see below).

Because the Internet is in the focus of my research, I paid particular attention to the methodological findings in the information systems research. From the beginning of the 1980s, qualitative case studies had an important contribution to the information management literature – providing new insights, refuting popular beliefs, or generating new theories (about these three directions, see Eisenhardt, 1989). In the second half of the ’80s it was exactly the case study method that was able to point it out that while questionnaire-based quantitative researches are capable of providing a good description of information technology’s role in data processing and decision making, they are not able to describe strategic impacts beyond these factors. Classic cases had examined amongst others the information systems SABRE of American Airlines, ASAP of Baxter Healthcare, OTISLINE of Otis or Frito-Lay’s hand-held computer-based system in the given organizational and industrial environment (summary provided by Wiseman 1988). In the 1990s, case studies were also used for deep analysis of longitudinal examination of information systems; because the empirical “richness” of case studies enables the researcher to describe different interpretations and narratives or make conclusions from multiple perspectives (see e.g. Ciborra, 1994, Myers, 1999, Kumar et al., 1998, Bartis and Mitev, 2008). In the last decade, case studies also delivered surprising results or presented new perspectives at the field of e-business research (e.g. El Sawy et al., 1999, Gupta and Woodside, 2006, De Reuver et al., 2007). The reason is that the case study method helps to capture the complexity of IT as socio-technological systems in detail (Galliers, 1991, Markus and Lee, 1999). When researching information systems, the researcher has to create a close relationship with the research field, in order to understand the complex and dynamic effects in a rapidly changing, practice-oriented field (Benbasat et al., 1987, Lee and DeGross, 1997).

There is no clear recommendation in the methodological technical literature as to basing the research on a single or more than one case study is more useful (Eisenhardt, and about the dispute of Dyer and Wilkins in Hungarian see Radácsi 2000:175). A single case may be enough to examine new phenomena and special features, but it is suitable to test a theory only if the theory is mature enough (Yin 1994). Methodology recommendations also call attention to the fact that the application of more case studies is not aimed at being representative either. The theoretical strength of this version of the method lies either in the parallel description of cases that lead to similar results, using them as building blocks, or in the confrontation of cases that provide controversial

results (Yin 1994). This is called replication logic[51] by technical literature (Yin 1994, Eisenhardt 1989). There are also some "soft" aspects hidden in Yin's arguments (2004:53): having more cases may be "more powerful", the benefits may be "substantial", "we can arrive at shared conclusions" that can "expand external generalizability" of the theory. Therefore I decided to make more case studies because it makes it possible to deepen the answer by creating "interaction" (i.e. contrasting similarities and differences) between the cases.

The main weakness of the case study method is that the research field is limited in time and place, therefore generalization is also limited (Galliers, 1991). It is difficult to determine which unique (field-specific) factors and how affect the case (Cavaye, 1996). However, my research questions can be answered even at these limitations.

Reliability, Validity, Generalization

A critical point of the data collection and analysis phase, as well as that of the whole research process is reliability and validity. The first one, *reliability* means, using the terminology of natural sciences, whether our measurement tool is well defined, and we executed the measurement correctly. If this holds, then whoever (either we or someone else) repeats the same research again, he/she should arrive at the same conclusions. Repetition in this case means the preparation of the same case again, which is not to be mistaken for the preparation and conclusions of similar cases or of the same case but with a different timing (Yin 2004). With the goal of reliability in mind we should aim at

- minimizing errors and distortions,
- documenting the research process in detail to enable its reproduction.

Validity means whether we measure really what we want to. In a positivist approach it means a mirror that compares the analyzed phenomena and conclusions to reality. Maxwell (1996:86) states that "there are no methods that can assure you that you have adequately grasped those aspects of the world that you are studying". Klein and Myers (1999) set up seven principles for evaluating case study findings in the field of

[51] Yin (1981, 1994, 2004) often compares case study preparation to the experiments of natural sciences. In the case of replication he refers to the fact, for example, that every single test of a scientific test series adds something new to the already known facts.

information technology research.[52] Validity rather lies in the data and their employment. Using multiple data sources and building up the argumentation according to the replication logic referred to above is therefore a justified approach. I keep in mind especially the following points during my research to maintain reliability and validity (Maxwell, 1996, Myers, 1999, Klein and Myers, 1999, Yin, 1994, Eisenhardt, 1989):

- Preparation and following of a case study protocol,
- Multiple data sources,
- Thick description (terminology from Geertz), i.e. systematic and reflexive documentation,
- Suspicion against factors that potentially distort information/research,
- Searching for and confronting contradictory evidences, flexibility in responding to unexpected results,
- Examination of the social-historical background,
- Replication, i.e. comparing the case studies to each other.

In the case of qualitative researches *generalization* doesn't proceed from the special case to the entirety of the cases, it rather results in a background theory instead. According to Keating (1995:69-70), case studies offer the opportunity for "theory discoveries", as they aim "to map novel, dynamic, and/or complex phenomena ignored or inadequately explained by existing theories". Theory discovery studies typically produce "building blocks" of theory rather then fully specified theories. Keating (1995:72) underlines – with a reference to Eckstein – that a "crucial test" of the theory can be proved by the refutation of a common statement of the theory with a case that is considered to be a typical example for the theory (disconfirmatory cases, Marcus and Lee, 1999).

Keating (1995:69) lists three tasks to achieve the potential for generalization of the case research findings:

- "Specify the findings, and relate the findings back to the theoretical issue under investigation;
- Reassess the applicability of the theory in light of the case study findings, and specify how the study refutes, complements or extends existing theories;

[52] Klein and Myers (1999) elaborated their findings from the perspective of the interpretative research paradigm. Regarding my research, I would underline the following principles: The principle of contextualization (discovering the social-historical background of the phenomena); the principles of abstractation and dialogical reasoning (interaction between the theoretical frameworks and the "story" that emerges from the data), the principles of multiple interpretations and suspicion (searching for biases in the data).

– Identify the knowledge gaps and puzzles left unresolved by the study; and relate this particular program of research to other theory discovery, theory refinement, or theory refutation studies."

3.3. Selection of Case Studies

Miles and Huberman (1994) provided with comprehensive factors of case study selection. They distinguish between typical, deviant and disconfirmatory cases. In my research I selected the first one, typical cases (stars of the Hungarian e-business), yet experienced that they have deviant (e.g. anti-mainstream) and disconfirmatory (e.g. surprisingly reversed) characteristics as well.

First, I collected a sample of major Hungarian e-business brands that were present already in 2000 and still exist in 2008. Indeed, these are the pioneers of the Hungarian e-business that survived and grew parallel to the growth of the Internet users. Then I tested that list with the help of Hungarian e-business experts in order to narrow it to 20 brands (Table 15) that are considered to be leading (in terms of innovation and/or performance). On the one hand, the term leading refers to the innovativeness, rather than the business results (therefore surveying experts on innovativeness was necessary). On the other hand, leading e-business stars are those they are widely known and acknowledged; again, I used the voice of the experts, as well as the website statistics and the frequency of quotes in the news media.

I decided to prepare and analyze three case studies. It makes possible to analyze the cases deeply (replication logic), and also fits into the measures of a PhD research (with appropriate accuracy). The factors of selecting the three e-business companies were as follows:

– Primary research data (interviews, own notes) should be available regarding the first period of the venture (because of the longitudinal examination). I tried to avoid cases where only secondary information was available about the start-up period.
– "Access" to the organization, supportive managers at the firm, opportunity for a trust-based research relationship. That was important because I wanted to examine the "soft issues" and the mistakes too.

– The online activity can be examine in itself, i.e. online is not inferior to offline. At a company where the main business is offline, the online initiatives have different roles that would bias the answers on my research questions.
– Anticipated adaptability. I focused on ventures where I assumed that it responded to the changes in the business environment by adjusting its business model. Cases where this adaptation rapidly failed may be able to analyze in another research.
– The three cases may complete each other regarding some aspects. Although it is possible to elaborate consequences from more similar cases, I expected that a sound "diversification" of cases contributes to deeper understanding of e-business model adaptation.

Case	Year founded	E-business model	Ownership (2008)	Comments
Depo	1999	Portal	Hírek Média	Product and price comparision (consumer electronics)
E-Bolt	1999	Shop	*Independent*	Webshop (electronics)
Eco	1998	Portal	Econet	Financial news
Elvira	1998	Portal Shop	Hungarian State Railways	Railway timetable
Fotexnet	2000	Shop Marketplace	Fotex-group	Starting with a web shop; virtual mall after 2005
Freemail	1996	Utility	Magyar Telekom	Free e-mail service (launched by Soros Foundation)
GTS-Datanet	1995	Utility	GTS CE	Internet service provider
G'Roby	2000	Shop	*Independent*	Brick-and-click grocery
Hungarian E-Library	1993/ 1996	Portal	Hungarian National Library	Community-based digital library
Index	1996/ 1999	Portal	Central European Media Publishing	Horizontal portal, news and web 2.0 services
Marketline	2000	Marketplace	Magyar Telekom	B2B horizontal marketplace and auction service provider
Népszabadság Online	1996	Portal	Ringier (earlier: Axel Springer)	News
Netwaiter	1999	Marketplace	*Independent*	Food ordering
Origo	1998	Portal	Magyar Telekom	Horizontal portal, news
Port	1996	Portal	*Independent*	Program guide
Portfolio	1999	Portal Marketplace	Central European Media Publishing	Financial news and services
Prím Online	1996	Portal	Adverticum	Business IT news
Startlap	1999	Portal	Sanoma	Link catalogue
Sunbooks	2000	Marketplace	*Independent (-2007)*	B2B marketplace (book industry)
Vatera	2000	Marketplace	Naspers	B2C auctions

Table 15: Shortlist of Potential Cases

(Prominent E-business Companies in Hungary founded before 2001 with extensive operations in 2008; from authors, based on interviews with industry experts)

Based on these factors, the three selected and researched organizations are (1) the most recognized news portal Index, (2) the B2B marketplace Sunbooks, on the book market, and (3) a regional online food ordering service, the Netwaiter (in Hungary: Netpincér). I had a long relationship on the managerial level since 2000 with all of the three companies. This enabled me to follow the evolution of the company, and the changes in the mental patterns of the company management. As another aspect of the case study selection I tried to have a balance between different e-business models and include both a portal and a marketplace, and both B2C and B2B businesses. Two of the three selected cases can be considered as success story, while the third one was still a leading (and unique) e-business venture, despite its closing in 2008 after the company has been sold. The three cases represent different ownership settings as well. Index and Sunbooks are (was) owned by financial investors (but not completely independent from the company managers in the latter case), while Netwaiter is still managed and owned by its founders.

3.4. Data Collection and Data Processing

During case study preparation I use a so-called "case study protocol" in accordance with Yin's (2004:69) methodological recommendation. Its four main areas that are listed below will serve like a compass in the data collection, analysis and case study formulating processes:

- An overview of the case study project (objectives, auspices, relevant readings),
- Field procedures (accessing the case study "sites", general information sources, procedural reminders),
- Case study questions (questions that must be kept in mind, "table shells" for specific array of data, potential sources to answer the questions),
- Design of the case study (outline, narrative design, references).

Indeed, the systematic elaboration of the case study protocol begun at the half of the research progress (in 2005), then several changes have been applied, when the longitudinal research became more evitable and the final research questions evolve.

In my PhD research the data collection process combined different methods. The combination of different methods in the same research, i.e. triangulation[53]) can happen in four areas according to Patton (quoted by Yin 2004:98). That is, mixing (1) multiple data sources, (2) views from different evaluators, (3) several theoretical perspectives, and (4) various research methodologies. In the *data collection phase* I relied on different data sources. The pros and cons of such an approach are discussed by both Miles and Huberman (1994), and Yin (2004:86). This latter quotes as possible sources: documents, archived records, interviews, direct observations, participant observations and the analysis of the physical environment. In my research I applied the following methods.

– Interview. During the research, I have made interviews mainly with the leaders of the three companies. I returned to the same interviewees several times. One part of the interviews was semi-structured (based on questions which had been previously sent to the subject of the conversation), while the other part of them was rather an informal discussion. It was a great advantage for me that the leader of one of the examined companies (Netwaiter) was my classmate at the university (his business was just started that time), while in the case of the other case study, Index, a student of mine has been promoted to a CEO position. In order to maintain the atmosphere of trust, I did not record the interviews to any media; during the data processing I have used – among other sources - my notes prepared on the interviews as well as their electronic version.[54] During the interviews I had a continuous feeling that all the interviewees I was working with shared their opinion and approach in a very truthful way and I intended to keep the atmosphere of their statements realistically in my notes as well. They seemed to be very interested in my research and sometimes they even made comments regarding my work. In addition to the management, – in a less formal way – I have also collected information from the customers of the examined enterprises (Netwaiter-users, Index-readers). I also interviewed e-business experts (researchers, analysts, e-business teachers) with wider perspectives. It is not easy to make a methodological summary of the interviews since those often occurred in an unpredictable way (unplanned encounter,

[53] The definition of triangulation is connected to Denzin, in Hungarian it was published, for example, in the article of Balaton and Dobák (1982).

[54] It was a great experience for me to see the difference between the two materials regarding the strength of impulse; the interview notes, which have been typed in electronically, contained much less input – even if the original format has been kept – than my handwriting notes including the original letterings, deletions etc.

phone conversation). During the formal interviews I used different questions in some cases, and the conversation itself also generated new approaches about an issue, diverting the discussion a little bit to a new and unplanned direction (several changes had happened at the companies about which I was informed only during the interviews). Regarding the more formal deep-interviews which I made with the executive directors, I organized three appointments at each company.

– Document analysis. Beneath the interviews, I also relied heavily on written documents. Considering the fact that all of the ventures examined by me are well-known enterprises, I could also utilize several articles published in the economic press. Due to their popularity, various publicity studies had dealt with the history of their development. It was a great help for me that educational case studies of two companies from the three had been prepared (Index, 2001 and 2003, Sunbooks, 2001). These studies were prepared (with my partial contribution) 1-2 years after the foundation of the given ventures. The mentioned works contain interview parts and insights which could have hardly been reproduced retrospectively. In the meantime, several Scientific Students' Association (with Hungarian abbreviation: TDK) essays, theses and Ph.D. works examined these three companies which provided me additional information and external opinions. In addition, I examined press releases, media news, market surveys and analyses. All the three companies made available some additional internal documents for me that usually deal with market situation, strategic options, or internal operations; the companies limited the use of some data though.
– Workshop and group simulation. During the period of preparing the case studies, I could also rely on workshops and group simulations. In two cases even the executive directors of the companies took part intensively in the workshops; one of the events (Sunbooks) was organized in the countryside with the participation of full-time master students of the university, in the other case (Netwaiter) the workshop was held on the site, with the cooperation of postgraduate students. On these encounters the company leaders explicitly expected feedback from the group; they seemed to be very open to new ideas. Some of the executive directors (Index, Netwaiter) even made presentations at the university course; during these times I focused on the students' reactions, the questions asked and the answers given, and I collected some new approaches that surprised even the company leaders. I have also prepared simulations with the student groups (Sunbooks, Index), collected their

interpretations and ideas in connection with the published case studies. As an example, in the previous years I repeated a role play exercise on the conflict of interest in the Sunbooks case at ten various student groups, including students attending master, postgraduate and IT management courses.

It made the data collection and data processing of my research special, that, during the phase of preparing the research questions, the process itself had already been started. The entire research period could actually be divided by four milestones:

- I finished my master thesis in 2000; the topic was the analysis of buyer-seller relationship through the Internet. For this work of mine I used several examples from Hungary and from abroad as well, including the Index and Netwaiter.
- I participated in preparing two case studies of educational purpose regarding the concerned companies (the studies were finished by 2003), and I also analyzed various additional examples which were later used in the form of presentations and workshops. During my later researches, these works were of great help for me in using them at the phase of ad-hoc data collection.
- In 2005 I prepared my Ph.D. thesis proposal. That provided the focus of the further data collection at the three companies, and I started the data processing as well. However, in this period my data processing covered a more general research area (my article – together with György Drótos – dealing with Sunbooks was published in 2006). In parallel, I applied the methodology of business models in other researches as well (see Makó et al., 2003, Móricz, 2007).
- The open discussion (i.e. “defense”) of my thesis proposal in 2007 provided me a good basis to determine my final research areas. This event served as a new phase in my data collection and data processing.

Fortunately, I had the opportunity to acquire primer information in connection with each milestone mentioned above in all three cases examined. As a consequence, the data collecting and the data processing actions of the three case studies could occur simultaneously, the final presentation and analysis ended in 2009. However, in the meantime (in the summer of 2008), Sunbooks ended its operation. During the data processing and the elaboration of the case studies I provided a special sort of triangulation. I applied the three types of the business model frameworks in parallel: The components set table, the value network map, and the cause and effect map.

4. Empirical Research Findings

Before describing the empirical research, I would like to summarize the situation of Internet adoption in Hungary. I have two reasons for this: firstly, because it is necessary to see the examined case studies in a wider context. Secondly, because Internet adoption, in other words the development of e-readiness has an essential influence on the understanding of the case studies; during my researches I had the experience that the development of e-business models is in strong and complex interaction with the socio-economic environment.

As regards the detailed presentation of the three case studies; I am going to focus on it in the second chapter of this part. I do not only provide a historical reading to be interpreted retrospectively but I analyze the cases directly, by using the methodology of business modeling: this way I reveal new insights, provide deeper understanding, and draw the appropriate consequences.

The third chapter highlights these correlations in a wider context, basing on the theoretical background summarized above. This is where I describe the deeper relations between the examined phenomena and I try to link them to the assumptions and open questions of the literature.

4.1. Context: Internet Adoption and E-readiness in Hungary

The Internet adoption and e-readiness in Hungary does not differ significantly from the ones of the other economies of Central and Eastern Europe, however, comparing them to the developed countries, Hungary's lagging behind is relatively predictable. Nevertheless, the socio-economic embeddedness of the case studies seemed to be significant. In order to understand it, it is necessary to see the development of the Internet-adoption and the "e-readiness" of Hungary appropriately. In accordance with the examined examples, this chapter focuses on the analysis of the time period 1999-2009. In the followings I am going to describe the evolution of the Internet use, from the perspective of the consumers and the businesses as well. (For reasons of clarity, the sources are indicated at the figures.) Then, in conclusion, I am going to analyze the "e-readiness" indicators of the Economist Intelligence Unit.

Consumer Adoption

In 2000 only 15% of the population above 14 years old had the opportunity to use Internet in Hungary and not more than every tenth of them was a regular user. During the last 10 years, the indicator of connectivity increased continuously, as well as the ratio of the regular Internet users (Figure 17). By 2009, 53.2% of the population above 14 years old is connected to the Internet and more than two thirds of them (70.6%) use it several times a week (in 2001 this ratio was 38.8 %). In fact, a fundamental structural change can be seen beyond these data. While in 2000 Internet was rather used at work or at schools only and most of the households connected to the web by modem, in 2009 the home-based Internet use is more typical and the modem has been replaced by broadband in almost 100% of the cases. Considering the different age groups, no significant changes can be seen: the high ratio of Internet users under 30 and 40 years old – which was 60% and 80% around 2000, respectively – fell back by less than 10% in 8 years. It means that the use of Internet has been growing proportionally in each age categories, which had been influenced only by natural aging.

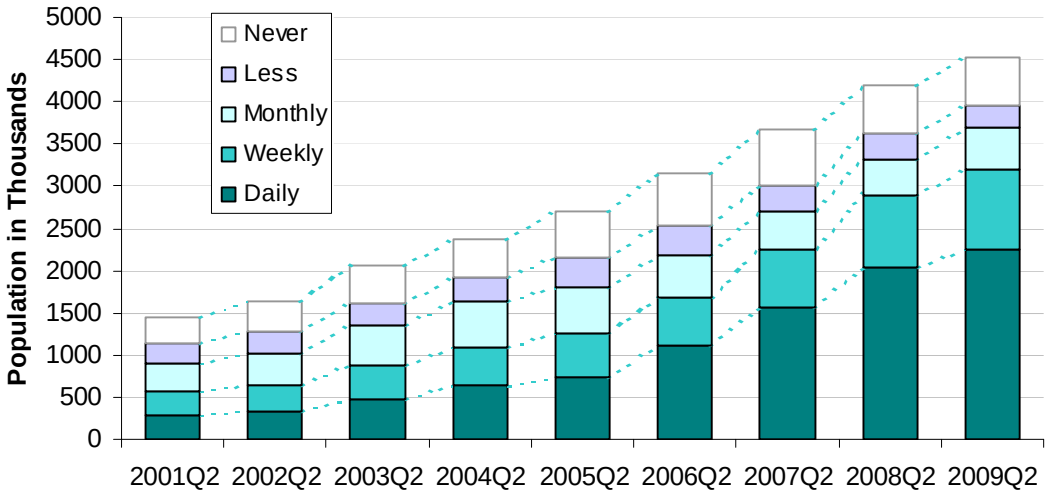

Figure 17: Internet Users and Frequency of Use
(From author based on the data-set of Kis et al., 2008:17)

The apparently continuous expansion of the Internet penetration in Hungary had some hypes (Figure 18). Though the growth of Internet users was always described by a two-digit number, there was an outstanding growth within the period 2002-2003: The ratio of those having access to Internet grew by a quarter, while the number of regular users increased by 40%. The next significant wave of increase occurred between 2005 and

2007. These two waves can be also observed in my case studies later. The number of new Internet users, as well as the ratio of regular users has strongly reduced since 2007, while the penetration in the period 2008-2009 got below 10%.

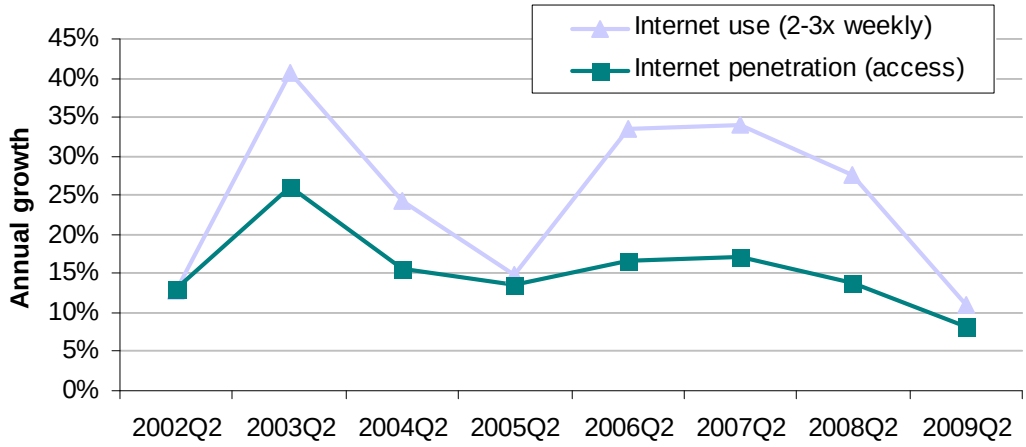

Figure 18: Annual Growth of the Internet Penetration and the Regular Users
(From author based on the data-set of Kis et al., 2008:17)

I have carried out a research among the consumers (citizens) regarding the distribution of the activities which can be practiced on Internet. Figure 19 compares the popularity of the different activities among Internet users in Hungary (the example is showing the 'frequently used' activities which occurs – in most of the cases - at least once a month). According to the figure, the two most popular activities are the browsing and the emailing, while activities such as downloading, playing or searching information with educational or working purposes stagnates between 2001 and 2009. However, this stagnation occurred in parallel with the continuous and significant increase in the number of Internet users. In addition, there is an outstanding growth in the use of online banking and shopping on the Internet. These are two transaction-type activities which were explicitly rejected by the Internet users in 2001: The change refers to the reduction of the concerns in connection with safety and reliability. It is interesting that the function of sending postcards online has fallen back. I show this data on the chart as an evidence of the continuously changing use of the Internet (i.e. the social construction of it). Several new services appeared during the 10 years (e.g. social networks, photo and video sharing) replacing some previously fundamental fields of use (online postcards, webrings[55] etc.).

[55] Before 2000 several webrings existed: Homepage owners joined these in order to cross-referring and recommending the joined websites of the webring, by placing a webring-banner on their homepage. This banner randomly or cyclically showed the "next" homepage of the webring.

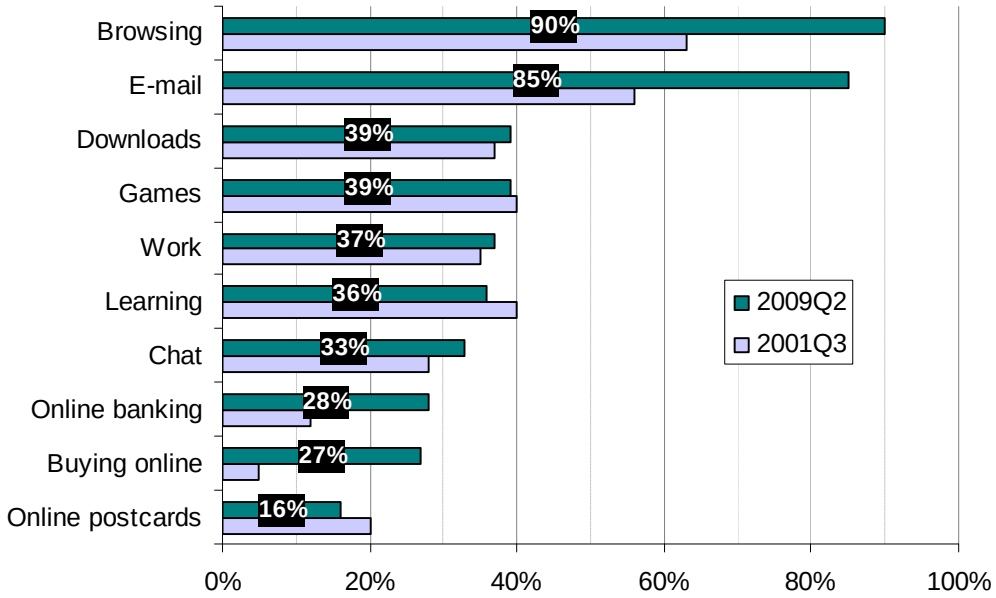

Figure 19: Regular Online Activities among the Internet Users
(Data from Bokker, 2002 and interview with GKIeNet)

Business Adoption

Regarding the business adoption of the Internet in Hungary, the comparable data I have found refer only to a shorter period of time. Figure 20 highlights the penetration of broadband connection from 2003 to 2008. During 2005-2006 this process was accelerating, while in the period afterwards it rather seemed to be slowing down. In this latter period, the companies under 50 employees provided the growth, adding that they had a significant lag earlier. By 2008, 86.8% of the companies with more than 5 employees have broadband Internet connection, while the ratio of those using modem exclusively is under 1%. Still, 5% of these enterprises does not even have computer.

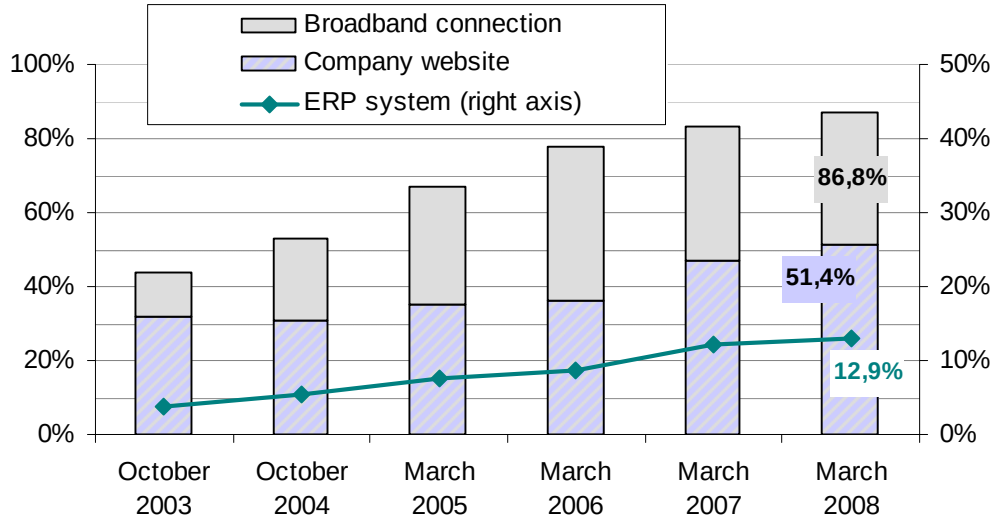

Figure 20: Internet Penetration at Companies with more than 5 Employees
(From author, data from Tóth, 2008, pages 31, 48, 50, 56)

More than half (51.4%) of the companies above 5 employees has their own website which is a 60% increase within 5 years (note, the majority of this growth happened in 2006). It is important to see that website-penetration started to increase just at the time when the largest growth was experienced in the Internet use among the entire population. Websites, in almost all cases, inform us about the basic information regarding the companies. The actual list of products or the detailed service information can be found only on two thirds of the websites which shows a descending ratio within the last three years – it can be explained probably by the great quantity of newly created websites, a certain number of which contains only the basic information about the venture. Nevertheless, concerning the transactional or interactive services of the websites, a significant increase can be seen (Figure 21). However, the lack of enterprise resource planning (ERP) systems can be an essential barrier with respect to the transactional services. Though the number of companies implementing the ERP system has tripled among the enterprises above 5 employees, the current ratio (12.9%) is still too low (see Figure 20, above – for the purpose of better visibility, the data are shown on the two-times magnified right axis).

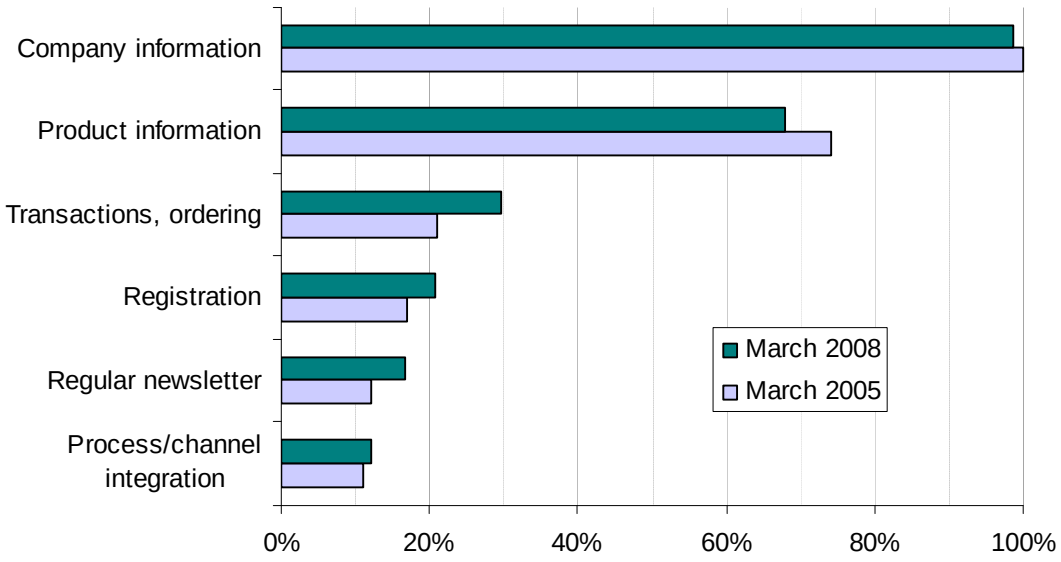

Figure 21: Services on the company websites

(Source: Tóth, 2008:57)

Finally, from the aspect of companies, I have carried out some researches on online marketing activity. The Hungarian online advertising market between 2000 and 2008 has improved considerably, showing a continuously accelerating increase (Figure 22). From the point of my case studies, it is important to mention that the size of the

advertising market reached 20 billion HUF in 2008, though this increase will probably slow down in 2009 as a result of the global economic crisis. With a 10.8% share, Internet precedes the ratio of radio (5.5%) and outdoor advertising (10%), but it is still behind the popularity of the print media (34.5%) and television (39%).

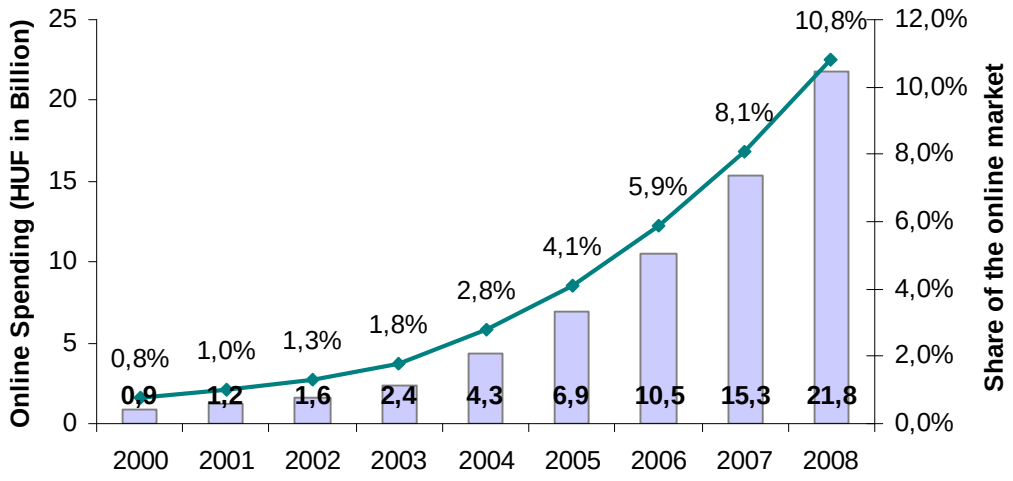

Figure 22: Growth of the Online Marketing in Hungary
(Source: IAB Hungary / Hungarian Advertising Association, 2009)

E-readiness

The e-readiness indicator of the Economist Intelligence Unit (EIU) – which was introduced in Chapter 2.3.1 – complements the measure of Internet adoption with influencing factors of the economy, the society and the regulation in general (source: Economist Intelligence Unit, 2001-2009). In Hungary, from the 6 indicators of the EIU, the measure of **connectivity** (including the issues of e-security) shows the highest increase in the last 5 years (Figure 23). Still, it does not reach the average value of all the six indicators of Hungary: The value 5.85 is a moderately weak result on a scale of 1-10. Slovakia, as an example, reached 6.25 as an average of the 6 e-readiness indicators. Nevertheless, one of the highest indicators of the Hungarian e-readiness is the **business environment**, though it shows a continuous decrease (6.57 in 2009). It reflects the general deterioration of the business environment: E.g. the complicated taxation system, the internal political crises, or the slower economic growth. Comparing Hungary to other Central-Eastern-European countries, the business environment of Czech Republic, Slovenia, Poland (6.92) and Slovakia (6.90) provide more favorable conditions for e-business.

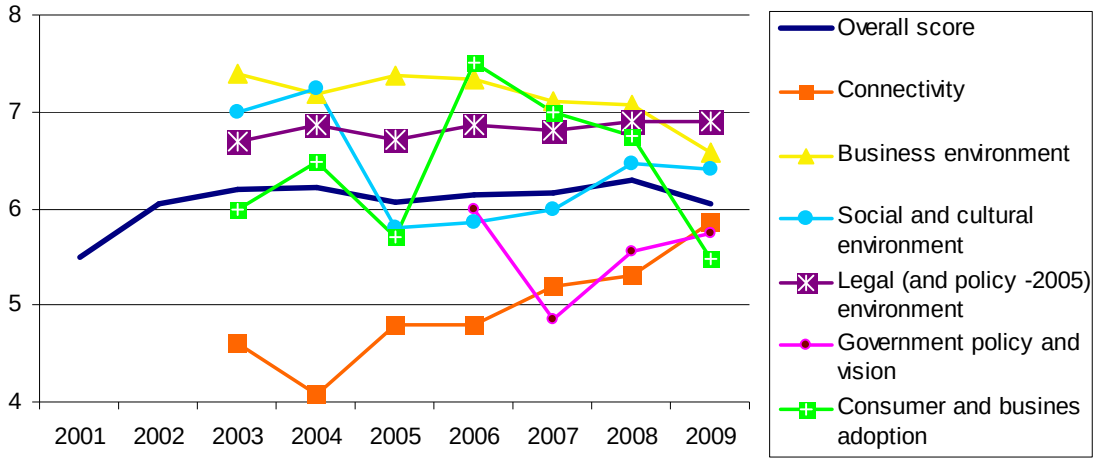

Figure 23: Development of the E-readiness Indicators of Hungary (scale 1-10)
(Source: Economist Intelligence Unit, 2001-2009)

The indicator of **social and cultural environment** covers the educational situation, the "digital literacy", the entrepreneurship, and – from 2005 when the measurement has been slightly modified – the attention paid on innovations. In this latter factor (measure e.g. with registered patents) Hungary underachieves: The growth showed by the indicator is due to the high educational level and the increasing experience in Internet use. The rate of the social and cultural environment (6.40) is higher than in the case of Lithuania (6.33), in spite of the fact that Lithuania precedes us by two other countries in the overall ranking. Regarding the 6 e-readiness indicators for Hungary, this one is the third highest. In 2009 the Hungarian e-readiness reached its highest value in respect of the **legal environment** (6.90). Beyond the entire legal system, the relatively high point is due to the Internet regulation, the electronic identification, the simplicity of starting a company, and the low level of censorship. Though we reach the highest point regarding this area, Hungary is still behind Slovakia (7.15) and Latvia (7.50) – in the overall evaluation Hungary precedes these countries.

After that a new indicator, namely the indicator **government policy and vision** had introduced in 2006, Hungary has shown diverse results. This indicator compounds the ratio of the governmental ICT spending with the strategy of digital developments and e-government, as well as with the online access to public administration services and with e-democracy (UN e-inclusion index). Hungary's value at this indicator in 2009 (5.75) highly exceeded the one of Slovakia (4.75) but it is still far from the value of Slovenia (7.00). However, the biggest issue of the Hungarian e-readiness is the **consumer and business adoption** of the ICT technologies and the Internet. The indicator measuring

the ratio of the consumer ICT spending, the use of online services (e-buying, e-public administration), and the level of e-business development as well, has been decreasing in the last years. In 2009 this number (5.48) showed the lowest result regarding the six indicators of e-readiness. The low value reflects the increasing expectations from the side of EIU researchers and – primarily – Hungary's growing distance from the developed countries in respect of the mentioned field.

Hungary's e-readiness indicator between 2001 and 2009 was around 6 (see Figure 23, thick line). The overall score from EIU summarizes the six indicators with different weights. In 2009 Hungary's overall e-readiness reached 6.04 point on a scale of 1-10. With this result **Hungary is ranked 35th** on a list of 70 countries, while in 2001 Hungary reached the 28th place on a list of 60 (5.49 points). This lagging behind is basically due to the fact that, in the meantime, new countries joined the ranking, and these nations performed better in the ranking, compared to Hungary. It is important to note that, during the previous years, Hungary did not manage to precede any of the countries having higher rates, while Slovenia and Lithuania – both of them joined the survey later – succeeded to improve their previously (2005) weak e-readiness points: By 2009 both of them surpassed Hungary, and Slovakia also closed up.

It is essential to draw the conclusion that – in spite of the significant development in the measure of "connectivity" – the Internet penetration is a considerable limitation for e-business still. The Internet adoption, both of consumers and businesses, is an even more serious problem: It seems that the use of e-commerce and public e-services in Hungary lags behind and the lag compared to the more developed countries is growing. Many people with a broadband Internet connection are not interested in the regular use of the Internet. It raises a serious question that the e-commerce is limited to a smaller group of the Hungarian Internet users still – despite of the relatively cheap broadband Internet access (wired or mobile): Is it the value proposition of the e-business models which is not convincing enough or is it the existence of "soft issues" which discourages consumers to do such transactions?

4.2. E-business Model Case Studies

In this chapter, the three empirical case studies (i.e. e-business models) are presented consequently, in a consistent manner. Following the presentation of the introductory information on the particular enterprise, each case study is divided into three evolutional sections – for a more transparent structure. Along these sections – or where appropriate, along multiple sections – the essence of the business model is summarized based on the table-structure presented in the theoretical-methodological section of this paper. The models are figured as value networks and as cause and effect maps as well. All three case studies conclude by the synopsis of the discussed business model and the exposition of the critical factors arising from the longitudinal analysis. The results of the comprehensive, feedback-based review of the three case studies are to be detailed in the next chapter.

4.2.1. Index.hu: From an Internet Portal through the New Media Company to the Web 2.0

Index.hu is one of the best-known websites and brands in Hungary. According to diverse figures of the website traffic certifier Median Webaudit, it occupies the ranks 1-3 in the statistics of Hungarian portals. It is centered on a news portal, which further sections and services are latched onto. The journalistic awards earned by the contributors of Index also testify the notoriously unique and characteristic writing style of the news portal. Index.hu is inseparable from the community of its readers. What started out as a system of discussion boards has evolved into a "factory of public content" with its own brand called Inda. The boundaries between the reader-edited blogs (and the comments within), uploaded photos and videos and the content edited by the journalists of Index are fading more and more.

Index's newsfeed and the connected community-sites alike attract more than 2 million readers a month. The portal finances its operations mainly from the advertisements placed on its sites. Advertisements accounted for revenues above HUF 1.5 billion in the year 2007. The earnings before interest, taxes, depreciation and amortization (EBITDA) exceeded HUF 250 million. Index.hu operates in the form of a private company limited by shares (Inda-Labs, the company organized into a separate entity in 2008 alike), and is a member of the Central-European Media & Publishing (CEMP) group. The portfolio of the group contains several other e-business enterprises,

such as book-trading Bookline.hu, the financial news portal Portfolio.hu, or Etarget, an agency of online text advertisements.

Index – Stage 1: Horizontal Portal

In 1998, Internetto news portal was Hungarian Internet's best-known brand and most-visited portal at the same time. The website was distinguished by a team of editors establishing a characteristic writing style and a coherent readers' community. As a dissent between the head of the editorial team and the professional investor of the portal arose, the investor dismissed the editor-in-chief, and the entire team of editors quit the company. These editor established Index.hu within a couple of days in May 1999 – as a duplicate of Internetto. The readers' community followed the editors, and thus left-alone Internetto ceased to exist two years later (due to the acquisition of the brand by Index.hu). The founder editor-in-chief left Index still in the same year. The privately-founded enterprise operating the portal was acquired by financial investors.

The first two years of Index witnessed a continuous growth in the number of visitors, as well as in the level of services offered by the portal. The emphasis was on up-to-date, independent provision of news in a unique style. This was tightly interconnected with the community of readers kept together by a system of discussion boards. The discussion boards (i.e. forum messaging) ensured several news, feedback concerning the writing style and also raised and nurtured new journalists for Index. The evolution of Internet and the subsequent entry and steps of competitors seemed highly unpredictable. The capital-power of international media enterprises (mostly that of the actors of the print media market: Sanoma, Axel Springer, Ringier) and telecommunication companies (mainly that of Deutsche Telekom-influenced, line-based service provider Matáv) both meant a threat on the online market. For this reason, the management of Index took international improvements into account when broadening the activity-scope of the portal: "Everything what is related to the Internet" – as one of Index's managers summed it up in retrospect. This is how Index started to offer free emailing, data storage and maintained a toll-free dial-up number for users with a modem. This latter was a strategy against the fact that without a substantial raise in the number of users, the portal could hardly make any profit. Index.hu featured map services, quizzes, an online radio station, a web directory and a search engine. Moreover, Index opened a webshop, the programmers developed a sales-software, and the portal even got involved in the Internet consultancy business.

In the first two years, Index cooperated with several web-based businesses. They had common goals of enhancing the number of Internet users and of propagating Internet-usage. They supported each other with links and advertisements. However, due to the low Internet-penetration, big advertisers were not considering the Internet as a channel that time. Charging a fee for the content would have been a suicide-strategy regarding the small community of users. Index attempted to lower its costs by closing barter-deals with its infrastructure-providers. Moreover, some particular topics were covered alongside a content-providing partner: The women's magazine section called Velvet for instance was brought to life in cooperation with Axel Springer. The portal had a sponsorship agreement with the second largest cellular service-provider in Hungary. The cross-financing of the content-provision from complementary activities (consulting, software) did not work out due to the low revenues from these activities.

Index, Stage 1: Horizontal Portal (everything what's on the Internet)	
Value proposition: framework model and choices	§ **Portal**: news portal, forum messaging, web storage, online radio, search, link catalogue, map etc. – *"Hungarian content that catalyze Internet usage"; "unique tone"; "belonging to the community of Internet users"* § **Marketplace**: virtual mall – *"convenient home shopping"* § **Utility**: webmail, website hosting, Internet consulting, software products – *"everything in one place"*
Architecture model	§ **Network alliance**: cooperation with Internet service providers and media companies § **Community**: community content leveraged by the forum system
Revenue model	§ **Advertising revenue**: banners, advertising agreements and barters, sponsorship § **Affiliate revenue**: from the virtual mall operations

Table 16: Index: Business Model Components Set, Stage 1

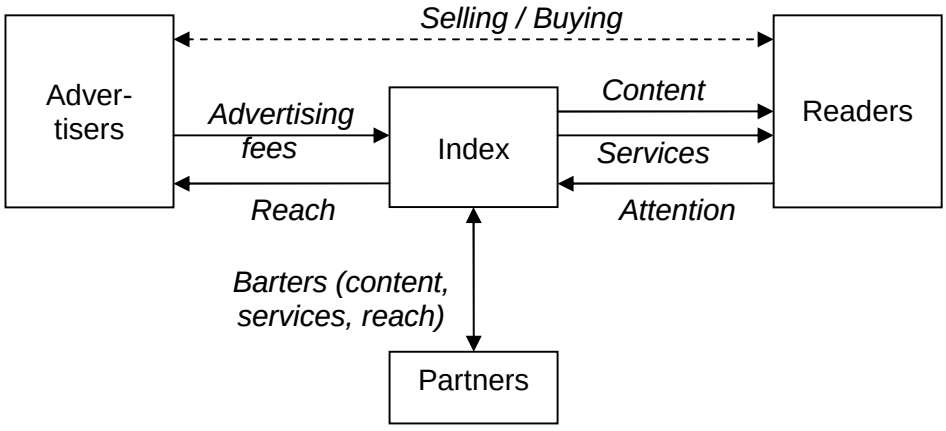

Figure 24: Index: Value Network Map, Stage 1-2

Index – Stage 2: The Online Media

By the summer of 2001 Index got close to bankruptcy.[56] As a first step, software development, web design, e-commerce and integrated business solutions were outsourced. The employee-headcount of 150 people was cut by half. A crisis-manager was appointed, but neither did that help enough, nor did further cuts, a blockage of the barter-deals or the enhancement of the sale of advertisements. The business was saved by a Hungarian financial-investment company in the spring of 2002.

The keyword to Index's second evolutionary stage was "focus". The horizontal portal got transformed into an online media enterprise in its most genuine sense. The focal points were the news portal, the women's section (Velvet), the automobile magazine (Totalcar) and the financing of these through advertisements. The latter magazine also released a video version that was broadcasted by a country-wide commercial television fortnightly (the project was mostly breaking even). A significant portion of former services got blocked, handed over to other providers (data storage, emailing) or held back. The development of the former flagship – the system of discussion boards – for instance was procrastinated for years; its response time and stability were drawing close to a critical level. Along with the increase in the number of Internet-users, the number of visitors also grew substantially by the spring of 2003 (100.000 visitors and 3.000.000 downloaded pages a day). The raise in media sales revenues (half a billion HUF in 2003) and the cost-cutting first resulted in positive cash-flows and then in positive financial results.

Index, Stage 2: The Online Media	
Value proposition: framework model and choices	§ Portal: news portal and 2 major supplements, forum, 3rd party webmail and storage, TV program – *"unique tone"; "latest news"*
Architecture model	§ Network alliance: cooperation with broadcaster, webmail and web storage provider § Community: community content leveraged by the forum system
Revenue model	§ Advertising revenue: banners, advertising agreements and barters

Table 17: Index: Business Model Components Set, Stage 2

[56] Several horizontal portals that started out with substantial investments and offline marketing campaigns ceased to operate around that time. Main examples are Globopolis, Vianovo, Magazix.

Index – Stage 3: Online Media 2.0

In 2005, Index was taken over by a new investor that established the Central European Media & Publishing company (CEMP) through the acquisition of Hungarian e-business enterprises. CEMP is the absolute owner of Index since 2007. This stage witnessed a surprisingly great shift in the number of Internet users. The social networking site Iwiw became a breakthrough application due to its exponential growth; Internet commerce also had a breakthrough (special emphasis was on the CEMP-owned online bookstore "Bookline", on the C2C auctioning site "Vatera" and on the role of broker trading with online third-party insurances for passenger vehicles). Magyar Telekom, a company of the T-Group and the market leader in telecommunications (that in the meantime acquired Iwiw) established an online portfolio with a wide spectrum. Media companies (commercial television channels, Sanoma) engaged in intensive development and acquisition activities (Sanoma for instance bought the number one Hungarian website directory called Startlap.hu and the leading Hungarian job portal Profession.hu).

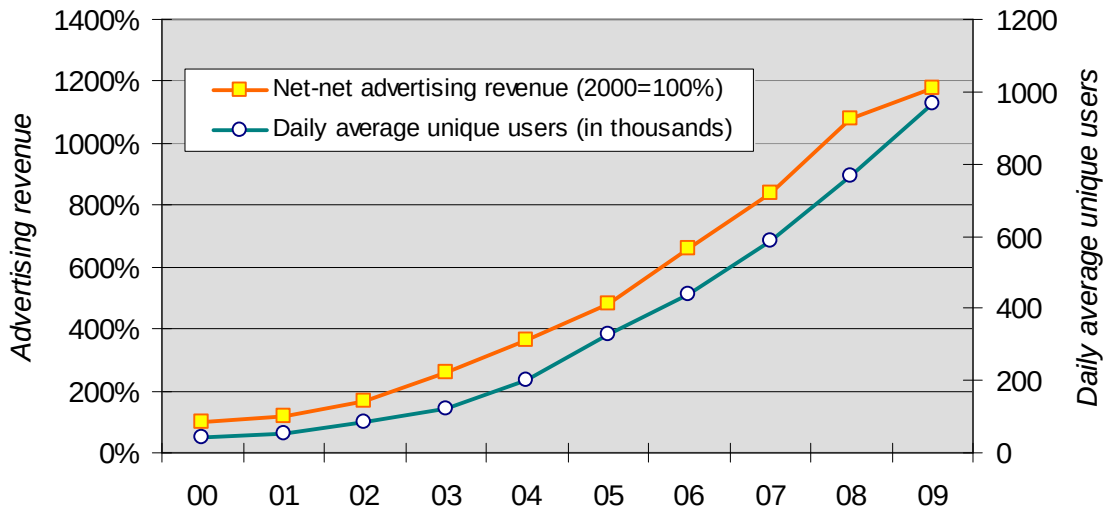

Figure 25: The Growth of Index

(Source: Company estimates; aggregated data of the broad Index group)

The growth of the online advertising market in Hungary – that occurred parallel to the spread of the Internet – not only made it possible for Index's "online media" business model to operate profitably, but also secured the background for new developments. These mainly aimed at community services. Photo-sharing, video-sharing and blog services, and a mailing system developed by Index were offered again besides the discussion boards. These social services uniformly got the brand name Inda, for which a

social networking site was put in place as well. Although from an organizational perspective the development of the social networking services was run by a separate company (Inda-Labs Ltd.), the two areas got more closely knit on the portal from 2007 on. Blogs edited by the community are being promoted on the cover of Index. Index's journalists are active members of the blogosphere and the readers can add comments to some of the articles published on Index's sites. They cannot add comments to all of the articles because of the simple fact that Index does not possess the resources necessary for the moderation and filtering of all comments. As one of the leading journalists and bloggers of Index said, there are already about 100 volunteers working on the moderation of blogs currently. There was an idea, that users should be able to rate comments, which in time would exclude users with destructive intent from the system (or as in case of a new users, the publication of the comment would be bound to human moderation). However, in this particular case, the self-organizing nature of the community is a disadvantage – any rating scheme alike is would be easy to manipulate.

User-generated photos and videos are streamed onto Index's main page. In case of extraordinary events (or even in case of minor happenings) blog-entries, twits (news sent by readers to the micro-blogging services of Twitter.com with the label "Index") and letters by readers mingle among articles by Index's journalists on the site. The attacks against the WTC made it clear, that readers do have things to say about their experiences that do interest the community. Not one news agency or team of journalist is able to capture an event of mass-interest in the depth and richness the readers' community does – now even with pictures and videos as the technology is spreading. As the managing director of Index puts it, "Index is following (or foregoing? – ed.) the social process of the transfer of content-provision to the long-tail" – this being a reference to Chris Anderson's thoughts on the topic (Anderson, 2006). Index also offers earnings for its bloggers (the content-providers of its blogging services) in the form of a share of revenues from advertisements placed optionally on their blogs.

Inda's portfolio of services is complemented by sites closely related to the content and to entertainment and infrastructural services. Besides emailing, Index also joined the market for Internet-telephony and launched a service for Internet-based faxing. These services are able to generate direct revenues, but the attempt brought along minor results so far. Looking at the off-line activities, while the television-stream is on hold, Index launched a series of books based on the publications of its contributors. The books can only partly be looked at as the hard copy of online content (an example

although is the book based on the blog about relationships and break-ups), but mostly represent a collection of the contributors' off-line interests (photo-books, reports, books for leisure, specialist books).

Besides the streaming of community-generated content, Index is looking for synergies with other enterprises of the CEMP group as well. OnGo's service for sharing travel experiences is closely related to CEMP's online travel agency (C-travel). The task of news-production can be divided and the number of visits can be raised by cross-referencing to other media of CEMP (Portfolio.hu: financial news portal, Napi Gazdaság: printed daily newspaper on business, Inforádió: a radio station specialized in news and obtaining an online portal as well). One of Index's heavy advertisers is the online bookstore "Bookline" - also a member of the group.

Index, Stage 3: Web 2.0 Online Media	
Value proposition: framework model and choices	§ Portal: news portal, supplements, community services, forum, blog, photos, videos, etc., combining the edited and the community contents – *"unique tone"; "latest news"; "long-tail contents"; "experience product/content"* § Utility: e-mail, Internet calls – *"intuitive communication"*
Architecture model	§ Value Integration: intensive in-house development, combining services at group-level, cross-selling § Community: exploiting the community-created contents
Revenue model	§ Advertising revenue: banners, advertising agreements and barters § Product/service sales: monetization of infrastructure services (Internet calls, online fax) § Affiliate/referral fees: revenue sharing with bloggers § Group-wide Synergies: revenue generation for other companies' services

Table 18: Index: Business Model Components Set, Stage 3

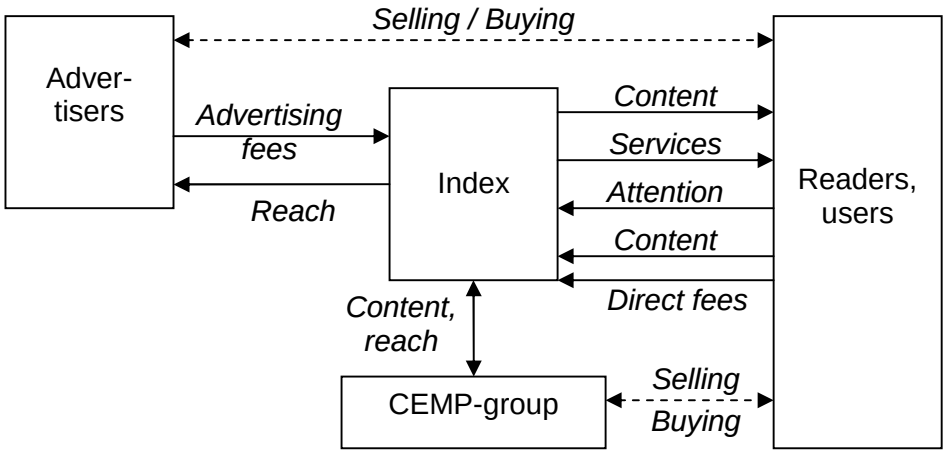

Figure 26: Index: Value Network Map, Stage 3

Index: A Summary of the Business Model

In a close-up, the framework model of the Internet portal Index underwent some serious changes in the past 10 years. In the first one or two years Index was trying to make every online service one can imagine accessible from its own site: following the concept of the portal as a "gateway to the world wide web". The model went through a fundamental skimming as Index focused all of its resources on the online provision of news (plus the two supplements). The emphasis in the third stage was again on expansion, with the business model based on the combination of content from the community and the editors. The background to the story is depicted by the slope of Index's operating results. The faith in growth only allowed for a short time-period of operation characterized by substantial losses. The shift in the strategic focus was enforced by the shrinkage of financial resources. New developments demanded not only a new investor – with similar ventures. There was a need for the spread of (broadband) Internet usage in Hungary that reached the critical mass right at the point, where I indicated the boundary between stages 2 and 3 of the story above.

Despite the changes in the business model, we can still examine some constant elements in Index's strategy. The sensitivity towards the readers' community was all throughout strong. Both in the stages 1 and 3, building the operation on the strength of the community was a key momentum. In stage 1 this happened literally, with readers turning into journalists; while stage 3 saw the blurring of the boundaries between journalists and bloggers. In stage 2, the community-focus has manifested itself through the preservation of the unique writing style, but this was not evident either. The readers in this stage were not innovators pioneering in the Internet-usage anymore, but members of early and late majority of the society. (This majority was targeted by Index's main competitor, T-Group-owned Origo, with its more orthodox style and appearance. For many of them, the Internet still remains the mailing system Freemail and the social network portal Iwiw – both owned by T-Group).

For these reasons we cannot suffice with the above mentioned market determination (number of users, the size of online advertisement market) and financing as critical success factors of the business model. The editors' board of Index that is able to keep the community around itself is a success factor of its own. This is confirmed on the one hand by the story of Index's foundation (see above), and on the other hand by the overriding sensibility of the readers (bloggers, "commenters") to any step taken by Index (any typo, bias or modification of the design entails a major reaction of opinions).

Nonetheless, there are several unanswered questions concerning the future of the business model. In the last couple of years, the positive revenues of the portal gave room for experimentation. Albeit contrarily to the diversified innovations of stage 1, the developments of stage 3 are still highly media-related. Remote elements of the portfolio – meaning the Internet-telephony and – faxing bound to a fee – are less in the forefront. Index, however, is trying to – as the managing director puts it – have multiple innovation-lobes in stock in a highly unpredictable industry. They are endeavoring to prepare for the unpredictable developments of current trends with semi-made solutions:

- The blurring of the boundaries between television and Internet is on its way, the different technologies of content-provision and entertainment are converging.
- Online media already cut out a chunk of the advertisements' market, but at this point and considering the effect of the 2008 world economy crisis, the entire pricing of online advertising is possibly to be reconsidered. For instance pay-per-click can be substituted by other (time-based) units of measurement.
- After the western markets, global Internet services (services of Google, E-Bay, Amazon, iTunes, Facebook, Twitter etc.) are more and more gaining a foothold in smaller, local markets, such as Hungary. What more, their mother-companies are not only rich in financial and innovational capital, but are active players in the arena of the platforms (browsers, operating systems, API – standardized programming surfaces and languages) as well.

Strategy	Business model	Processes	Key success factors
§ differentiation strategy: unique tone, community building § independent: politically and from telecom companies § growth and diversification at the beginning, later focusing and innovation § local market	§ advertising-based extensive horizontal portal in the beginnings § an online media company that exploits the community power and the group-wide synergies recently	§ newspaper writing § buying and "recruiting" content § editing § developing online services § sales (advertising market) and creating further revenue flows § providing stable infrastructure	§ community building, a readership that is valuable for advertisers § attracting content, fast response § innovativeness at the field of services and advertisement § earlier: investor relationships, "creating or building the market"

Table 19: Index: Strategic Choices, Business Model, Key Processes, KSFs

Index: The Core Logic of the Business Model

When developing the simplified cause and effect model of Index, I was intending to clearly highlight the relationships between the most important characteristics (Figure 27). This is why, for instance, the constantly updated content is not featured in the figure as an attractive force, although it is implied by several elements of the figure (e.g. the team of journalists). The most substantial choices of the business model are the following: a unique writing style that requires a team of journalists feeding upon the community, and thus building the brand Index. When analyzing the story of Index with this figure, the role of the infrastructure and the developers is conspicuous. In the early days, they wanted to develop several services for building the community; this on the other hand would have required substantial streams of revenues from the side of the infrastructure and the developers. The focus was later shifted to the four choices described above. The team of journalists does not only expand by giving readers a leg up (this is how "worluk" aka Tóta W. became a journalist at Index), but the community itself is writing and editing whenever adding a comment or a blog-entry. This way, although the unique style originally deterred advertisers[57] (the critical voice and Index's proclaimed independence made the advertising spaces hard to sell. This is still the case with several blogs of the Index-owned Blog.hu), the brand that sprouted from it is strong enough to fuel the engine of the model.

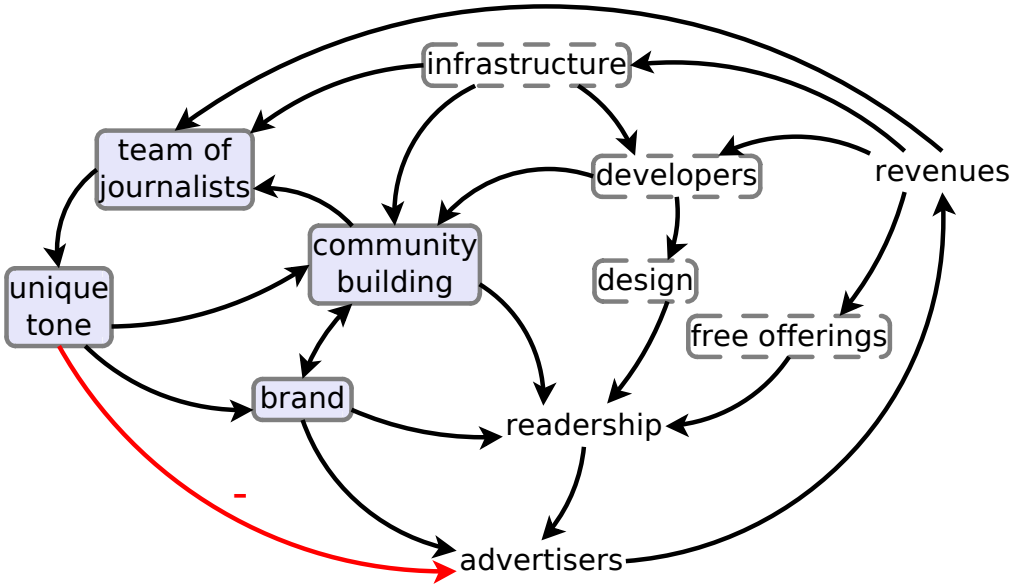

Figure 27: Index: Business Model Cause and Effect Map

[57] The factors in the figure drawn so that **normal arrows represent positive, i.e. reinforcing effects** (if the level of the factor at the beginning of the arrow increases, the effect is similar on the other end as well; decrease is followed by decrease), this is not indicated separately in the figure. However, there is **negative causality** between the unique tone and the advertisers (less unique tone attracts more advertisers), which is indicated with **red arrows and a minus sign**. **The shade of the boxes** represent **key choices** of value, while **dashed frames** signal potential **points of intervention**, where the manager can make changes by the increase/decrease of the level of the factor.

4.2.2. Sunbooks: Attempt to Transform the Hungarian Book Trade

Having contacts with more than 1500 publishers and around 2500 retail stores, Sunbooks was one of the most notable online B2B marketplaces in Hungary. Retailers could to select from thousands of books uploaded into the system. The publishers were able to maintain individual promotion schemes and gather information on the demand for particular books. The bookstores compiled their orders of the desired books listed in the system. Sunbooks shipped that package in one day from its intelligent store. The total turnover performed over Sunbooks' marketplace was around 3-5 billion HUF a year between 2004 and 2007, which corresponded to roughly 5-8 percent of the Hungarian book market. The revenue stream for Sunbooks was 11.5 percent of this turnover, a commission paid by the publishers. For the retailers, the marketplace was offered free of charge, the only thing needed was a computer with an Internet access. Sunbooks did not request exclusivity from any parties, the publishers and the retailers were able to maintain their traditional offline sales channels, i.e. they utilized the warehouse-stores or the fixed-route trucks of wholesalers.

By the end of 2007, the third biggest player of the Hungarian book market, Líra & Lant announced the acquisition of Sunbooks. In 2007, Sunbooks was the exclusive supplier of the biggest hypermarkets in Hungary. Beyond its chain of bookstores, Líra & Lant also operated as a wholesaler and publisher. After a half-year period of parallel wholesaling activities Líra & Lant decided to shut down Sunbooks' marketplace completely and by the beginning of July 2008 started to serve Sunbooks' former clients from its own facilities.

Sunbooks – Stage 1: Entering the Market

Sunbooks, a company starting its operations on the 1st of August 2000, set itself the goal of the complete transformation of the wholesale of books in Hungary. The founder-managing director, Dr. Gábor Rényi is an emblematic character of entrepreneurs before the change of the regime in Hungary. In the 1980's he was the chairman-CEO of the first privately owned company limited by shares, Novotrade Rt. The Hungarian publication of foreign books on computers and microelectronics was an essential part of the company's diverse commercial activity. In the 1990's Novotrade was transformed into an investment holding, and by the millennium it has narrowed down its portfolio that had the launch of Sunbooks, a B2B marketplace for books.

The idea of reforming the wholesale of books was highly valid. The size of the Hungarian book market in 2009 was HUF 39 billion, characterized by low prices (approx. HUF 2000 per book) and low concentration in all aspects. On the one hand, there were about 10.000 new publications every year, a figure that is a multiple of the per capita number of western-European publications. On the other hand, almost 3000 ventures were involved in the publication of books (1000-1500 of these indeed were publishing), although 80% of the turnover was generated by 10 publishing houses, and the 10 largest publishers were in control of almost half of the market. In Hungary, in the first year after the publication, the retail price of a book could not go under a level pre-fixed by the publisher. The three main groups of actors in the book market fulfilled the following tasks.

- Publishers ensured the production of the book from 53-55 % of its net price: royalty fee, translation, fragmentation, graphics, press-works etc. They took care of the storage of books that were not allocated to bookstores yet, or came back from there. In some cases they even made direct sales. They rarely got involved in marketing; their databases were simple – oftentimes completely paper-based.
- There were a few dozen of enterprises engaged in the wholesale of books. Six publishing houses had their own wholesale stores. Wholesalers sold either from their own stocks to retailers that turned up there, or were making tours of retail stores on their vans packed with books, from which the retailers could make their choices. The margin of the wholesaler made up for about 9-11% of the net price of the book.
- Some 750 stores pursued the retail of books as a primary business activity in Hungary; to this figure we may add a couple of thousand other stores that carried other products besides books as well. Less than a fifth of bookshops were a member of one of the four notable chains of bookstores. While these chains were already running some type of IT-supported records of stocks, the majority of shops only had rudimentary records. The large chains more often organized promotions connected to a particular book (e.g. book-signing sessions). Bookstores mostly got the goods from the stocks and couriers of wholesalers. Due to the difficulties of forecasting the demand, they themselves were often forced to store a portion of the books. The retail margin was around 35-37% of the net retail price.

The need for reforms on the book market can hence be underpinned along two main areas: the problems in the flow of information and material.

– Flow of information. The retailer (and the consumer) could not obtain sufficient information on new publications. The flow of books in the industry was difficult to trace, there was not enough information on the sale of the books and the levels of stocks. The electronic databases put in place by diverse actors of the industry were not compatible, and still a lot of companies did not operate any databases.
– Flow of material. Most actors had to handle stocks larger than reasonable in their storage facilities. Due to the lack of information on demand and stocks, the goods traveled unnecessarily between the players of the industry. Books that were not sold were roaming between wholesale storage rooms; in some cases books needed in the store for sale were on their way back to the stocks of the publisher.

Sunbooks developed its electronic marketplace to target these specific problems. Publishers shipped their goods from the press straight to Sunbooks' intelligent storage facilities, Sunbooks kept track of these and the pricing and discount systems of publishers online, and the retailers could assemble orders from the stocks. Sunbooks delivered these orders to the bookstores free of charge, within one day, managed billing and payments in its own system and also took care of the handling of incidental return-goods. The main elements of the system unmatched in Hungary and put in place with an initial investment of over a billion HUF were the following.

– Three integrated information systems, for the formulation of which Sunbooks chose IBM as a partner: An e-commerce system, a system for warehousing and an enterprise resource planning (ERP) system.
– Intelligent storage and logistics, where Sunbooks' partner in implementation was the Hungarian Post: A highly automated, intelligent storage facility able to cater to the entire Hungarian book market was built, the Post pledged delivery within 24 hours.

Despite the undisputable advantages offered by Sunbooks, in the first three years of operation, the system did not fulfill the hopes of the founder. (In the meantime the majority share of the company was transferred from Novotrade to a venture capital investor that raised the equity of the enterprise.) As of capacities tailored to the entire book market, a market share of at least 15% would have been necessary for profitable operations, but Sunbooks only performed around 3-4%. Only a partial cause of this was the fact that bookshops were not by all means ready for online procurement. The main problem was the absence of major publishers that did not want to join the system, which

thus only covered a minor part of the supply of books. The reason for publishers' absenteeism was hardly the commission of 11,5% - that was higher than the 9-11% of traditional wholesalers, but included transportation costs, administration and billing. The real reason turned out to be a major conflict of interest between big publishing houses and Sunbooks.

- Some big publishers had their own wholesale stores. Although in cases like this, Rényi used the power of numbers to prove them that using Sunbooks is cheaper then the maintenance of wholesale stores, latter ones rather had strategic (or market power) advantages and costs did not seem to be of great concern. Joining Sunbooks only paid back after the sale of their own wholesale store, and that was not the intent of any of the publishers.
- Sunbooks was founded at the time when the dotcom-bubble exploded, and big publishing houses did not trust in an electronic marketplace with grand plans. Publishers solely relying on Sunbooks in their sales would have been severely affected by an incidental bankruptcy.
- Major publishers considered the sales figures of their books as a business secret that was not to be shared with Sunbooks, however hard it tried to prove itself as independent intermediary.
- They also had concerns about the prospective behavior of Sunbooks. If the intermediary that is able to cover the entire book market took hold of an always greater chunk of the market in the future, it could use its extended bargaining power to set tougher conditions towards the publishers. Later, the system would have considerable switching costs such as the time and efforts invested, the amount of learning involved and the dependency on the channel.

Sunbooks, Stage 1-3: Supply Chain Integration of the Book Industry	
Value proposition: framework model and choices	§ Marketplace: intermediation between the book publishers supply and the book stores demand, full service provider of the supply chain (product information, ordering, delivery, billing and payment) – *"convenience and promptness"; "high level services"; "everything from one place"*
Architecture model	§ Network alliance: external cooperation in the field of the two mission-critical processes (IT system engineering and logistics)
Revenue model	§ Transaction fee: commission paid by the publishers (11.5% of marketplace's turnover)

Table 20: Sunbooks: Business Model Components Set, Stage 1-3

Sunbooks – Stage 2: Market Growth

By 2004, it became obvious for Sunbooks as well that their initial plans about a turnaround transformation of the book market were not to be realized. But instead of aborting the business model, Sunbooks went looking for the market trends and niches that could lift the company up to the level of profitable operations. The wholesale activity of the Hungarian Book Club (Magyar Könyvklub), a noted market player struggling with its losses, was taken over by Sunbooks from January of 2004. The Hungarian Book Club was the first catalogue-based, home-order book retail company in Hungary. Later, it established a publishing house and acquired a wholesaler. In 2000, it controlled 8-10 percent of the Hungarian book market. Acquiring the wholesale section of the Hungarian Book Club not only meant an increase in the utilization of logistical capacities for Sunbooks, but also 90% of the books offered in the market (excluding specialist books) became available through its system overnight. The reason for this was that all of the major Hungarian publishers (who tried to be isolated from Sunbooks in the past) offered their book assortment for selling through the Hungarian Book Club in order to reach its book fanatic customers. More than a fifth of Sunbooks' turnover in 2005 was provided by the Hungarian Book Club. (When portraying the value network map of Sunbooks, I indicated the indirect access to the stocks of major publishers with dashed lines, just as I did in case of the incidental relationships between the other wholesalers and larger chains.)

The other driver of Sunbooks' growth (Figure 28) was the emergence of the multinational retailers and hypermarkets, whose primary activity was not the commerce of books. This was a group of customers that appreciated the opportunity of being able to bargain with only one independent middleman – instead of a wholesaler influenced by one of the big publishers. The service quality that was offered by Sunbooks – online placement of orders and billing, one-day shipping – was a plus as well. Multinational clients and hypermarkets made up for about the half of Sunbooks' turnover. Parallel to this, Sunbooks was trying to convince smaller buyers on periodical business meetings to initiate more and more of their procurement through Sunbooks. Despite the high coverage of market supply, the convenience of the system and the professional service level, bookstore often transacted only 10% of their procurement in Sunbooks' system. Raising that ratio would have guaranteed an increase in the turnover for the company.

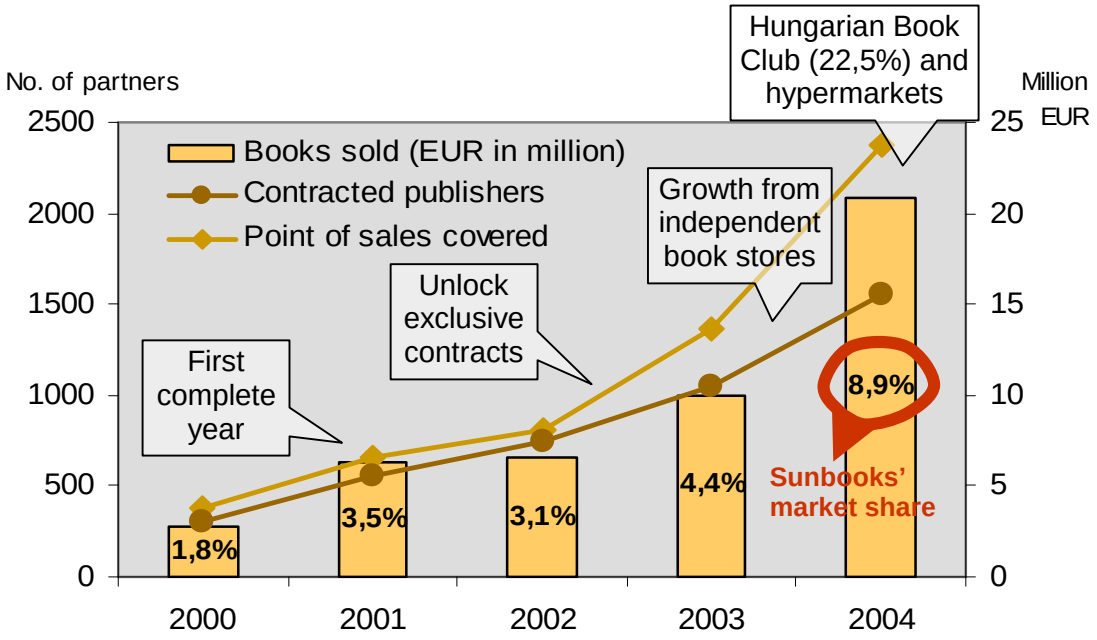

Figure 28: The Growth of Sunbooks 2000-2004

(From author based on company interviews)

Besides the strengthening of the revenue side, there was a need for the decrease of costs for the business model to become profitable. There was primarily space for the reorganization of logistical processes. Sunbooks did not extend its contract with the state-owned Hungarian Post, but went looking for a cheaper provider by calling for a tender. In the summer of 2005, Sunbooks was relocated from the storage facility ready to cover all of the country into a smaller, cheaper headquarters. However, within one year, the new provider of logistics, Áti-Depo, narrowed down its business scope to storage; thus Sunbooks in-sourced the logistics functions for saving costs. Smaller packages and palette-sized units were from then delivered to stores by two providers, while the warehousing facilities were still being rented from Áti-Depo. It was after this, that the GPS-based online tracking of smaller packages became possible.

Although there was a breakthrough in the online book retail from 2005 on – principally due the appearance of the online bookstore Bookline –, Sunbooks deliberately did not enter the online book retail market as a complement to its B2B operations. In the opinion of the managing director, that would have required essentially different organizational skills, and the size of the market did not seem attractive either. Although not even 10% of the turnover of the book market could be reached, unofficial data testifies that the operation of Sunbooks has been modestly profitable since 2005, producing an overall turnover of HUF 4-4,5 billion.

Sunbooks – Stage 3: The Acquisition of Sunbooks

While Sunbooks' business model was trying to react to the inefficiencies detected in the distribution channels of the book market, in the past nearly 10 years, the industry gave another answer. All the three main actors of the industry started to establish its own vertically integrated supply chain by acquisitions and Greenfield investments. Disposing over a powerful publisher and wholesaler, Pécsi Direkt (Alexandra-chain) opened its bookshops one after the other, first in the countryside and then in the capitol. The owner of Libri, the largest network of stores, in turn acquired a publisher. Líra & Lant, owning a publisher and a chain as well, opened a wholesale store. By 2007, all three of them operated an online shop as well. Missing out on the turnover from the Hungarian Book Club that underwent liquidation in the meantime, Sunbooks only forecasted a turnover of around HUF 3,5 billion for 2007.

In the fall of 2007, Líra & Lant ltd. made a deal with the owners of Sunbooks on the acquisition of 100% of the company and the corresponding logistics venture and 70% of BMS ltd., the company providing the IT-background of the operations. Although Líra & Lant operated its own wholesale store, they promised their clients with the greatest sensibility for service levels and the independency of the wholesaler – mostly hypermarkets -, that their partner will remain Sunbooks. Nonetheless, in June 2008 Líra & Lant informed its customers that Sunbooks' system closes its operations, and its activity will be carried on by their own wholesaler. There was no other industry in Hungary that saw the persistence of a durably viable, industry-wide, integrative, electronic B2B marketplace; although similar Internet-intermediaries can be found in B2C segments (the best example is the online insurance business).

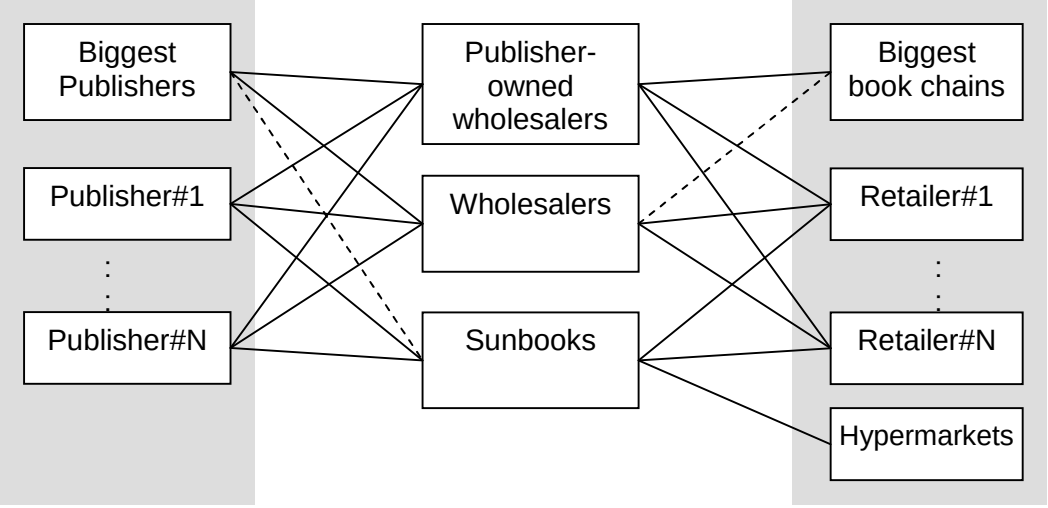

Figure 29: Sunbooks: Value Network Map, Stage 1-3

Sunbooks: A Summary of the Business Model

In the 8 years of its operation, Sunbooks tried to get across a framework model of a B2B electronic marketplace. They did not intend to combine this with (B2C) e-commerce for instance. The strategy built on the business model did change however: The initial goal was the transformation of the entire industry, but later on they focused on those segments that preferred independent actors and that ab ovo required a full-spectrum supply chain management from their suppliers (hypermarkets, big customers). The processes implementing the business model also got modified: logistics gradually adapted to the turnover that was lower than expected, but the basic IT-systems were able to assure the continuity of order-fulfillment at the times of logistical transitions without any serious development required.

Sunbooks' marketplace model is based on the three systems described above: the e-commerce system handles information concerning books and orders, the warehousing system represents the basis of logistical processes and the ERP-system takes care of billing and finances. This way, Sunbooks' technological-economic value-offer is eminent: it fulfills all the roles of an intermediary listed in the expert literature: transaction, interaction, support, or matching, requisitioning, problem-solving. It catalyzes efficient inter-organizational processes, automates the standard tasks, and the supports the business decision of the users as well (see Drótos, 2001, and the perspectives on information systems). The case study highlights three more key factors which surpass technological-economic reason in its narrowest sense.

- Reaching the critical mass. With Sunbooks' system being free of charge for retailers and operations that would have been covered from publishers' commissions, they attempted to make publishers join Sunbooks because of the demand in the marketplace. But because only a minor part of the supply was present in the marketplace, retailers were forced to maintain their former channels of procurement. Like this, big publishers could still reach the customers, and thus there was no real need for Sunbooks. The situation took its turn when, following a unique market transaction, Sunbooks indirectly listed the books of major publishers in its system, and large customers could place their orders exclusively through Sunbooks. So in this case, the critical mass was not a function of the number of partners joining: the marketplace only became viable once the definitive majority (90%) of the industry supply got accessible through the system.

– The role of industry structures, interests and power relations. The fragmented book market was facing consolidation when the marketplace took off. The key players not only acquired their competitors, but also started to integrate their operations vertically. A group of companies incorporating a publisher and a chain of stores is barely interested in the cooperation with an independent wholesaler. The significant actors just started to compete for the control over the supply chain, and wholesalers are chess-men in this competition. So it was exactly the players whose participation seemed most important, that did not need a marketplace promising comprehensive coordination and transparency anymore. It is a peculiar catch, that if the marketplace closes a deal with any of the major players, it risks losing its most important basis of trust: its independency. However, if it remains independent, major actors are not interested in joining. As seen above, this is how the story if Sunbooks ended: it reached an agreement with a key player (that acquired it), and shortly afterwards ceased to operate as a marketplace.
– The question of trust. Key players were also lacking basic trust towards Sunbooks. This can be traced back to multiple factors: it was exactly at the time of dotcom-bubble's explosion that Sunbooks engaged in an investment that many thought would never pay back; due to the uncertain future of its ownership background one could not tell who will take hold of the data; managing director Rényi was not a popular actor on the book market because of his businesses there around the change of regime. The lack of trust is related to further "soft" factors as well: a successful business model needs partners with skills and attitudes. While by the year 2000, online book trader Amazon.com was known all around the world, many actors of the Hungarian book market did not really have computers, let alone Internet-access. Sunbooks thought a number of retailers not only the usage of Sunbooks, but also computer-literacy. Several publishers were holding on to their paper-based or minimally computer-aided systems, and the primarily non-economics-graduate managers did have struggles making economic calculations about sales and logistics (Rényi and his team took care of these calculations for them).

The success factors described above proved to be restraining forces for Sunbooks at the same time. Although Sunbooks did adapt its strategy and processes, the circumstances were not in favor of the business model of a B2B e-marketplace. It was in the same industry, however, that an online retailer broke the same old-fashioned industry

structures: Bookline, launched successfully and by 2008 took hold of almost half of the online book retail and 5,5% of the turnover of the entire book market (this latter approximately matches Sunbooks results in its last year).

Strategy	Business model	Processes	Key success factors
beginnings: § emphasis on the number of retailers and publishers contracted § growth plans § logistics partnership later: § emphasis on hypermarkets § searching for a market niche § partnerships in the book market	§ vertical (B2B) marketplace in the book industry; integrating the supply chain with commission-type revenue from publishers	§ data processing § warehousing, order packaging § shipment and returns § billing and payment handling § acquiring new clients § customer service § IT infrastructure	§ integrated IT and logistics § critical mass on both sides § intensifying the usage § industry relationships, creating interest § trust and soft issues

Table 21: Sunbooks: Strategic Choices, Business Model, Key Processes, KSFs

Sunbooks: The Core Logic of the Business Model

For stage 1 and 3, I made separate figures of Sunbooks' internal cause and effect model (Figure 30, the legend is similar to the one described at Index's figure on page 112). Both figures depict the rational factors of the model in a technological-economic sense. If we complement this with the external effect of technology-aversion, the weak points of the model are highlighted. The presence of publishers and the turnover through Sunbooks (representing the retailers) are interrelated, but both are weakened by the low level of IT-skills. At the same time, the extra services of the marketplace, a cornerstone of the business model, are not attractive enough for the publishers. For this particular reason, revenues should not only be able to finance the maintenance of fixed capacities, but also personal persuasion (negotiations, completion of financial analyses, and offer of discounts). Because the commission of 11.5 percent has a negative effect on the presence of the publishers, positive reinforcing cycles were not activated.

In stage 2 – having realized the missing revenues – costly fixed capacities made place to flexible capacities. Storage was delegated to a specialist that was able to provide cheaper and more efficient services with regard to the technological developments of the past years. As for shipping, larger items got shipped by a shipping company, smaller ones by a courier (with online tracking), thus the convenience of order placement perceived by retailers could be preserved.

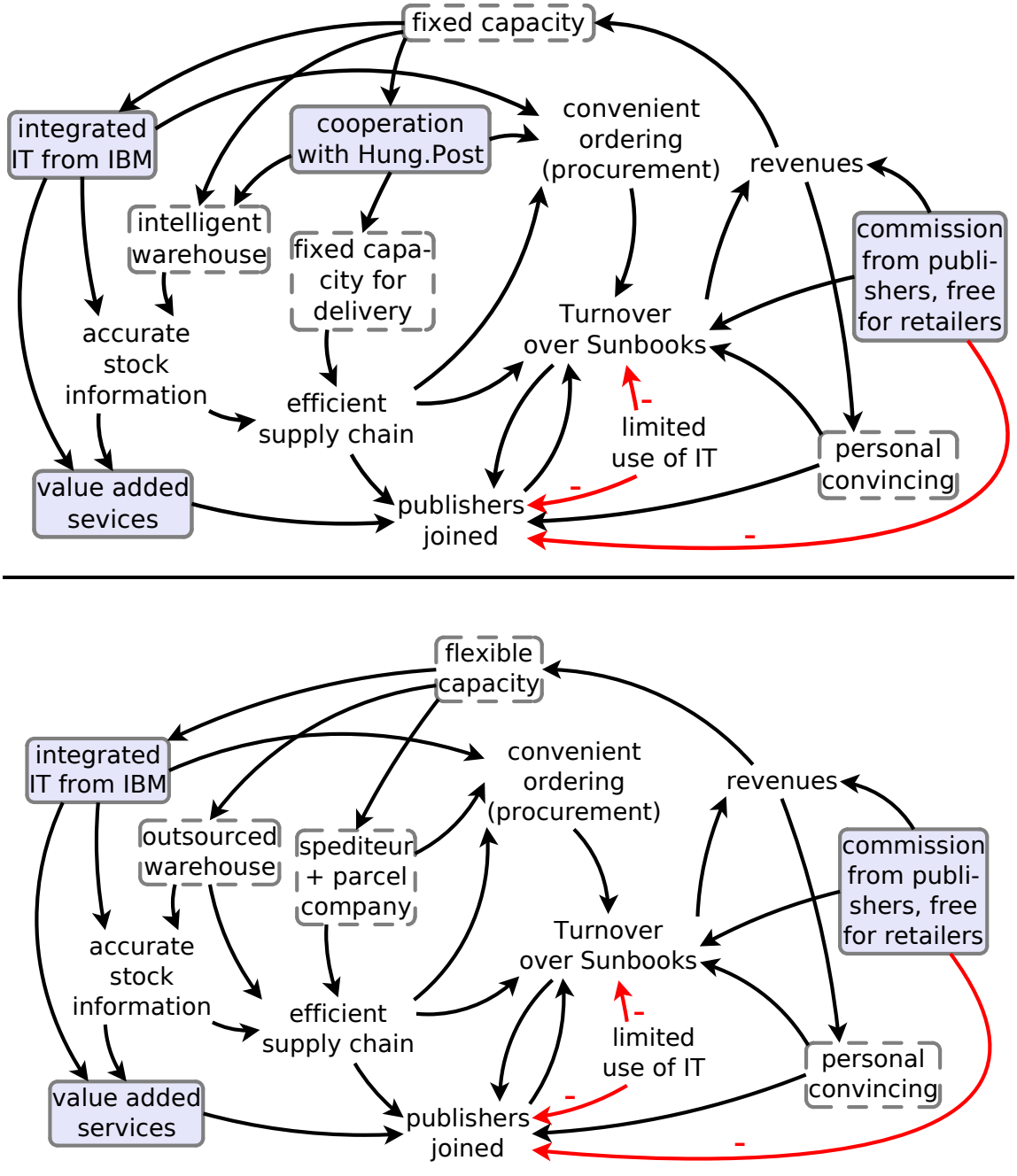

Figure 30: Business Model Cause and Effect Map, Stage 1 (top) and 3 (bottom)

4.2.3. Netwaiter: a business built on online food ordering

Netwaiter (in Hungary: Netpincér) is an Internet-based food ordering business privately owned by its founders. The functioning in essence looks as follows: the consumers have the opportunity to choose from the menus of restaurants connected to Netwaiters system based on their own location. The order that has been assembled on the pages of Netwaiter – order placement even possible with mobile technology – is forwarded to the given restaurant by Netwaiter, and then the restaurant automatically takes care of the delivery. Payment can happen either electronically via Netwaiter or in cash for the delivering employee of the restaurant. Netwaiter follows up on the fulfillment of the delivery and thus records and summarizes delivery time and the evaluation of quality by the customers as well. This allows for its pages to feature not only the offerings of restaurants, but also up-to-date feedback on the restaurants and other characteristics of the service (such as the possibility for payment with meal vouchers).

Netwaiter is in an almost monopolistic situation in Internet-based food ordering in Hungary. The competitors, that emerge from time to time, cannot take hold of a substantial chunk of the market. In 2008 the almost 200,000 customers placed orders worth more than 2 billion Hungarian forints via Netwaiter (SG, 2009). This sum makes Netwaiter one of the biggest players of Internet commerce in Hungary that earned one of the Internet Merchant of the Year awards three consecutive years.

Netwaiter covers the expenses of its operations on the one hand from commissions based on the value of the deliveries, and on the other hand from catalogue fees for featuring the restaurants in its system. In 2008, the business made revenues worth 100 million Hungarian forints, and the operations have been profitable for years now. The perpetual reinvestment of profits focuses on two main areas. On the one side, copies of the Netwaiter platform abroad open one after the other. Netwaiter currently delivers in 9 countries, managing 1.7 million orders yearly. 40 percent of the revenue comes from operations abroad. On the other side, new products are built on the experiences with information accumulated during operation. This is how the company behind Netwaiter, Viala Ltd. became one of the largest search engine marketing agencies in Hungary (klikkmania.hu). Besides this, they sell several software packages as well: In connection with communication servers, direct distribution systems, the operation of virtual malls and online banners with transaction options. The Hungarian headquarters of the company operate with a headcount of 25 co-workers only.

The idiosyncrasy of the case study presented is that the three stages follow the timeline only partially; the stages can rather be seen as overlapping development directions.

Netwaiter – Stage 1: Online Food Ordering

Netwaiter started out of an everyday observation of two economics students living in the same dormitory room, Zoltán Csontos and Péter Perger. If they were hungry, in order to get a pizza delivered, they needed a telephone, and having a flyer with the menu and price list of the given restaurant was also of advantage. They decided to assemble a website that enables the surfing of menus of restaurants and immediate placement of orders as well. The venture started in March 1999 with five restaurants in Budapest and with a carefully elaborated business plan, but still out of the dormitory room. The telephone booth outside the dormitory hall was also one of the external premises of the business, since back then mobile telephony could only be used for relatively high fees. “We only needed to make restaurant owners clear that we bring more customers by utilizing on a new distribution channel, which is much more efficient than the distribution of flyers. Since there was no risk involved for them, they mostly snatched at our offer” – says Csontos.

At that time, the technological environment was everything but beneficial for the business. Restaurants did not even have mobile phones, not to mention Internet connection, or the mobile service providers’ networks did not cover the premises of the restaurant. However, Netwaiter wanted the orders placed on the website to be processed automatically, and also wished to have feedback from the restaurants upon arrival of the order. Back then, “pager” handheld devices seemed to represent a cost-efficient solution, but the network did not facilitate the sending of receipts about the arrival of messages. Nonetheless, Perger used his technological background in programming to develop this function and persuaded messaging service providers to include it in the network software. Thus restaurants with initial technological barriers could join the services of Netwaiter as well. Those 10-12 pizza parlors in Budapest that offered home deliveries at that time, all joined Netwaiter by the year 2000.

Throughout the years, they developed several other communication solutions as well, from which the restaurants could pick the most convenient ones for themselves: Faxing, email, text messaging, login to the online order-register of Netwaiter, system connection using XML standards, handheld terminals, flash applications for mobile phones, text-to-speech system for traditional phones (with reinforcement via keypad).

Apart from the restaurants, the market of the consumers was limited as well. Even in 2002, only 18% of the adult population was using the Internet regularly, the proportion of user in Budapest and at home was even lower (WIP, 2002). Nevertheless, this was the year for a new era, since after reaching 200 orders a day, the micro-venture employing two people so far, started to grow.

Due to the low level of customer trust towards online purchasing and the limited financial means of the venture, the promotion of the service was mostly pursued using word-of-mouth marketing. The founders tried hard to convince the leading online portals to place a Netwaiter-box on their main site, from which – in return for commission - orders could be placed. However, they did not manage to make long-term arrangements. Similarly, food brands (such as beverage manufacturers) also refrained from placing their own advertisements on the pages of Netwaiter. The increase in the number of Internet-users and Netwaiters continuous striving for the amelioration of the service reliability (as for example interfaces in English language and optimized for the visually impaired) with the course of time resulted in restaurants from Budapest applying for a place in Netwaiters system themselves.

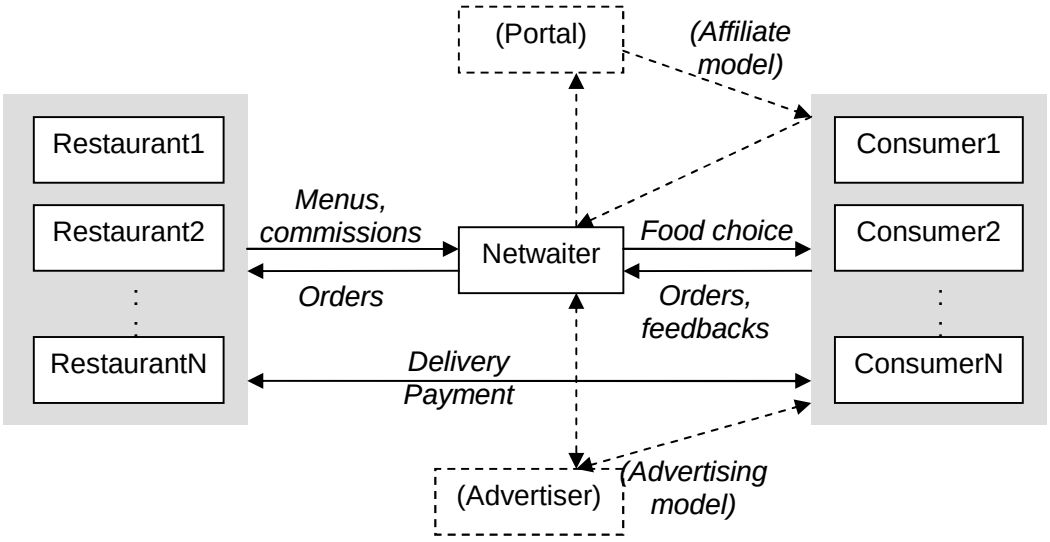

Figure 31: Netwaiter: Value Network Map, Stage 1-3

The traditional model of online intermediary was used, in which Netwaiter harmonized the entire process of ordering between the customers and the restaurants, however, the responsibility connected to the quality of the ordered food and to the delivery remained on the hands of the restaurants. As shown by the following table and the figure, the income flow came solely from the side of the restaurants: First in the form of commissions, and as business activity increased (when restaurants applied for the participation in the system on a voluntary basis) in the form of different catalogue fees

(monthly fees, listing fees). Neither partnerships with portals, nor income from the sale of advertising space were implemented on the long run – see the dashed lines in the figure. (Netpincer.origo.hu, the account created for the portal in Hungary with the highest visitor counts, did not yield the turnover required for origo.hu.) The incorporation into the slowly growing Hungarian IPTV-systems also got stuck in the planning phase, albeit there was one agreement made with a provider about the placement of orders through television. An advantage of this cooperation would have been that the location of the order was to be retrieved from the IPTV-subscriber data, thus only caterers into that specific area would have appeared on the TV-screen. On the other hand, the incorporation of customer feedback into the system was implemented, allowing Netwaiter not only to show the restaurant menus on its sites, but also to maintain a database about average delivery times and the ratings of food quality.

Netwaiter, Stage 1-2: online food ordering	
Value proposition: framework model and choices	§ Marketplace: intermediating between restaurants and consumers, order processing – *"comfort and simplicity"; "choice aggregation"; "reliable order fulfillment"*
Architecture model	§ Network alliance: cooperation with restaurants in the uploading of the menus and in the tracking of orders § Community: comprising customer evaluations into a database, system of recommendations (minor role)
Revenue model	§ Transaction fee: commission from restaurants for the forwarded orders § Subscription fee: catalogue fees for listing on the home page

Table 22: Netwaiter: Business Model Components Set, Stage 1-2

Netwaiter – Stage 2: Extended Online Food Ordering

Although the technical barriers of the first stage were gradually eliminated and broadband Internet usage was also growing quickly, Netwaiters dynamic expansion in Hungary faced some new obstacles. Internet-based food ordering is not mobile in the sense that only restaurants located within a given distance will cater to a particular location. The owner-establishers calculated that it is worth introducing the services of Netwaiter into a new city only when its population is around or above 500 000. In Hungary, there is only one such city, the capital, Budapest. Here, however, the growth is limited not from the side of the restaurants, but from the side of the potential customers willing to have food delivered into their homes. In the case of other

Hungarian municipal towns, not only did the small market size mean an obstacle, but also the low number of restaurants offering home delivery services. Nevertheless, Netwaiters services were launched in several big cities and are still operating today.

There were multiple opportunities for the reinvestment of the revenues incurred and for the further exploitation of the business model. One direction was the expansion of the product range. The venture tried to open a store for premium products under the name Gorgeous.hu, but the project was terminated. They also experimented with the catering of groceries, ice cubes and sandwiches with some more success. Nowadays, these items are extended with the opportunities for ordering daily lunch and for reserving restaurant tables. The online table-reservation system Asztalom.hu, launched in 2008, copies the model and technology of the food ordering. According to the estimations of the managers, in 2009, there are about 300-400 restaurants in Budapest, the internal IT-systems of which allow them to join this service. 150 of them joined by 2009. Similarly to the initial business activity of Netwaiter, the managers again forecast contact with more (600-800) partners in the upcoming couple of years, than the number of those who have the technology permitting the association today.

The next area for the improvement of the business model was international expansion. The Austrian version of Netwaiter was launched in 2004, and the German version followed soon under the name Netkellner. Since then, the business has been launched in 6 other countries as well: namely England, France, Poland, Czech Republic, Slovakia and Romania. While in the first countries market entry was cumbered by the existing competitors, in the latter three the obstacle was actually the lack of them: Netwaiter had the task to introduce the service and achieve customer acceptance. The entire know-how was sold to Bulgaria for commission, but the operations there had to be suspended after 3 years, because the diffusion of the service was unsuccessful. In the other countries, Netwaiter competes with different organizational solutions, but with their own, original business model. The IT-background and the business processes are common elements. The following areas of business, which can be identified as the factors principally determining the utilization of the business model, represent the alterations:

– Finding the appropriate local business partner (required is a solution accepting the fact that several years of construction are needed for the business to reach profitable business size)

– Local peculiarities of technology usage (even within the EU, restaurants strongly differ regarding their ICT-usage)
– Habits of Internet-usage (the success of the model not only depends on the number of Internet users, but the proficiency of Internet-usage is also an important determinant)
– Culture and other traditions (In Western-Europe for example, home delivery disposes over a history of 30 years, in Hungary the first such service was launched in 1994; the average order value in Hungary is 8 Euros, in Austria and Germany this figure is doubled, in France it is 28 Euros)
– Competition (while Netwaiter is the market leader in Hungary, Justeat.com built itself a strong position in England, Holland and Denmark, Pizza.de and AlloResto.fr are dominant market actors in Germany and France respectively).

<table>
<tr><th>Country</th><th>Local characteristics</th><th>Common elements</th></tr>
<tr><td>Austria</td><td rowspan="2">§ Management and customer service from Budapest (e.g. German landline call ended in Budapest)
§ Austrian restaurants are mostly willing to accept order placement via faxing messages</td><td rowspan="6">§ Web design
§ Communication servers
§ Operating processes</td></tr>
<tr><td>Germany</td></tr>
<tr><td>England</td><td>§ Despite high Internet-penetration and the popularity of home delivery services, users required more support in filling the online forms
§ MLM-type “eat-and-earn” system, customers get a share of the commission of the new clients recommended by themselves
§ Text-to-speech systems developed for landline phones due to the technology discrepancies of restaurants</td></tr>
<tr><td>France</td><td>§ Greenfield investment with local partner
§ Online meal ordering has no traditions, customers were attracted with 5 Euro coupons</td></tr>
<tr><td>Poland</td><td>§ Local partner with syndication contract
§ Larger cities and markets than in Hungary</td></tr>
<tr><td>Czech Republic</td><td rowspan="3">§ Local office with a business partner, co-workers employed by Netwaiter
§ Introduction of a so far unknown service to the market</td></tr>
<tr><td>Slovakia</td></tr>
<tr><td>Rumania</td></tr>
<tr><td>Bulgaria</td><td>§ Know-how / license was sold</td><td>§ None</td></tr>
</table>

Table 23: Adjusting Netwaiters Business Model to Foreign Markets

Netwaiter – Stage 3: Food Ordering and Spin-off Projects

Considering Netwaiters business model, two elements proved to be critical success factors:

- The acquisition of customers willing to order meals online (mainly through Netwaiters presence in search engines, relevant sites and with advertisements)
- The potentially highest availability and reliability of the transmission and management of the orders placed (assimilation to the technological needs of the restaurants, instead of obligating them to take over a particular system)

The two success factors urged Netwaiter to develop capabilities that have the potential of being marketable and viable products on their own as well. Parallel to the international expansion, in 2005 the venture started Klikkmania.hu, one of the largest independent search engine marketing agencies in Hungary currently. Relying on Netwaiters accumulated experience they were able to build an extensive customer base in the Hungarian search engine marketing segment, which was so far dominated by international Google and regional Etarget. Besides consulting activities in search engine marketing, the company also sold packaged software products. As the following enumeration shows, each of them emerged as side products of problems previously solved in connection with Netwaiter.

- Virtual mall applications based on the open source Magento e-commerce system or on the Joomla online content-operator system. The tailored configuration of the systems makes use of Netwaiters experiences in designing and analyzing websites. On their own website, they constantly observed customer behavior, analyzed the operation of more and less successful placements and commands. They claim to have obtained remarkable knowledge in website optimization and analytics.
- Communication solutions: faxing and text-messaging server for the transformation of incoming and outgoing fax and text messages to different formats (email, PDF, XML etc.), sending MMS messages from computers. It was crucial for Netwaiter that, regardless of the system operating at the restaurants, the forwarding and tracking of the orders works reliably.
- A software application assisting of distributing tasks in systems like call centers. This was enabled by further development of the technology established for the organization of Netwaiters customer service activities.

– Banner shopping: a Flash application appearing as an advertisement on frequently visited portals, enabling a total completion of a purchase without leaving the given website. This was based on Netwaiters concept of food ordering as a relatively simple process, which can essentially be completed by just a few clicks within one online banner.

Netwaiter continues to be propriety of the founders. International expansion and the development of new business branches are pursued at the pace permitted by the profit from the initial business model – without calling in external capital.

Netwaiter, Stage 3: food ordering and side projects	
Value proposition: framework model and choices	§ Marketplace: intermediating between restaurants and consumers, order processing, payment – *"comfort and simplicity"; "choice aggregation"; "reliable order fulfillment"* § Utility: SEO consultancy, e-commerce related software products – "cutting edge solutions supporting Internet-based activities"
Architecture model	§ Network alliance: cooperation with restaurants in the uploading of the menus and in the tracking of orders § Community: comprising customer evaluations into a database, system of recommendations (minor role)
Revenue model	§ Transaction fee: commission from restaurants for the forwarded orders § Subscription fee: catalogue fees for listing on the home page § Revenues from products and services: consulting fees, software license revenues

Table 24: Netwaiter: Business Model Components Set, Stage 3

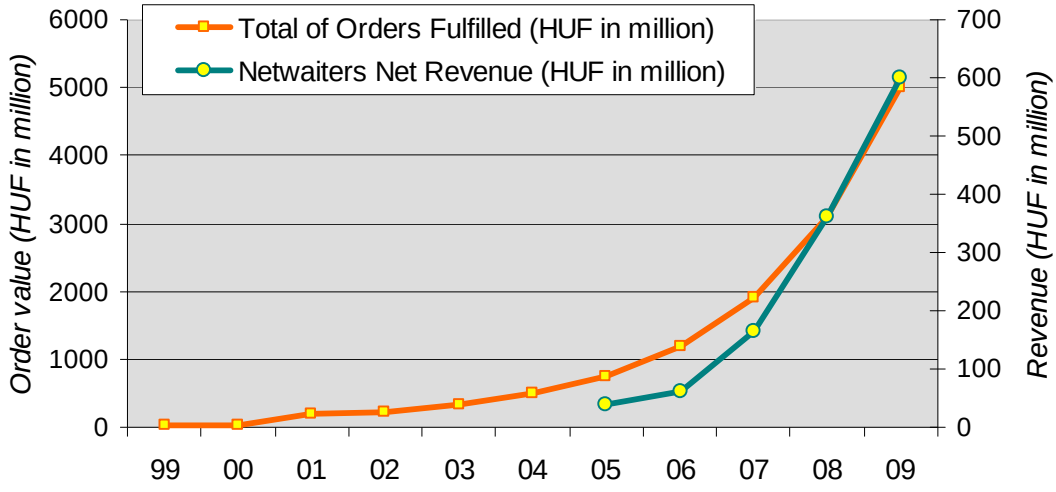

Figure 32: The Growth of Netwaiter

(Source: Bábel-Szűcs, 2009:55; 2009 data: forecasted)

Netwaiter: A Summary of the Business Model

Based on the above, Netwaiters case shows that the venture did not alter its business model during its 10 years of operation. However, its strategic steps were aiming at bringing the most out of the existing business model – online catering. This was manifested in the ongoing innovation in three key areas of the operational processes:

- Marketing: The acquisition of new customers is up to this very day the biggest challenge in the model: not only does the company have to convince customers to order home delivered food, they moreover need to make customers use the Internet and pick Netwaiters pages as a medium. Netwaiter was one of the firsts to introduce Internet commerce techniques such as:
    - Online advertisements paid on a per-purchase, rather than on a per-click basis
    - Attempts for the partnership-model (purchase-box placed on portals, or portal-branded Netwaiter pages)
    - Visual help for the users (a moving and talking waiter navigated customers through the website)
    - Coupons and discount offers to new customers (via offline flyers in France and in cooperation with blogs in Hungary)
    - Coupon system of Internet merchants (based on a proposal from Netwaiter: by placing orders, coupons to other e-shops could be acquired, even of a total value exceeding the value of the order)
    - Rewards to customers suggesting new clients (with a share of the commission in England)
- Sales (towards restaurants): Convincing restaurants means a challenge as long as the intermediary model does not reach the critical mass. As long as the restaurant does not operate online sales by itself, joining the system might seem as an appealing alternative, where it can take hold of a new distribution channel for commission. The pricing structure of Netwaiter (towards restaurants) takes the system's degree of maturity into account and listing fees are only applied in mature markets. Netwaiter developed an almost limitless conformity with the systems of restaurants (faxing, telephone, restaurant software), exhibiting several innovations (further development of pagers' software, text-to-speech solutions etc.)

– Information technology: Instead of being after cutting-edge technologies, they were striving for the simplest possible solutions, also because of the venture's limited financial possibilities. Human errors in business processes were sorted out through automated systems, and the home-page operated with the same structure on the long run, so that customers always encountered the same interface. Payments via the Internet were only introduced when customers expressed their requirements for them. Innovation mostly occurred in the novel ways of interconnecting different technologies and systems.

Strategy	Business Model	Processes	Critical Success Factors
§ Organic growth § Differentiation: process innovation, customer orientation § Later: international expansion and nurturing new business units	§ B2C Internet marketplace: mediating placed orders from fees paid by restaurants Later: § New customer roles: feedback, shared revenues § Products and services related to e-commerce	§ Researching new partner restaurants § Maintenance of offerings, operation of home page § Order processing § Collection of customer reviews § Marketing § Finding foreign partners § Exploiting accumulated knowledge	§ Simplicity and speed at the placement of the order § Flawless processes and complaint-handling § Balancing the global and local elements of operation § Locking in customers and restaurants § New business units: knowledge transfer

Table 25: Netwaiter: Strategic Choices, Business Model, Key Processes, KSFs

Three types of business model expansion were launched, from which the latter two can be considered as more successful:

– Expanding the model from the mediation of food to the mediation of other related products. This was often lacking the appropriate supply size in the Hungarian market.
– Expanding the model to foreign markets. Netwaiter tried to preserve as much of the original business model as possible. They needed to readjust to local characteristics mostly in the areas of organizational structures and marketing practices.
– Developing new products and services based on the experiences accumulated whilst operating the model. The search engine marketing agency and the packaged software products were already pushing the boundaries of the initial business model, yet, are closely connected to it, since online catering was the cradle of these products.

Due to these, Netwaiter was able to gain multiple footholds, although its activities continue to be connected to the Internet and online processes primarily. The owners of the venture are still the founders, who continue to reinvest their profits into these strategic developments. For the time being, it is difficult to forecast, in which field this background draws the bigger potential for success: international expansion or spin-off projects (or maybe both).

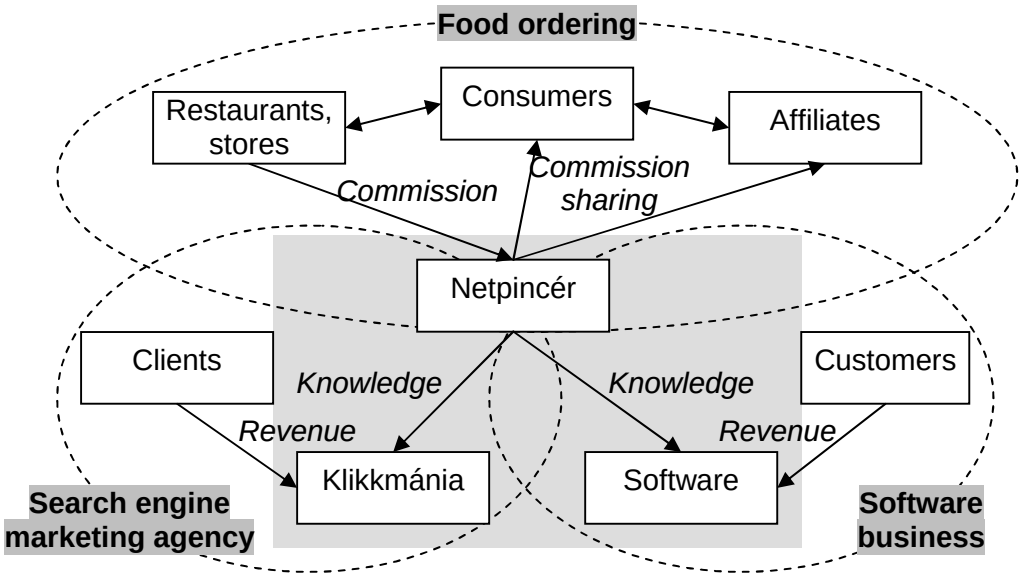

Figure 33: Netwaiter: Value Network Map of the Three Business Units

The external factor of technology-assimilation is also pictured in the figure showing Netwaiters "cause and effect" type of business model (for legend see Figure 34 and footnote 57 on page 112). This namely represents a constraint from two sides to the model, that otherwise has good growth potential due to the positive reinforcement. The focus is on excellent service resulting in consumption. The turnover, however, immediately affects partner restaurants, further increasing the value of the service. This is a self-reinforcing circle that operates in Budapest with a positive feedback, despite of the fact that Netwaiter imposes not only commission fees, but also monthly fees, and moreover once-off registration fees on the restaurants (negative arrow of shelf money towards restaurants in the figure). Of course, the model leaves several partial factors out of consideration, but makes visible, that a simple home page decreases the need for revenues by a low need for development, while ameliorating the usability and thus attracting consumption. Considering the viewpoints of the restaurants, Netwaiter mainly focused on the reliability of the order-processing and tracking to boost the positive reinforcement circle. The manager can of course intervene at other points as well by increasing or decreasing the level of the particular factors.

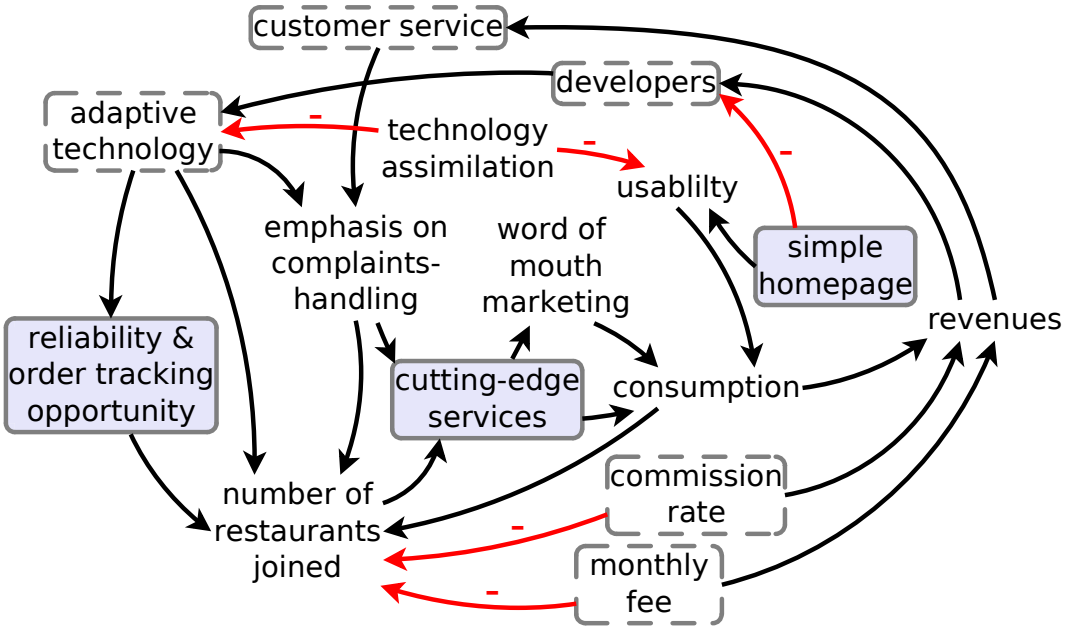

Figure 34: Netwaiter: Business Model Cause and Effect Map

4.3. Further Analysis of the Case Studies with the Key Conditions Described in the Literature

In the analysis of the case studies above I showed:

- The adaptation of the three business models observed in a time period of almost 10 years, i.e. changes in value proposition, architecture (inter-organizational relationships) and revenue streams.
- How the strategy built upon the business model developed, and what kind of key processes were needed for implementing the business model.
- How to identify the key success factors, and what specific lessons can be learned from the cases

In my further analysis I also collected the conditional factors of successful realization of these concrete e-business models. The common characteristics observed in these three examples will be detailed next. The key conditions will be presented by reflecting to the literature review presented in Chapter 2.3. The analysis follows the same structure:

- Effect of the social embeddedness,
- Information technology and the competitive advantage,
- Changes in transaction costs, the role of knowledge and partnerships,
- The role of critical mass and trust,
- Lessons from the strategic innovations.

4.3.1. Social Embeddedness

Based on the three case studies it is apparent that the development of business models is generally linked to their social embeddedness. In the cases of both Index and Netwaiter the 2005 boom of the Internet-usage in Hungary can be observed, as well as the effects of the low penetration ratio before 2003. As another example, the exponential growth of the online advertisement market around 2006 introduced in Chapter 4.1 enabled more experimentation to Index after years of involuntary restrictions. On the other hand, the low level of Internet-usage at enterprise level early in the new millennium weakened the chances of B2B marketplaces like Sunbooks. The lower e-readiness of Hungary compared to Western-European and even some Central-Eastern-European countries makes more difficult to start and effectively manage e-business companies. It is possible that these factors make my findings rather country-specific.

I used the Actor-Network Theory (ANT) for the analysis of Index, Sunbooks and Netwaiter. ANT highlights that Index can be regarded as the network of technology (portal engine, Internet connection, etc.), content suppliers (journalists, news agencies, etc.) and the consumers (readers, advertisers). At the same time Index itself can also be regarded as an actor in the network of both "pure plays" and brick-and-mortar companies, the network that "invented" the Hungarian Internet. In this network, all the competitors of Index (news and community portals, e-marketplaces) built their environment together as it was in their common interest to attract more users to the Internet. The former telecommunications monopoly, Matáv (and its affiliate Axelero), amongst others launched the horizontal portal of Origo in 1998 in order to make the Internet services offered more attractive through exciting content. Also other telecommunications service providers started providing content, namely the following horizontal portals: Stop! (Telnet: hosting service), Eol.hu (Elender: Internet service provider), Korridor (MTM-SBS/TV2: commercial television), Chelló (UPC: cable network TV), Univerzum (Vivendi: telecommunications).[58]

Between Internet-based companies a strong mutual dependency has developed. This is signaled by the milestone at the end of 2005 and beginning of 2006 experienced by many: The Iwiw community portal became an "icebreaker" application, the online book sales of Bookline boosted, the online advertisement market thrived, and the profit of certain publishers' on-line edition surpassed the profit of the traditional edition. In this case not only the development of the Internet-penetration was the decisive factor, but also the attitude of users towards the Internet has changed.

At the level of the whole society however, the network of Internet users and Internet based companies can be seen as an actor as well. While at the millennium only a narrow segment of the society was interested in the Internet, by today the Internet became an essential infrastructure of the society; an infrastructure that includes diverse services and contents of e business companies enhanced by the actively contributing users. This is an excellent example for the "momentum" described by Hughes in his theory of system thinking, when the Internet starts to shape society, which, in return, by inventing blogs, social networks for example, shapes technology.

[58] Interestingly, by 2005 (sic!) from these examples only the Stop! portal was running, and even this had been sold by the hosting company Telnet.

The international expansion of Netwaiter supports this assumption. In all international markets it proves to be a challenge to get people to order food online. The CEO of Netwaiter emphasized in several interviews that the effects of traditional advertising on their enterprise is minimal. At the same time, the (society level) consumer attitudes towards Internet, online purchasing and home delivery have a decisive role. That is why they aim to build on the network capital of their existing customer base (with a sales commission paid after suggesting the system to new consumers), or to cooperate with portals (order "boxes" put on popular portals bring new customers for Netwaiter, which by the way, also enriches the offer of that portal). Another example is their "Pizza-coupon" program in Hungary: they attached a coupon to the online food order, which coupon could be used in other, third-party (!) online shops. This program was introduced by Netwaiter because the management had the idea that if Internet users buy on other web shops (for example they order flowers), it will benefit Netwaiter on long term through promoting the change in consumer attitudes towards Internet-based shopping.

In the understanding of the case of Sunbooks, the network capital and the industry embeddedness also played an important role. While in the online book industry the network capital built on trust enabled the survival of inefficient processes, Sunbooks had not have enough network capital to transform the existing routines. Furthermore, Sunbooks aimed to secure a dominant (even monopolistic) role in the industry by even fully eliminating the deeply embedded existing wholesalers. As a consequence, with the lack of trust (in Sunbooks) the transaction costs of joining seemed too high for the large publishers.

Around Sunbooks a network of successfully convinced publishers and retailers evolved. Nevertheless, these players have not left the traditional network of the industry. Sunbooks has not required exclusivity, so the partners have not given up their existing network and business model (probably most of Sunbooks' partners would have refused to contract with exclusivity clause). Through the interviews the CEO of Sunbooks explained that his activity can not be characterized as the selling of the system, but rather convincing the partners to leave the traditional way and to change their way of thinking. Regarding the power structure of the industry, however, it was not enough: It would have been necessary to create the interest of other players in the industry. Without that, several publishers have not joined and many retailers continued to prefer the traditional procurement channels.

Exhibit: Sunbooks' Business Model Revisited

Re-reading the Sunbooks case at this point reveals new interdependencies compared to the model in Figure 30. Now, on Figure 35 I highlight the above factors related to the social embeddedness. Sunbooks can only influence its own success through excellent service and personal convincing. However, the personal convincing based on excellence has only a limited influence on two factors of key importance: (1) The viability of Sunbooks perceived by publishers (this would rather be supported by income and profitable operations) and (2) the publishers' trust in Sunbooks, which also depends on its viability. At the same time, there are two factors in the model, which are external to Sunbooks: The e-readiness of Hungary and the interests of the publishers (highlighted with orange background and white fonts). Sunbooks can expect a positive effect from the improvement of the former on the sides of both the publishers and the retailers, but interestingly, it might also have a reverse effect. That is because the higher is the internal efficiency of a publisher (as a result of the higher e readiness), lower is the value that the change to Sunbooks' system provides. As a result both publishers with lack of IT-knowledge and publishers who invest in IT (databases, automation, ERP) may think that there is no need for Sunbooks. Also worth to note that after certain time, the perceived viability can also decrease the trust as the large publishers want to avoid a too powerful "new player" in the industry. The interests of the publishers is an other factor which Sunbooks can not influence, although the fact, that in the end a publisher acquired them, is a possible answer to the question of the interests.

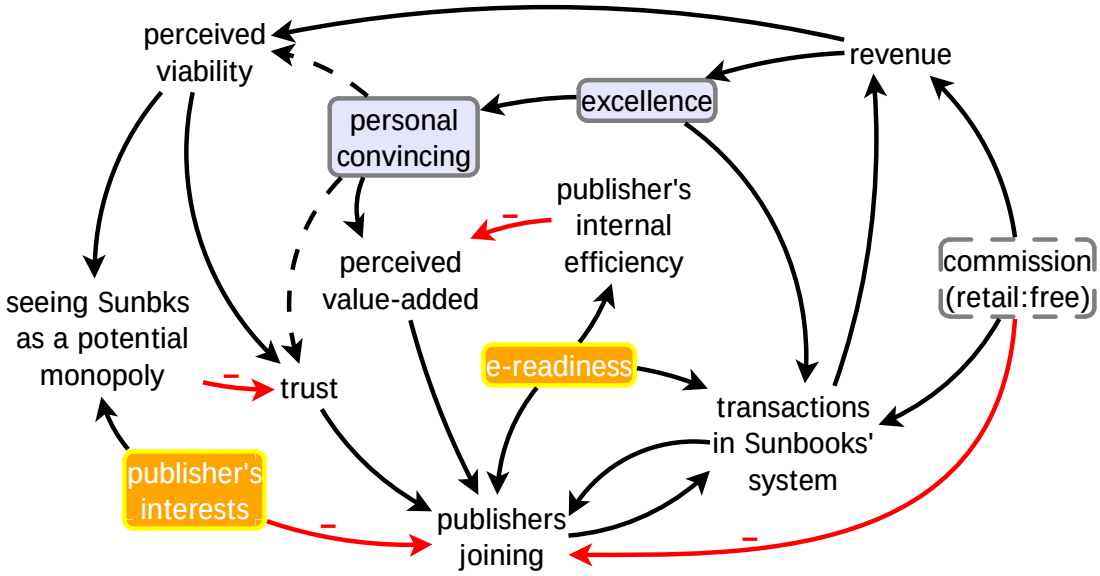

Figure 35: Sunbooks: Embeddedness Cause and Effect Map

Returning to the issue of society and technology, the role of technology in society is inevitable from the perspective of the discussed business models. In all three cases it was highly important to reach the largest possible percentage of the target market with the system. That is why they had to meet quite quickly the needs of the "early adapters" instead of the "innovators" regarding the new technology (Internet). Netwaiter focused on adapting to the evolving way the restaurants use technology as in the early days the lack of infrastructure in restaurants inhibited the realization of their original idea. That is why they developed new functionalities for the pager devices, or the easy order confirmation (by pressing a single button) for handling the land line phones in UK restaurants. On the user side they applied basic technology to make their pages fast to load and easy to use.

The evolution of technology assimilation can be observed in the business decisions of Index as well. The characteristic style (the unique tone) of the Index articles was meant for the innovative pioneer-users of the Internet. In the third phase of the business model however, when the early majority of the society had Internet access, they re-positioned for example the Velvet women's magazine to fit the taste of wider groups of the society. They waited with the internationally popular interactive advertisements with motion picture requiring large bandwidth until the large bandwidth Internet access becomes general amongst Internet users of Hungary as well.

Compared to their original plans, Sunbooks started to educate technology more intensively (for example visiting retailers in person) as they discovered that the main reason behind low order amounts is the lack of experience in computer use.

4.3.2. IT and Competitive Advantage

In connection with the competition on the Internet, I discussed the assumption that the information processes become detached from physical processes and become separate businesses. The case of Netwaiter supports this assumption. Its activity is almost fully online, processing information. The profile consists of the digitalized processes (for example online payments) but not of the physical ones (for example food delivery). The question is what can Netwaiter do to mitigate the risks that the physical processes are executed by the restaurants? As long as the consumers want to select and compare offerings, the business model of Netwaiter works. However, if the restaurant's brands would get into the focus and loyalty would be developed with their online guests,

restaurants could bypass Netwaiter and serve the guests on their own website. That means that there is a scenario where the viability of the stand-alone information business is questioned.

Unlike Netwaiter, Sunbooks built its business model around the automation of warehousing and the increasing of the efficiency of logistics. From the case we can see that in the business model the physical processes play a crucial role in the background of the information processes. That is where they originally partnered with a professional partner (Hungarian Post), then, while other processes remained stable, this area underwent several changes (changing the provider and then in-sourcing); and also this was an important aspect for the key customers.

Index is active in the originally information-intensive industry of the media. Companies in this industry in general are on the one hand re-using the existing information and on the other hand, producing own content. With the growing proportion of multimedia content on Index, the physical presence of journalists becomes more crucial (as they and the technology have to be present where the "news happen"). At the same time, the videos and pictures uploaded by the community emphasize the re-using processes. This makes the "business" remain a basically "information business". Index also faced the dilemma whether, next to the offline media, the solely online activity is viable. In the first phase, the idea of printed version was also coined in the management meetings. Later, a bi-weekly television program was made from the automobile-focused supplement Totalcar, broadcasted on a commercial channel. The competitor Origo launched two (offline) TV channels in 2009. Instead of following this way, Index is considering the mixing of the various formats of the news (articles and videos).

The essence of the strategic information system approach is that information technology is able to, next to automation, decision support, process catalyst, or knowledge management perspectives, enable the development of the competitive strategy of the organization. The Internet-based business models are explicitly key factors in the competition amongst technology-based businesses. The question is however, which factors are influencing the competition and whether the acquired competitive advantage is sustainable.

In the case of Index, in the first phase the Internet portals seemed to offer a chance to build a new market, a new industry. The convergence of technologies mentioned earlier, colors this trend: Index – from the second phase of its business model on – is in

fact an online media, that is, a possible form of a service and content provider. Obviously, the online and offline media are competing for the attention of the audience, and therefore for the advertisers. Based on this case, the Internet, as information technology is not the source of competitive advantage in the media industry. In the competition for attention the sociological (media consumption habits) and individual (style, community building, knowledge) factors appear to be more decisive.

Sunbooks and Netwaiter can be classified as “business platforms” from the classification of inter-organizational information systems from Konsynski and Warbelow. Characteristic to this type is that the strategic control is in the hands of an independent network operator who brings together the players of the input and output sides by organizing their relationship. According to the literature, these types of platforms can provide sustainable advantage for the owner of the marketplace. For sustainability, however, a service is needed which is difficult to imitate, is valuable and rare. Sunbooks and Netwaiter made significant steps to make the hardware and the software of the system difficult to imitate. The initial investment of Sunbooks was of such a magnitude which is difficult to imitate. The only similar system, Saxum of the Hungarian Book Club, failed technologically: Possibly because of the significantly lower investments. Netwaiter built such diverse forms of adapting to the processes of the restaurants, which is a big challenge to imitate, too. Nevertheless, there is no doubt that in practice, it is indeed possible to imitate the system. Competing websites with similar design to Netwaiter continuously emerge on the Internet (Pizza.hu, Foodoo). This makes these cases support rather the theory of “contestable competitive advantage” when the competitive advantage built on information systems required continuous renewal. The literature suggests more ways for this:

- Generating switching costs. Sunbooks attempted in the beginning to have exclusive contracts signed (which would mean switching costs for the companies joining), but they had to give up this idea. The retailers could freely choose from several purchasing channels, although Sunbooks was the only online channel. Netwaiter with adapting to the internal processes of every single restaurant, did not increase, but decrease their switching costs. At the end, for both Sunbooks and Netwaiter the switching costs are basically the learning invested in the systems, but this does not seem significant based on the cases.
- Building organizational memory. Theoretically, the sales data and statistics compiled by Sunbooks are difficult to imitate by a competitor. However, these play

an insignificant role in the decision making process of the partners, and they also could acquire such experience through other channels. In the case of Netwaiter, studying the database of the past several years is not necessarily relevant for the restaurants. The customer feedbacks, or delivery times aggregated through the years might be suitable for increasing the value of the system (for consumers), and this might be a way to sustain the competitive advantage.

– Continuous system development by innovations. In the case of Sunbooks, there have been no significant system developments compared to the original system. But Netwaiter, as shown in the case, continuously develops its processes and software. The organizational culture and management background supporting this are able to provide sustainable competitive advantage. Throughout the years, many competitors appeared on the market of food order, but they have failed to become significant players. If not as exclusive cause, but we can identify innovation as one factor behind sustaining their competitive advantage.

In summary, Netwaiter acquired a contestable competitive advantage by applying information technology. Their competitors try to imitate their system, while Netwaiter keeps renewing their advantage through the innovative organizational culture and the continuous development of the system. The large initial investment of Sunbooks could have secured sustainable competitive advantage, but the viability of their system was limited due to other factors, inhibiting the development of this competitive advantage.

4.3.3. Transactions, Knowledge, and Partnerships

Based on the literature, we would expect that the three case studies would reflect the assumptions about the loose network of specialist organizations evolved through the deconstruction of value chains. Instead, the examples show certain kind of balance of the vertical integration and the partnerships.

Slightly surprisingly, the case of Index shows that aim of internalizing value chain processes, i.e. vertical integration. The development, the journalism, lately the development of video content results in a shift from the freelancers towards employees. Meanwhile, the integration in the CEMP Group bypasses the market coordination mechanisms on a higher level: Diverse portals, e-shop, online marketing agency, travel agency became members of one group, binding their activities closely together, being amongst others the most significant advertisers of each other.

In the beginning, Sunbooks used an external partner in the area of both information technology and logistics, but later in-sourced both areas. The CEO's explanations (problematic coordination with the external partner, inflexibility in the changing of the terms and conditions) reflected the statements of the transaction cost theory.

From the aspect of transaction costs, the story of Sunbooks is instructive. As an online marketplace, they promised lower production costs (automation, optimized economies of scale) and transaction costs (online monitoring) compared to the traditional wholesaler. At the same time the perceived risk of the bankruptcy of Sunbooks prevented the publishers from giving up their traditional supply channels – even though this way they could not realize the transaction and production cost savings. At the same time the vertical integration of publishers, wholesalers and retailers decreased the transactional costs of the largest industry players while the size and having all information in one hand could have had a favorable effect on the production costs. Considering the transaction cost theory, the vertical integration of the industry is not surprising.

Also Netwaiter is cautious with partnering in its international expansion. They manage some of their international markets from Hungary, while others are managed by local employees. Their international partners are also stable: The Netwaiter management strives to find long term partners with stable background – which is also closer to "hierarchy" than to "market". Although Netwaiter is an example for the "scale is irrelevant" theorem in the literature (as it is smaller in terms of both capital and headcount and still able to compete successfully with Western European competitors on regional level), but the reason behind it is not that the supply chains would have "deconstructed", as the literature suggests. Neither of the three cases can we identify the proliferation of ecosystems of small enterprises.

At the same time, the characteristics of partnership can be identified. Netwaiter collaborated with online retailers (e.g. the Pizza-coupon system). They realized the expansion into smaller Hungarian towns (with much below hundred thousand inhabitants) through partnering with country-wide restaurant chains. The original business model of Sunbooks was aiming to re-integrate the fragmented value chain of the industry. Practically Index also developed a value network of the members producing community content (blogs, photo albums, videos, comments in forums). They realized it already in the first phase that it is a good idea to empower the most

popular users of its discussion board (forum) system. Similarly, later they selected and favored the best blog writers (e.g. highlighted link to the blog, support in the design of the blog, separate agreements for placing advertisements, etc.). In Index's approach, Index themselves produces the "mainstream" content, while the "long-tail" content will be produced by the community (and share the advertisement income as part of the partnership).

The three examples do not support the assumption that the role of *internal* knowledge would decrease (as it would be available externally). On the contrary, we experience its growing importance. In all three case studies I identified knowledge as a key success factor. In the case of Index the unique tone and the know-how of community building was a key momentum in both the first and third phase. In the case of Netwaiter the ability of organizing processes and the sensitivity to understanding needs were fundamental for their success. Sunbooks tried to technically map the knowledge accumulated by the CEO about book retail business, i.e. spreading the ideal best practice (a similar example is the strategic information system of Mrs. Fields). Interesting, that during the simulation games with university students, systematically the logistics skills were emphasized as key skills. We can not forget however, that Sunbooks ceased its partnership just exactly in this area (with the leading player in the area, Hungarian Post), which signals that either this skill is not so decisive, or could be acquired through the partnership.

The cases nevertheless are good examples for the importance of external knowledge and expertise in business models. The content creation shifted towards the readers' community (Index) or the earn-to-eat system of customer acquisition (Netwaiter) signal the transformation of patterns of the use of knowledge and the role of customers. In the case of these two companies the consumers are "prosumers" indeed: They are able and willing to add value to the services, as well as they are the sources of organizational learning. Netwaiter learns from their consumers as well as from their partner restaurants (e.g. receiving suggestions for improvement on their blog). Index took the risk of mixing community content with its own content.[59] For Index it is a particular dilemma to manage the excrescent activities of the community (for example "flames" and debates in the comments below the articles). The skills of the community can be activated to a

[59] They also involve the community in the writing of the own articles. Beyond the articles based on polls, we can name initiatives like the community-based job cutbacks counter during the economic crisis. Another example is the case of the market entry of Aldi that tried to keep in secret the future store locations, but Index succeeded with identifying these locations based on the feedback from the readers.

certain extent in this case as well (some volunteers are participating in the moderation process), but applying certain technological solutions (automated evaluation comments) seems to be difficult.

In summary, the value of knowledge and experience seem to increase. But the internal knowledge is similarly important as the access to the knowledge of external actors. Due to the former it can happen that we experience a shift towards vertical integration instead of the deconstruction of supply chains. The latter makes the development of partnerships and the maintenance of the value network around the organization necessary. The knowledge and the experience of customers play a key role in this process.

4.3.4. Critical Mass and Trust

Although the literature questions the "e-business myth" of the network effect, we can still identify the "first mover – trust – critical mass – network effect – learning – loyalty" concept in three case studies I discussed.

All the three enterprises made significant investments (compared to their financial capabilities) in order to benefit from the strategy of first mover. Both Index and Sunbooks wanted to be the first (in time and size) in their areas and for that – retrospectively saying – overspent. In the planning phase of Netwaiter the rumors of the launch of a similar enterprise with more capital (pizza.hu) forced Netwaiter to accelerate the foundation process.

To a different extent, but trust plays an important role in the development of all the three business models. The case of Sunbooks and Netwaiter are similar in that sense. It is necessary that the publishers and the restaurants trust in that the online enterprise offers a long-term, fair and sensible distribution channel for them. Similarly, the retailers and customers have to trust that their orders will be fulfilled – otherwise there will be a shortage in the bookshops or the customer is left hungry. The interviews supported at both cases that the building and maintaining of the trust was considered by the management to be the most important and most challenging task.

The trust is an important factor in the case of Index as well. On the community pages of Inda 5-10 different services are available with one single sign-in. One user can have multiple nicknames within the system of blogs and forums, which means that Inda has the key to multiple user identities, which definitely needs trust from the side of the

community. Another proof of trust is that the users allow Index to use their contributions for mixing with the editorial articles (for example when reporting about a fire and inserting readers' pictures into the reportage).

The evolution of the blog services of Index is an interesting case as well. Index entered a growing Hungarian blog sphere and, although, Index was not better technically than the other blog service providers, masses of bloggers left their earlier providers for joining Index. There could be no other reason for this but that Index highlighted reader's blogs on their main page, attracting shortly the critical mass of bloggers around Index which brought popularity for them.

The critical mass or the size of the network is in all three cases a factor which defines the value of the enterprise. In the case of Index, in the beginning this meant only the number of readers, later, however, the meaning included the audience willing and able to contribute with content and also the partner companies within the group. For Netwaiter, the international expansion was enabled by the situation, which, as the managing director puts it, "the Hungarian Netwaiter was practically running on its own"; often restaurants were themselves asking to be able to join Netwaiter. In the case of Sunbooks the main issue when building the network was that large publishers did not join, as they planned the system for covering the whole market. It is apparent that Index, in the case of their blogs, built the critical mass in a very short time, while Sunbooks was not able to reach it after years of efforts. Still, the network effect worked even in this latter case: With the cooperation of Hungarian Book Club, the inclusion of the books of the large publishers became available, offering the required wide choice for hypermarkets and large customers, who, this way, could order exclusively from Sunbooks. In such a case, of course, the large publishers did not want to exclude their books from the system anymore.

The question is whether the improvement of the system and the learning invested in the systems are enough for maintaining the loyalty of the members of the network? Can another food ordering portal attract the users of Netwaiter? Can such a change happen that the users of Index leave for another site? I was not able to find a final answer to these questions, beyond the above-mentioned findings on sustaining IT-based competitive advantage and analyzing switching costs. Looking for analogies, we can mention Fokusz Online, the first-mover online book store in Hungarian or the American pioneer of online social networks, Friendster. At the moment, when a competitor emerges with a significantly better value offering – cost leader Hungarian online book

store, Bookline, or the technically surpassing social network, MySpace –, they took over the lead, while the earlier flagship practically disappeared. (Note, currently MySpace is threatened by Facebook in a similar way.) Regarding the analogy, we have to note, that in the case the two mentioned examples the challengers were not only better, but they rode the next wave of Internet users (early adopters, early majority). In the reflection of analogies, probably the online loyalty is fragile for Index, Sunbooks and Netwaiter as well and maybe can be maintained with developments and excellence. For this, management needs to know which direction to go, and what will be the next "winning" (or, from another aspect, using a popular term, "killer") application or service. This leads to the area of strategic questions.

4.3.5. Strategic Innovation

The fact, that the three case studies are examples for strategic innovations, is not the result of the research but the choosing of the sample. It is natural, that pioneering models built on new and special technology – that is a global, open, standard and scale-free network –, are innovative, and re-define the industry at the same time. What are these innovations? What are their sources? Can they be planned? These are the questions I examine in this chapter.

My case studies represent examples for different innovations from the 5 Schumpeterian areas. As a new product, Netwaiter created a business which has not existed before. (This statement applies also globally for food ordering: Netwaiter had not had an example in any other country either. Of course, B2C online intermediaries existed in other industries.) In this case Netwaiter's catalogue listing fee in the mature Hungarian market can be regarded as the Schumpeterian rents, which Netwaiter can collect building on its market position. However, this is only possible within the immediate area of the innovation: while it works in Budapest, no such rents can be achieved in the foreign markets of Netwaiter.

Sunbooks implemented an innovation which is termed "industry re-organization" by Schumpeter – at least in Hungarian respect as similar online marketplaces had existed in other countries. Sunbooks promised such radical improvement in technology (efficiency) that the re-organization of the industry seemed to be inevitable. The industry, however, was able to resist the innovation and realized the transformation in its own, much slower pace.

Index (and its predecessor, the Internetto) entered a practically untouched market, created a new market. The initial “everything what’s on the Internet” direction was also an answer to the fact that the content available in Hungarian language was very limited. The innovation built on the phenomenon of “web 2.0”, the channeling of community content, was the second radical innovation of the history of Index. The competitors face a challenge to follow this step, as in the small Hungarian market it is relatively difficult to build such a large active community – although this innovation brought a radical change into the realm of online media.

Both disruptive innovation and the use of information systems as strategic weapons can be a result of systematic planning or intuitive experimenting. The case studies of the strategic information systems literature and the publications on online business are leaning towards the latter. From our three case studies at hand, Sunbooks walked the former way, while the other two the latter.

Sunbooks was launched with large investment and theoretically with a well-grounded thorough model and business plan. It was based on the comprehensive studying with the industry and international examples. Also the experience of the CEO, acquired in this industry, was built in. However, the soft factors mentioned earlier (user skills and attitudes, trust, interest and power) were underestimated during the planning phase. Neither the subsequent steps of Sunbooks were intuitive: Business decisions, for example the change of the logistics partner, were based on detailed analysis and calculations. Also a similarly thorough analysis led to the decision to not enter the B2C business (i.e. opening an online bookstore). The failure of Sunbooks does not prove the failure of the systematic strategic planning. We do not know whether Sunbooks would have been more successful with bit more risk taking or experimenting. However, it is an interesting observation that in the Hungarian e-business market the well-designed brands underperform, unlike the ones known for “fabrication”. For example the Bookline bookstore was transformed from a second-hand bookshop being more successful than the large chain book stores, and Index, competing Origo backed by the much stronger Deutsche Telekom.

Netwaiter can be regarded as a typical innovation story with two students facing an everyday problem. As nobody yet had solved this problem before, they drafted a technological solution, made a quick calculation and launched a radically new business model. While Netwaiter is described like this in the daily media, they in fact spent two-

three months with the planning of the business processes and making a business plan. Since then strategic planning of Netwaiter can be labeled as a mixture between the "traditional" and the "disruptive" approach of strategy formulation as described in Chapter 2.3.5. The innovations discussed in the case study followed a strategic intuition as a result of creative experimenting. The accumulated experience inspired subsequent innovations. Business decisions (international expansion, new products, new businesses, etc.), however, were made based on traditional strategic (and business) planning. Until know, both the role of the "engineering" and the "fabrication" were necessary for the success of Netwaiter.

Around the millennium, Index undoubtedly followed a "gambling" strategy. The decisions were made according to the intuitions of the management. They considered the boundaries of the industry blurred, watching an expanded strategic horizon. Their main goal was "to be there in the next round", let the Internet evolution take any direction. However, this approach proved to be unable to finance. The focusing strategy of the second phase was systematically executed with cost cutting "although this reduced entrepreneurship also as two years before we were able to experiment more than this" – as formulated by one of the managers at the end of 2003. In the third phase of the business model again the strategic intuition could be followed. In 2008, according to the managing director: "We have to see more clearly our strategy than we used to in 2000". Nowadays thorough plans and calculations back the strategic decisions of Index. Still, the environment is very uncertain as well as the boundaries of the industry, the technology (Internet, mobile phone, television, iPod, etc.) or the geographical boundaries. That is why, according to the managing director, in 2009 "we have to keep more stakes in the fire, which there are no reasons for, just intuitions". They maintain a certain kind of laboratory of experiments, from which, based on the environmental changes, they push or expand promising ideas. With the fast development of technology, Index keeps some ideas in this laboratory-phase for longer than a year. An example is the Indastart web-based news reader: after half year of a public (but exclusive) test phase it was terminated. This supports those statements in the literature that emphasize "to sustain an option horizon" instead of focusing on "where to arrive".

In summary, the examined case studies shows that the traditional approach of strategic planning may be problematic with e-business models. The environment is turbulent and uncertain; it is difficult to define the industry boundaries. Despite all these, all three enterprises have traditional strategic and business planning. In 2002 Index experienced the consequences of the lack of it when the risky experimenting resulted in a near-bankruptcy. Still, both Index and Netwaiter maintain a “healthy level” of intuitions and experimenting. They are ready to act upon the unexpected changes in the industry or the competition. As the literature on strategic information systems draws the conclusion: These two companies are characterized by enabling the “fabrication”, i.e. encouraging and rapidly extending innovative ideas if the environment becomes favorable.

5. Summary and Conclusions

In my Ph.D. thesis I reviewed the business model approach, the literature on e-business models, and the theoretical background of the e-business context. Based on the review I identified open questions in the literature as a basis of my research questions. As I elaborated, these questions called for a case study based qualitative research methodology. I conducted a longitudinal analysis of three leading Hungarian e-business companies from the perspective of the business models. I presented the evolution of the business model of the news portal Index, the B2B book marketplace Sunbooks, and the online food ordering intermediary Netwaiter. I provided a complementary overview on the particular evolution of the e-readiness in Hungary in order to enable better understanding of the context of the case studies. Using the structure of the analysis of the literature background, I analyzed the case studies in order to answer the open questions of the literature, and better understand the key factors of the successful realization of e-business models.

5.1. Contribution to the Literature

Based on my empirical research I was able to answer my two main research questions on how to use the business model approach and the e-business literature to analyze the evolution of leading Hungarian e-business companies. Below I summarize the main conclusions, referring to the numbering of my research questions (see Chapter 3.1) in brackets.

The case studies underpin that the business model **method is appropriate** for analyzing e-business ventures. Organizations may combine the theoretical options along the value proposition, the architecture, and the revenue streams uniquely. This classification enables the fine-tuning and the follow-up of the adaptation of e-business models (Question 1a).

The **table of e-business model components** provides an overview of the applied model variants and choices. The graphic representation of the e-business model revealed important relationships in all the three cases, however, the limitations of the methods used became also visible (Question 1b and 1c). The **value network map** is an appropriate form for presenting the value relationships of a firm, and also enables

analysis/research or benchmarking. However, as a planning tool, the added value for company leaders is limited. The **cause and effect map** of a business model is an outstanding tool for analyzing the consequences of policies and choices in the business model. Honestly, I found it very difficult to draw that type of maps. Not only the simplification (i.e. omitting and generalization of elements) is challenging, but it is also difficult to arrange a layout that is clear and easy to understand. Not even the optimization of layout, but also the drawing of such maps is barely supported by software applications. That is unfortunate, because this method is also appropriate for analyzing the social embeddedness of the business models.

My last finding about the business model method is that the **business model can be distinguished from the strategy and the processes**. I did not found such research in the literature that follows the simultaneous changes in business model and in the strategy in a specific case. I conclude that different strategies can be built upon the business model, while the business model also may change under transforming or even fixed strategy. Based on the case studies, the same e-business model can be implemented with different key processes; that is another way of adaptation (Question 1d). This analysis can be extended with the identification of key success factors; that factors are considered to be connected to the e-business conditions described in the literature, what was the domain of my second research question.

Regarding the second group of my research questions, the answers were provided by Chapter 4.3. The successful realization of e-business models depends on the key conditions of e-business. One major aspect is the **social embeddedness**. The wider environment (including the attitudes regarding, and use of the Internet) and the adaptation to the industry context determined the evolution of e-business models in all three cases. One common point of the cases is the interdependence: Certainly all Hungarian e-business companies are struggling with the low level use of the Internet, the negative attitudes towards online transactions, and with the lack of IT skills. Furthermore, without considering the existing network of social capital a sophisticated and efficient system may also fail (Question 2a).

The e-business is interlaced with, and **not independent from the "traditional" business**. The revenues of Index depend on the whole (online and offline) advertising market (see also the effect of the economic crisis), the evolution of Sunbooks' results were also connected to changes in the (offline) industry settings, and the conditions that

required Netwaiter to adapt its business model in case of the regional expansion are covering traditional factors like eating habits, number of home-delivery restaurants, popularity of phone ordering etc. Nevertheless, **the diffusion of Internet and e-readiness** are still major factors of successful realization of e-business models. It is uncertain, if the business based on the economics of information became separated from economics of goods. I found that some of the material **(physical) processes** have key role; these determine the information business in some cases (Question 2b). Even when designing an e-business model one has to consider equally the information and the physical flows, or the online and the offline activities.

The three cases showed a joint trend of **vertical integration and network partnership** (Question 2d). Vertical integration seems to be related to the exploitation of knowledge inside the organization, while networking is an option for capturing external knowledge. An example for the former is that Index set up its own team of journalists, or Netwaiter that manages some of its foreign markets with own employees. Examples for the latter are the partnerships of Sunbooks in the field of logistics and IT, and the collaboration of Index with a financial news portal, or with an offline media company formerly. However, I cannot confirm the spreading the ecosystems of specialized small ventures as it assumed in the literature. Instead of "deconstruction" along the value chains I found the trend of **"node companies" orchestrating relatively stable networks** around them (online media groups, vertically integrated book supply chain, etc.). The extreme assumption of "scale is irrelevant" has some reality though: Netwaiter competes with regional competitors in several European countries, while it remains a very small organization. In e-business, some specialist venture may acquire new markets successfully; however, the group-wide value chain integration remains the dominant model.

The three cases are examples for **intermediation**: Index aggregates contents; Sunbooks reduces the production and transaction costs for book publishers and retailers; Netwaiter intermediates between food ordering consumers and restaurants. In case of Sunbooks the lack of trust increased the transaction costs and facilitated the vertical integration of publishers and retailers (e.g. reaching wholesalers). However, the viability of the intermediary role seems to be fragile based on the case studies: This role is threatened by the trends in technology (e.g. convergence), society (e.g. privacy) and economy (e.g. competition); even brand, loyalty, uniqueness or excellence cannot assure the survival of the intermediary position.

The case studies prove an evidence of **changing patterns in the use of knowledge**. The **customers** play an important role in this process: The term "prosumer" describes their evolution (Question 2e). Netwaiter, for example, builds a database from customers' feedback, but also rely on customers as "sales agent" (eat-and-earn system). Index empowers the readers to contribute to their contents. Regarding Sunbooks, it was Sunbooks' implicit plan to collect the book publishing knowledge (demand, price elasticity etc.), and incorporate the industry's best practices into its system. This intention faced the resistance of the major industry players who traditionally "own" that knowledge. In order to effectively realize an e-business model, unique knowledge needs to be rendered, and access to external knowledge is required.

The cases confirm that implementing a sharp e-business model does not assure competitive advantage in itself; operation excellence and continuous innovation is also required (Question 2c). From a technological point of view, the e-business model of Index is relatively easy to imitate (portal technology, editorial system, infrastructure), but the unique "tone", the brand and the lively community may serve a basis for **sustainable competitive advantage**. At Netwaiter, I found **contestable competitive advantage**. While competitors try to imitate its system, Netwaiter is about to renew the advantage based on the innovative organization culture and the continuous innovations. At the beginning, the serious investments in Sunbooks raised entry barriers for potential competitors. However, that was not enough to gain a competitive advantage because other factors limited the viability of the marketplace. Based on the findings above, the first mover strategy in itself does not lead to competitive advantage. Operational excellence and critical mass are prerequisites, yet, differentiating knowledge and capabilities, as well as continuous innovation are necessary to sustain competitive advantage. The case studies showed that in the e-business environment switching costs, loyalty, and lock-in rarely evolve, even if the network effect emerges.

Achieving the **critical mass** was a crucial condition in the e-business models examined. Besides other external factors, being the **first mover** and trust were equally important factors of that. The examples underpin the existence of the **network effect**, that is, the value of the network contributes to the value of the company. However, the companies were not able to increase the switching costs (no "lock-in" occurred); and the "glue" of the networks were rather the excellence and the continuous development than members' loyalty (Question 2f). At Index, critical mass was interconnected with the Internet penetration, but also a unique value proposition was needed. Netwaiter co-

evolved with the food-delivery (by phone) restaurants in Budapest. Without the assortment of the major book publishers Sunbooks was not able to achieve a critical mass, on the other hand, by acquiring a wholesaler in trouble Sunbooks by-passed that problem. In an e-business environment – even with the help of the network effect – incontestable switching costs, loyalty and lock-in do not develop.

Social capital and trust played a key role in the three cases (Question 2g). The community-based content creation at Index was enabled by the previously developed trust among the readers. The failure of Sunbooks' system that tried to transform the traditional relationships in the book industry points to the lack of trust in Sunbooks. Netwaiter focused on gain the trust both of the restaurants and the consumers. Based on these three examples, a "roadmap" to the critical mass should be planned thoroughly, preparing for a longer and more cumbersome process than one would think.

Based on the examination of **the innovation and the strategy** I conclude that the leading role is related to experimentation and "fabrication". A strategic option horizon, or "laboratory" of new initiatives based on strategic intuition, may be necessary in order to react – i.e. extending one initiative – in time. However, all major decisions should be based on systematic planning and business calculations; in my case studies I proved that serious troubles may occur without them (Question 2h). Recently, Index is experimenting with various community services, considering the fact that nobody can predict which initiative will be the next "killer application". Major decisions like acquiring another content provider are based on business plans though. Netwaiter discontinued some of its innovations after realizing the limited success of it – that is another example of the "trial and learn" thinking. On the other hand, Sunbooks analyzed the situation systematically with traditional methods. That was the reason why Sunbooks did not enter the B2C book market: Calculations predicted much slower expansion in that market, than it evolved in fact later. That is, the traditional "business policy" is necessary but the leading e-business companies may also rely on strategic intuitions, risk-taking and experimenting.

5.2. Practical Relevance and Findings

Based on the empirical research I formulated recommendations for e-business entrepreneurs and practicing managers. Without repeating obvious recommendations like “understand the target market” or “formulate your mission”, I collected the most important implications of my Ph.D. research on the e-business practice:

- Emphasizing the **business model** as a link between corporate strategy and business processes is an appropriate management tool for deconstruction and reinvention the business model. The cause and effect map of a business model helps the managers to reveal potentially “obsolete” hidden assumptions, and assessing the opportunities for business model innovations. That can be improved to a “Simulator” (not used in my research), that enables to quantify the relationship between the elements, and to plan with scenarios.
- Business leaders have to pay more attention to the **social embeddedness**. The business models are embedded in networks. Even competing companies with similar e-business models are “in the same boat” considering many aspects; sometimes only joint action can widen the “space for maneuvering” for all. In other cases – especially if the new business tries to transform the old habits – the e-business company has to deal with the “industry resistance” within its business model. Techno-economic excellence is not enough in cases when the social capital is more important “glue” in the inter-firm relationships, than the pure efficiency.
- **“Soft issues”** like skills and capabilities, knowledge, or trust affects e-business model significantly. Skills, capabilities and knowledge are treated as often missing factors of realizing e-business innovations. However, as the Internet became the main infrastructure of the society, these soft issues and the Internet became more interdependent. Both the companies and the consumers develop new skills that shape the technology and vice versa. That enables new opportunities, e.g. transforms the community from being a market to evolving to a resource. My research shows the key role of **trust**: Business leaders should pay as much attention to the design of the trust relationships as much as they are engaged in optimizing the techno-economic performance.

5.3. Limitations and Future Directions of Research

According to the Introduction of my Ph.D. thesis my research was limited by the framework of the research questions. By focusing on the business model approach, management and organizational issues, or the process of strategy implementation remained almost untouched. Even regarding the business model I focused on the "case" and the "map", exluding the numeric and financial calculations from my analysis. Another limitation was my decision to select mature and leading e-business companies, although younger or struggling businesses could have provided another set of conclusions. Also note that the qualitative research methodology, i.e. the three case studies do not allow statistical generalization; on the other hand my conclusions on using the business model methodology or the revealing of new factors and effects may be applyied more generally. Because my research was limited to Hungarian companies, it is difficult to assess whether my findings are country-specific.

Based on this, my PhD research can be continued in **further research directions**. Both quantitative and qualitative questions are open to future analyses. I highlight three potential future research directions.

- Increasing the number of case studies – continuing the replication logic between them – may result further implications: One field of that is to select similar and "counterpoint" cases (e.g. comparing Sunbooks to Hungarian e-business star Bookline), and another field is the regional comparison of cases (differences or similarities and the role of the cultural, social, and economic settings).
- It is also possible to further develop the e-business components set model to enable a quantitative survey assessing e-business models in Hungary. Detailed analysis of the e-business model sets in Hungary would be a good complement to the statistical and case based research arena.
- In collaboration with companies, mapping and simulating the business model can be another next step. This may result in feedback to the theory (improving the methodology), or even in specific software development on the practical side.

Appendices

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Appendix 1: The Business Model Concept and the Literature

The term "business model" became widely used during the "dot-com bubble". Yet, the popularity of the term has been leveraged even after.

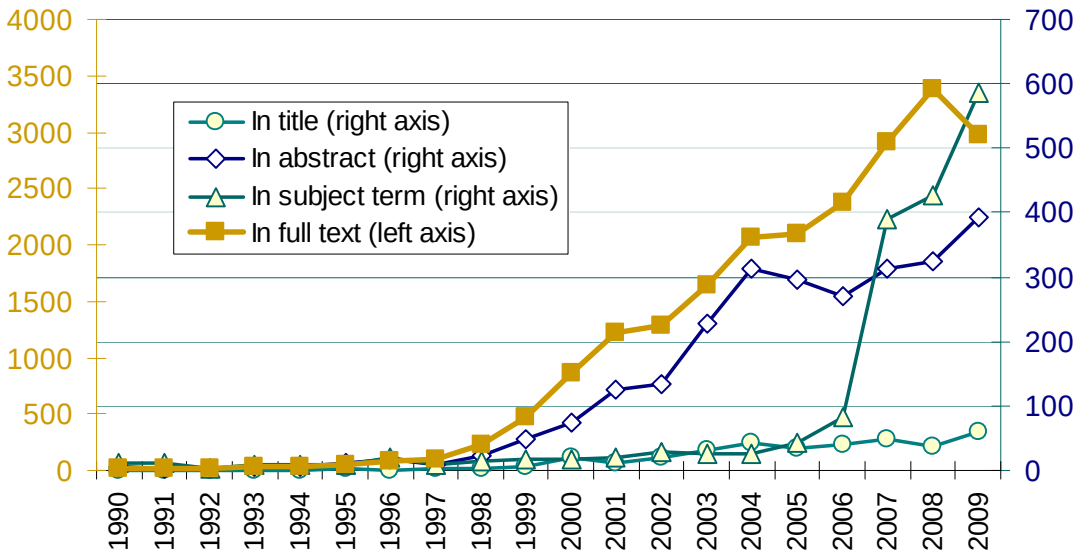

Figure 36: Spread of the Term "Business Model" in the Literature

(Frequency of the term "business model" or "business modeling" in the peer reviewed journals featured in Business Source Premier Database in December 2009)

The next table shows some further definitions of the term "business model". The table follows an order by content: Starting with the more general ones and continuing with the more analytical definitions.

Author	The business model is…
Petrovic et al., 2001	"…the logic of a »business system« for creating value, that lies behind the actual processes."
Magretta, 2002:87	"…a story that explain how enterprises work."
Venkatraman and Henderson, 1998	"…as an architecture of a virtual organization along three vectors: customer interaction, asset configuration and knowledge leverage."
Amit and Zott, 2001:511	"…that depicts the content, structure, and governance of transactions designed so as to create value through the exploitation of business opportunities."
Tapscott, 2001:5	"…the core architecture of a firm, specifically how it deploys all relevant resources (not just those within its corporate boundaries) to create differentiated value for customers."

Author	The business model is...
O'Toole, 2002:2	"…a unique combination of products, services, image, distribution and the underlying organization/operative infrastructure describing how a company intends to create value in the marketplace."
Turban et al., 2002:6	"a method of doing business by which a company can generate revenue to sustain itself. The model spells out how the company is positioned in the value chain."
Weill and Vitale, 2001	"…a description of the roles and relationships among a firm's consumers, customers, allies and suppliers that identifies the major flows of product, information, and money, and the major benefits to participants."
Timmers, 1998	"…an architecture for the product, service and information flow, including a description of various business actors and their roles; and a description of the potential benefits for the various business actors; and a description of the sources of revenues."
Osterwalder and Pigneur, 2002	"…a description of the value a company offers to one or several segments of customers and the architecture of the firm and its network of partners for creating, marketing and delivering this value and relationship capital, in order to generate profitable and sustainable revenues streams ."

Table 26: Definitions of the Term "Business Model"

(See sources in the table)

Regarding the components of the e-business models the literature provides different approaches. Magretta (2002) for example asks four questions: who is the customer, what do they value, how is money generated and why does the model generate money? Other researchers use their own perspectives for decomponizing the business model construct.

- Venkatraman's (2000) interpretation of business models describe rather an organization, as long as he considers the business models to be a composition of strategic vision, resource allocation, governance and operating infrastructure.
- Amit and Zott (2001) focus on the value creation from a transactional view. Their dimensions are the content, the structure and the governance of the transaction that shape the characteristics of the transaction.
- Gordijn, Akkermans and van Vliet (2000) provide a detailed ontology of business models. Their framework consist of components like: actor, value object, value port, value interface, value exchange, value offering, market segment. Ordering these components to unified schematics and a software solution, simulation and IT system planning are possible.
- O'Daniel (2001) suggests to analyse the business models from four points of view (in the author's words): These are organic roles (from market to hierarchy), structural roles (infrastructure of the organization), functional roles (matched to the structural elements), and commercial roles (pricing, product focus, and implementation).

The majority of the publications on business modeling try to list the components of business models like a table of contents. As I suggested with Table 27, a "three plus one" components set covers the more detailed approaches. Similarly to Alt and Zimmermann (2001), the framework I used for analysis consisted of value proposition model, architecture model, and revenue model, all of them relies on the cross-component infrastructure/regulation model.

Amit and Zott (2001)
Content
Structure
Government

Applegate and Collura (2001)
Product and service offered
Market opportunity
Marketing/sales model
Brand and reputation
Operating model
Organization and culture, management model
Partners
Benefits to firm and stakeholders

Chesbrough and Rosenbloom (2002)
Competitive strategy
Value proposition
Market segment
Value network
Value chain within the firm
Cost structure and profit potential

Gordijn, Akkermans and van Vliet (2000)
Actors
Value objects
Value ports
Value interfaces
Value exchanges
Value offering
Market segment

Hamel (2000)
Core strategy
Strategic resources
Value network
Customer interface

Magretta (2002)
Who is the customer?
What does the customer value?
How do we make money?
What are the underlying economics?

O'Daniel (2001)
Organic roles (market vs. hierarchy)
Structural roles (infrastructure)
Functional roles (need to be done)
Commercial roles (pricing, product focus, implementation)

Pateli (2002)
Mission and strategic objectives
Value propositions
Scope
Core competences
Value chain / net
Activities and processes
Market trends
Pricing policy and revenue streams
Regulation
Technology

Remenyi and Brown (2002)
Value creation
Profit and growth engine
Delivery system
Revenue generating system

Venkatraman (2000)
Strategic vision
Allocating resources
Governing
Operating infrastructure

Table 27: Further Concepts of Business Model Components

(See references above. See more common classifications in the main text.)

Appendix 2: E-business Model Frameworks

Model, variant	*Reference to the literature (further terminologies)*
PORTAL	*Chen, Mahadevan, Tapscott (aggregation)*
§ Content provider	*Weill, Rappa (advertising, registration)*
§ Price comparision	*Turban, Applegate (aggregator), Weill (full service provider)*
§ Virtual community	*Timmers, Weill*
§ Community-building	*partly: Applegate (affinity portals), Weill (whole of enterprise)*
§ Online services	*Applegate, Rappa (bit vendor)*
MARKETPLACE	*Chen, Mahadevan, Rappa, Timmers, Turban, Tapscott (agora), Weill (intermediary)*
§ Catalog	*Applegate (aggregator)*
§ Online auction	*Coltman, Rappa, Timmers, Turban*
§ Exchange	*Applegate, Rappa (buy/sell fulfillment)*
§ B2B marketplace	*Rappa*
§ Value chain integration	*Coltman, Tapscott, Weill (value net integrator)*
§ Virtual mall (with independent stores)	*Timmers, Rappa (+metamediary, distributor)*
§ Group buying § Name your own price	*Turban, Rappa (buyer aggregator, reverse auction)*
§ B2C marketplace	*Rappa (classifieds), Timmers and Turban (auction)*
§ Public procurement	*partly: Turban (electronic tendering systems)*
SHOP	*Rappa (merchant), Mahadevan (product/service providers)*
§ E-tailer	*Chen, Rappa, Timmers, Applegate (retailer)*
§ Manufacturer / direct sales	*Chen, Rappa, Weill,* *Applegate and Turban (custom suppliers)*
§ B2B e-commerce	*Mahadevan (B2B), overlapping: Chen (B2B)*
§ Affiliation	*Rappa, Turban*
UTILITY	*Tapscott (distributive networks)*
§ Collaborative platform	*Timmers, Tapscott (alliance), Rappa (business trading community), Weill (shared infrastructure)*
§ Value chain catalysts	*Coltman and Timmers (value chain integrator, information brokerage)*
§ Application service providing	*Rappa (utility)*
§ Internet infrastructure	*Applegate*

Table 28: Classification of E-business Models and Terminologies in the Literature

(From author. References: Applegate and Collura, 2000, Chen, 2003, Coltman et al., 2001, Mahadevan, 2000, Rappa, 1999, Tapscott, 1999, Timmers, 1998, Turban et al., 2002, Weill and Vitale, 2002)

Appendix 3: Value Proposition at Free Portals

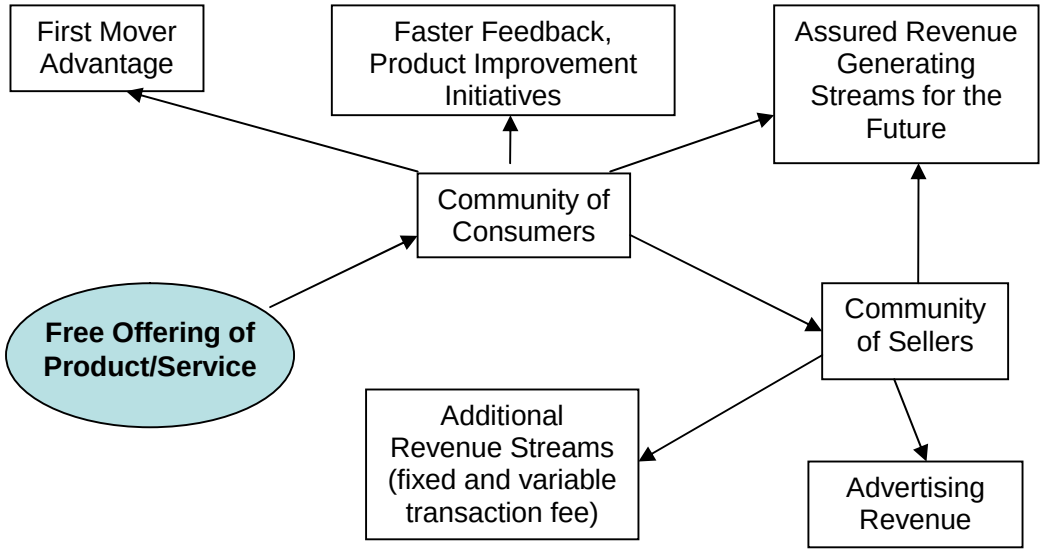

Figure 37: Logic of the "Free" model

(Mahadevan, 2000:65)

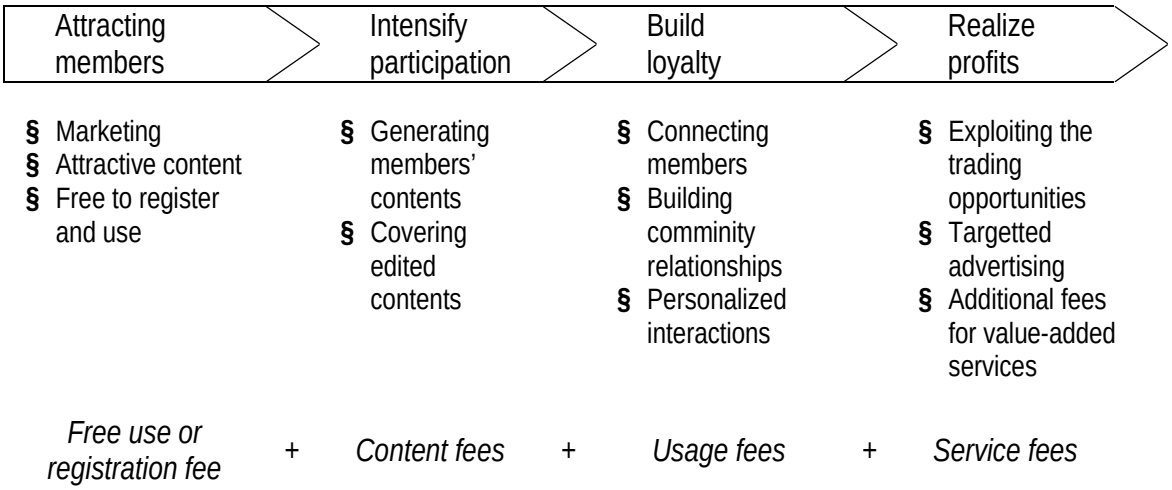

Figure 38: Community Buliding as a Source of Profits

(Szekfű and Z. Karvalics, 2000:64)

Appendix 4: B2B Marketplaces

Regarding the B2B intermediation, Anderson and Anderson (2002) concluded that the Internet enables a major progress in the field of problem solving (automated assessments, customized offerings), although contributes to important advantages considering the matching and requisitioning functions as well (Figure 39).

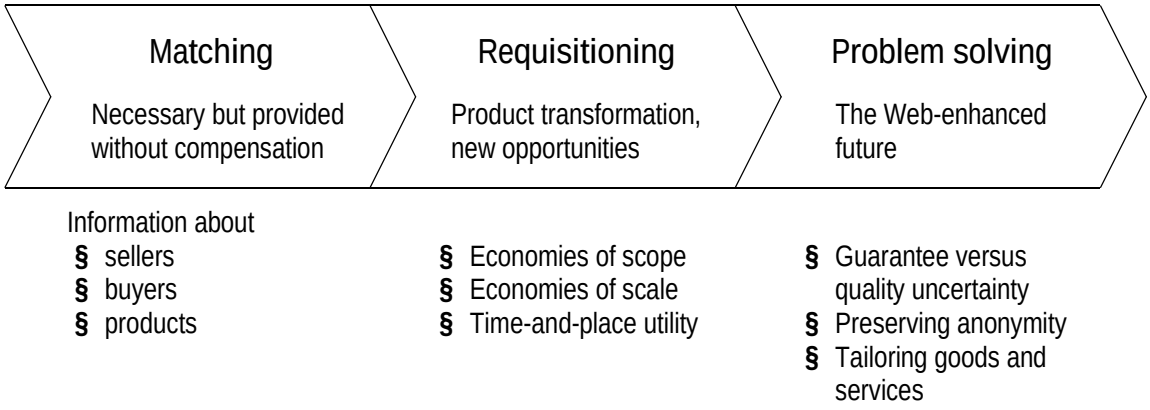

Figure 39: Nine Functions of the Intermediaries of the Internet Era
(Adapted from Anderson and Anderson 2002:57)

Another important factor of B2B marketplaces is the ownership structure of the intermediary. Hoffman et al. (2002) distinguish the public (the owner is independent from both the suppliers and the customers), the consortial (the marketplace is a joint venture of more industry players), and the private (dominated by one of the industrial actors) electronic marketplaces. According to the authors, the source of the advantages differs: May be the prices (public), the searching costs (consortial), or the value chain optimization (private). Ownership of the industry players facilitates the "liquidity" of the marketplace (Evans and Wurster, 2000); however, it may be a discouraging for actors looking for neutrality (Kaplan and Sawhney, 2000).

The literature distinguishes two groups of the B2B marketplace value propositions (classification of Brunn et al., 2002 is compared to the typology of Ordanini and Pol, 2001, complemented with findings from Nemeslaki, 2004).

– The increase of market efficiency includes the collecting of the offers (aggregation), the showing of the necessary level of competing offers making the dynamic pricing possible (liquidity creation) and their presentation in a standard, searchable form (transparency).

– Beyond this, the B2B marketplaces (especially the vertical ones) fit into a supply chain and they support its efficiency in several respects (facilitation). The B2B marketplaces carry out optimization duties in many fields from the establishment of connections through the organization of orders till the questions of stockpiling.

The main types of B2B marketplaces based on Kaplan and Sawhney (2000) are as follows:

What businesses buy How businesses buy	Indirect goods (operating supplies)	Direct goods (manufacturing inputs)
Systematic sourcing Mechanism: aggregation, fixed price, bargain	Horizontal distributors, "MRO hubs" *Ariba, W.W.Grainger, MRO.com, BizBuyer.com*	Vertical distributors, "Catalog hubs" *Chemdex, SciQuest.com, PlasticsNet.com*
Spot sourcing Mechanism: matching, dynamic pricing	Functional exchanges, "Yield managers" *Employease, Adauction.com, CapacityWeb.com*	Vertical exchanges *e-Steel, PaperExchange.com, Altra Energy, IMX Exchange*

Table 29: Main Forms of B2B Marketplaces

(The table is a combination of Kaplan and Sawhney 2000:99, and Turban et. al. 2002:267)

Wise and Morrisson (2000) suggest the types of "mega-exchanges" (aggregating more marketplaces), marketplaces serving complex procurement processes ("specialist originators"), "e-speculators", and problem-solving marketplaces ("solution providers"). The authors argue, that the viability of the first-generation B2B marketplaces is threatened by more trends:

– The marketplaces overstress the importance of price lowering opportunities while they underestimate the values of a permanent customer-supplier relationship (Wise and Morrison, 2000). With a case study analysis Gupta and Woodside (2006) reveals the interdependency, and the need of cooperation and co-evolution considering the relationship of the marketplace and its members.
– In many cases, the suppliers side of the market place benefits less (Brunn et al., 2002:295). Buyers tend to be join earlier and in larger number, therefore the marketplace tend to focus more on fulfilling the needs of this type of partners (evidences from Wise and Morrison, 2000, as well as from Gupta and Woodside, 2006).
– Marketplaces have to consider that in order to achieve the critical mass they will need significant investments even in short term. They have to be capable to flexibly adjust the initial plans to the circumstances: Often relationships that seem to be

unreasonable in the short term are leading to success in the long term (see Gupta and Woodside, 2006).

- The realization of marketplaces is also problematic: The marketplaces based on standard software packages often treat the customers' demands and value judgments schematically, without any specific analyses (Wise and Morrison, 2000).
- With the increase of the number of electronic marketplaces, the "marketplace-market" becomes disintegrated and it cannot fulfill the very role for which it came into existence: to be a depot center embracing all the supplies and demands (Wise and Morrison, 2000).

Kambil and Heck (1998) have examined the functioning of the electronic marketplaces in the very busy Dutch flower-market, and they have arrived at the conclusion that in order to be successful on the electronic marketplaces, one has to create a social environment similar to that of the traditional markets.

Appendix 5: Characteristics of E-commerce

As an early analysis of the characteristics of e-commerce, Strader and Shaw (1997) distinguished the perspective of the customer and that of the supplier. Based on the authors' research the buyers' costs related to price, searching and taxation can be lower on the Internet, while the costs of risks and distribution can be higher. From the sellers' perspective, it is a significant difference whether the product is digitizable or not. If it is, then the cost of both the production and the stockpiling can decrease compared to traditional transactions, while if it is not, we can only perceive saving in the domains of marketing (advertisement) and general costs. The delivery of non-digitizable products is of higher costs as well (couriers) compared to traditional commerce (the customer travels to the shop), while digitizable products can be "delivered" with low costs over the Internet.

In the course of the further decomposition of the digitizability, Hui and Chau (2002) distinguish device-like digital products (software), content-based digital products and online services. While in the case of the two former, the delivery happens through download – during the download, the "value" is transferred to the downloader – in the case of the third group, interaction itself is the delivery and the value. The main difference between the first two groups is that software gives a wider opportunity of try them but they are more difficult to granulate (i.e. to divide into parts) than content-based products that are more difficult to try but easier to granulate.

Kare-Silver (2001) emphasizes the role of three factors concerning buying on the Internet:

- The need for the human contact in order to experience the product's characteristics.
- Reputation and trust in the product (according to the author, the reputation obtained in the traditional world is transferable to the online world as well).
- The consumer's attitude (experimenters, convenience-focused buyers, and value shoppers tend to buy online while "ethical" buyers, habit die-hards and especially "social buyers" who enjoy the traditional shopping do not).

Slightly surprisingly, Bauer's (2003) research revealed the increase of the searching costs from the perspective of online buyers (B2C), adding tha fact that this search can be enjoyed buy the buyer as well. On the other hand, companies will not benefit from that: the cost of search increases the price-sensitivity, and the amusing search is a value proposition that does not generate revenue. Other publications list the inhibitory factors of e-commerce; Strader and Shaw (1997) elaborate four:

– The lack of Internet usage infrastructure (especially in certain areas, regions).
– The varying level of digital literacy (especially on a world scale).
– The concerns on security.
– The device-specificity of transactions – that is, when the efficiency of the buying is attached to a given device and its established use – of a big part of the transactions is a timely obstacle nowadays as well.

Many authors emphasize the role of the logistics: The importance of the distribution issues and the delivery costs (Swaminathan and Tayur, 2003). Even more publications deal with the role of trust as well; see an initial overview from Kim et al. (2005).

In early publications, e-commerce has been defined as a transaction made on the Internet. In my master thesis (Móricz, 2000), however, I introduced a life-cycle approach of e-commerce that emphasizes the elements beyond the ordering and the payment (Figure 38). While these pre- and post-payment elements are mainly information processes, it is obviously beneficial to support them by the Internet (more details and references in my Ph.D. thesis proposal).

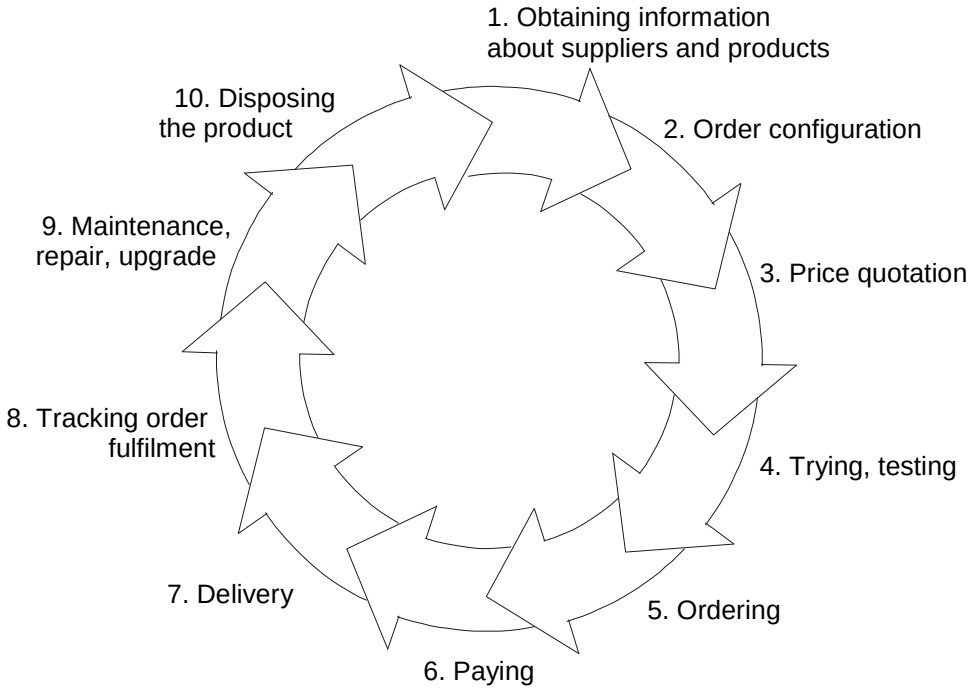

Figure 40: The Buyer-Seller Relationship Life Cycle (BSRLC)
(Drótos, 1999, 2001, Móricz, 2000, quoted in Móricz, 2005)

Appendix 6: Dimensions of E-business

On page 53 I defined the e-business and detailed different approaches of e-business later. Three another figures may help the Reader to understand the diversity in e-business.

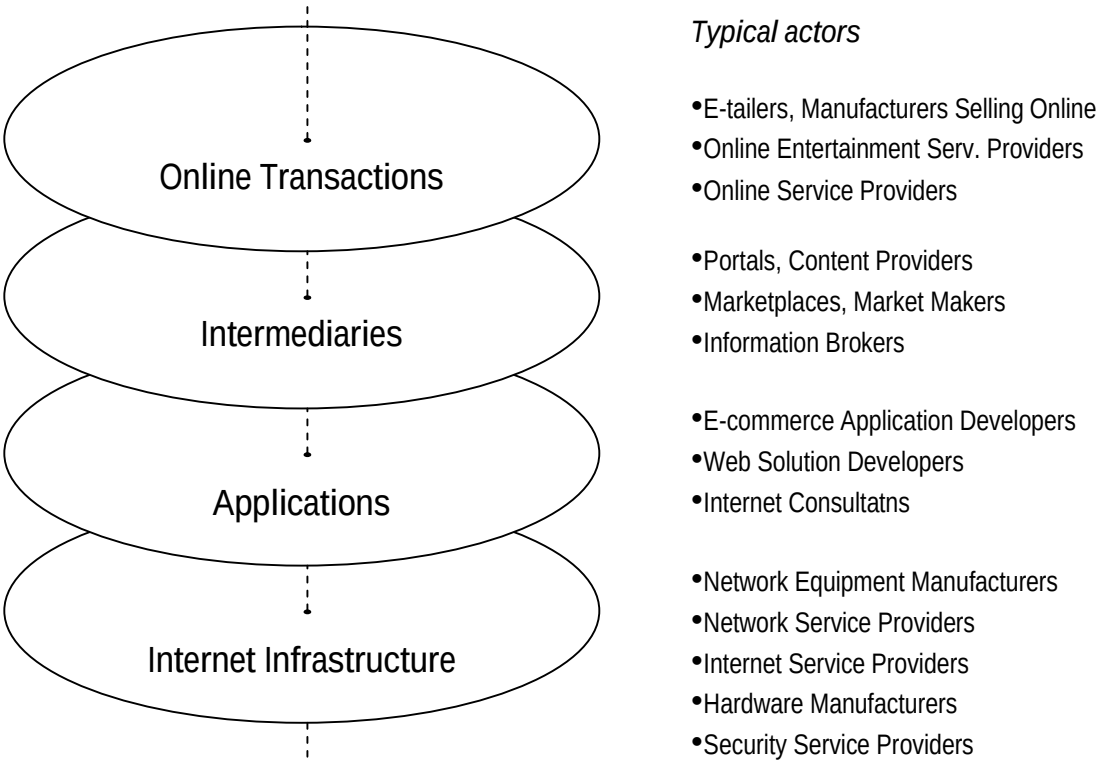

Figure 41: Layers of the E-business

(Based on Whinston et al. 2000 and 2001)

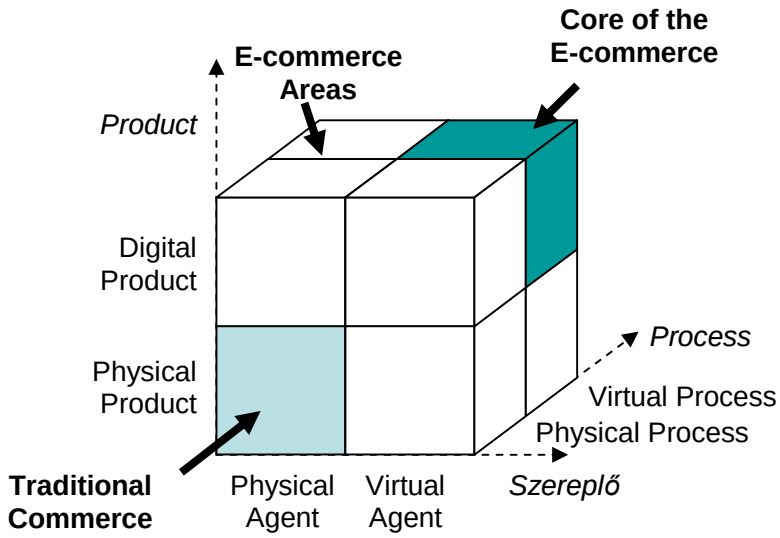

Figure 42: Dimensions of E-commerce

(Choi et al., 2003:1-13)

		DEMANDER			
		Consumer, Citizen	Business	Administration, Government	Employee
SUPPLIER	Consumer	Consumer-to-Consumer **C2C** e.g. classified ads	Consumer-to-Business **C2B** e.g. group buying	Citizen-to-Administration **C2A** e.g. passport request	
	Business	Business-to-Consumer **B2C** e.g. Internet-shopping	Business-to-Business **B2B** e.g. e-procurement	Business-to-Administration **B2A** e.g. tax returns	Business-to-Employee **B2E** e.g. internal training
	Administration	Administration-to-Consumer **A2C** e.g. issuing certificates	Administration-to-Business **A2B** e.g. public procurement	Administration-to-Administration **A2A** e.g. database interconnection	
	Employee				Employee-to-Employee **E2E** e.g. knowledge management

Figure 43: E-business Mátrix

(Based on Möslein, 2001)

Note: The original source of Möslein's model: Weilnhammer, Ulrich: Electronic Commerce – A Framework for Technological Transformation in a Business-to-Business Environment, Master Thesis, Walter A. Haas School of Business, University of California at Berkeley and Chair for General and Industrial Management, Technical University Munich, May 2000, p. 16.

References

Adler, Paul S. (2001). 'Market, Hierarchy, and Trust: The Knowledge Economy and the Future of Capitalism', *Organization Science* 12(2): 215–234.

Afuah, Allan (2001). 'Dynamic boundaries of the firm: are firms better off being vertically integrated in the face of a technological change?', *Academy of Management Journal* Vol. 44 (6): 1211–1228.

Afuah, Allan (2003). 'Redefining Firm Boundaries in the Face of the Internet: Are Firms Really Shrinking?', *Academy of Management Review* Vol. 28 (1): 34–53.

Alt, Rainer and Hans-Dieter Zimmermann (2001). 'Preface: Introduction to Special Section – Business Models', *Elektronic Markets* Vol. 11 (1): 3–9.

Alves, Tiago Reis and Licínio Roque (2005). 'Using Value Nets to Map Emerging Business Models in Massively Multiplayer Online Games', *PACIS 2005 Proceedings*. Paper 113. http://aisel.aisnet.org/pacis2005/113

Amit, Raphael and Christopher Zott (2001). 'Value Creation in E-Business', *Strategic management Journal*, 22: 493–520.

Amit, Raphael and Paul J.H. Schoemaker (1993). 'Strategic assets and organizational rent', *Strategic Management Journal* 14(1): 33–46.

Anderson, Chris (2006). *The Long Tail: Why the Future of Business Is Selling Less of More*, New York: Hyperion. Magyarul megjelent: Chris Anderson (2007): *Hosszú farok. A végtelen választék átírja az üzlet szabályait*, Budapest: HVG könyvek.

Anderson, Philip and Erin Anderson (2002). 'The New e-Commerce Intermediaries', *Sloan Management Review* Vol. 43 (Summer): 51–62.

Angyal Ádám (2003). 'A hálózatok mint többközpontú szervezetek', *Vezetéstudomány* 34(7-8): 76–87.

Antal-Mokos Zoltán, Balaton Károly, Drótos György ésTari Ernő (1997). *Stratégia és szervezet*. Budapest: Közgazdasági és Jogi Könyvkiadó.

Applegate, Linda M. and Earl Sasser (2000). 'Overview of E-business Pricing Models', Harvard Business School Discussion Paper, 9-801-182.

Applegate, Linda M. and M. Collura (2000). 'Overview of E-business Models', Harvard Business School Discussion Paper, 9-801-172.

Aral, Sinan and Peter Weill (2007). 'IT Assets, Organizational Capabilities, and Firm Performance', *Organization Science* 18(5):763–780.

Bábel-Szűcs Szilvia (2009). 'A rendelésfelvevők', Figyelő, április 2.

Badinszky Péter (2008). *Hazai kis- és középvállalkozások elektronikus üzletvitel fejlesztései, valamint az ezzel kapcsolatos segítő és akadályozó tényezők kutatása – E-business adaptáció*, PhD értekezés, Gödöllő: Szent István Egyetem.

Bakos, J. Yannis (1991). 'Electronic Marketplaces', *MIS Quarterly* 15(3) (September): 295–310.

Balaton Károly (1988a). 'Az információtechnológia hatása a vállalatok versenyképességére', *Műszaki-gazdasági tájékoztató*, Március.

Balaton Károly (1988b). *Szervezeti változás és mikroelektronika.* Budapest: Közgazdasági és Jogi Könyvkiadó.

Balaton Károly és Dobák Miklós (1982). 'Mennyiségi és minőségi módszerek az empirikus szervezetkutatásban', *Egyetemi Szemle*, 1-2.

Balaton Károly, Hortoványi Lilla, Incze Emma, Laczkó Márk, Szabó Zsolt Roland és Tari Ernő (2007). *Stratégiai és üzleti tervezés*, Budapest: Aula Kiadó.

Barabási Albert-László (2002). *Linked: The New Science of Networks.* Perseus, Cambridge, MA. Magyarul megjelent: Barabási Albert-László (2003). *Behálózva. A hálózatok új tudománya*, Magyar Könyvklub, Budapest.

Barakonyi Károly (1988). *Személyi számítógéppel támogatott vállalati szervezés*. Budapest: Közgazdasági és Jogi Könyvkiadó..

Barakonyi Károly (2008). 'Üzleti modellek', *Vezetéstudomány* 39(5): 2–14.

Barakonyi Károly és Peter Lorange (1991). *Stratégiai management*. Budapest: Közgazdasági és Jogi Könyvkiadó.

Barney, J. B. (1991). 'Firm resources and sustained competitive advantage', *Journal of Management* 17: 99–120.

Bartis Eszter and Nathalie N. Mitev (2008): A multiple narrative approach to information systems failure: a successful system that failed, *European Journal of Information Systems* 17(2): 112-124.

Bauer András (2003). 'Fogyasztói érték és vállalati érdek az internet használatában', *Vezetéstudomány* 34(10): 57–62.

Benjamin, Robert I. and Rolf T. Wigand (1995). 'Electronic Markets and Virtual Value Chains on the Information Highway, *Sloan Management Review* 37(Winter): 62–72.

Benbasat, I., D. K. Goldstein and M. Mead (1987). 'The Case Research Strategy in Studies of Information Research', *MIS Quarterly* 11(3): 369–386.

Bettis, Richard A. (1998). 'Commentary on "redefining industry structure for the information age" by J. L. Sampler', *Strategic Management Journal* 19(4): 357–361.

Bharadway, Anandhi S. (2000). 'A Reource-Based Perspective on Information Technology Capability and Firm Performance: An Empirical Investigation', *MIS Quarterly* Vol. 24 (March): 169–196.

Bodnár Viktória és Vida Gábor szerk. (2006). *Folyamatmenedzsment a gyakorlatban*, IFUA Horvath&Partners, Budapest: Alinea.

Bouwman, Harry and Ian MacInnes (2006). 'Dynamic Business Model Framework for Value Webs', *Proceedings of the 39th Hawaii International Conference on System Sciences*, IEEE.

Bouwman, Harry, Meng Zhengjia, Patrick van der Duin and Sander Limonard (2008). 'A business model for IPTV service: a dynamic framework', *info* 10(3): 22–38.

Bőgel György (2004). 'Az elektronikus piacok fejlődéséről', *Magyar Tudomány* (2).

Bőgel György (2009). 'Az informatikai felhők gazdaságtana – üzleti modellek versenye az informatikában', *Közgazdasági Szemle* 56(Jul-Aug): 673–688.

Bokker Sándor (2002). Jellemző internet-használat Magyarországon, Kutatási Jelentés, 15-16.sz. 110-112.o.

Bokor Attila (1994). 'Posztmodern a menedzsmenttudományban', *Közgazdasági Szemle*, december.

Bönke, Dietmar, Eckhard Ammann, Jörg Zabel and Penelope Constanta (2000). Information Age Business and Knowledge-driven Virtual Market Places, in: Stanford-Smith, Brian and Paul T. Kidd eds. (2000). *E-business – Key Issues, Applications and Technologies*, Amsterdam: IOS Press, 339–352.

Brady, T. – Cameron, R. – Targett, D. – Beaumont, Ch. (1992). 'Strategic IT Issues: The Views of Some Major IT Investors', *Journal of Strategic Information Systems* (September).

Brunn, Peter, Martin Jensen and Jakob Skovgaard (2002). 'e-Marketplaces: Crafting A Winning Strategy', *European Management Journal* Vol. 20 (June): 286–298.

Brynjolfsson, Erik, Yu (Jeffrey) Hu and Michael D. Smith (2003). 'Consumer Surplus in the Digital economy: Estimating the Value of Increased Product Variety at Online Booksellers', *Management Science* Vol 49 (November): 1580–1596.

Burrell, Gibson and Gareth Morgan (1979). *Sociological Paradigms and Organizational Analysis*. London: Heinemann.

Carr, Nicholas G. (2000). 'Hipermediation: Commerce as Clickstream', *Harvard Business Review* (January-February): 46–47.

Casadesus-Masanell, Ramon and Joan Enric Ricart (2008). 'Competing Through Business Models (A-C)', Module Note, Boston: Harvard Business School.

Casadesus-Masanell, Ramon and Taylor Larson (2009). 'Competing Through Business Models (D)', Module Note, Boston: Harvard Business School.

Cash, James I., Jr., F. Warren McFarlan, James L. McKenney and Lynda M. Applegate (1992). *Instructor's Manual to Corporate Information Systems Management: Text and Cases.* Chicago: Irwin.

Castells, Manuel (2009). 'Internet and Society: What Academic Research Knows', Public Lecture at Collegium Budapest, Sept 16.

Cavaye, A. L. M. (1996). 'Case Study Research: a multi-faceted research approach for IS', *Information Systems Journal* 6: 227–242.

Chen, Pei-Yu (Sharon) and Lorin M. Hitt (2002). 'Measuring Switching Costs and the Determinants of Customer Retension in Internet Enabled Businesses: A Study of Online Brokerage Industries', *Information Systems Research* Vol. 13 (September): 255–274.

Chen, Stephen (2003). 'The real value of "e-buiness modells"', *Business Horisons* (November-December): 27–33.

Chesbrough, Henry and Richard S. Rosenbloom (2002). 'The role of the business model in capturing value from innovation: evidence from Xerox Corporation's technology spin-off companies', *Industrial and Corporate Change* Vol. 11 (3): 529–555.

Choi, Soon-Yyong, Dale O. Stahl and Andrew B. Whinston (2003). The Economics of Electronic Commerce: Essential Economics for Doing Business in the Electronic Marketplace. Indianapolis: McMillan Technical Pub.

Chu, P. C. (1995). 'Conceiving Strategic Systems', *Journal of Systems Management*, July-August.

Ciborra, Claudio (1994). 'The Grassroots of IT and Strategy', In: Claudio Ciborra and Tawfik Jellasi (eds.) (1994). *Strategic Information Systems: A European Perspective*. Chichester: John Wiley & Sons.

Clemons, Eric K. and Michael C. Row (1991). 'Sustaining IT Advantage: The Role of Structural Differences', *MIS Quarterly*, September.

Clemons, Eric K. and Michael C. Row (1992). 'Information Technology and Industrial Cooperation: The Changing Economics of Coordination and Ownership', *Journal of Management Information Systems* Vol. 9 (2): 9–28.

Coase, Ronald (1937). 'The Nature of the Firm', *Economica* 4(November): 386–405.

Coltman, Tim, Timothy M. Devinney, Alopi Latukefu and David F. Midgley (2001). 'E-Business: Revolution, Evolution os Hype?', *California Management Review* Vol. 44 (1): 57–86.

Cox, W. Michael and Richard Alm (1997). The Economy at Light Speed: Technology and Growth in the Information Age – and Beyond, Annual Report, Federal Reserve Bank of Dallas, downloaded from http://www.dallasfed.org/fed/annual/1999p/ar96.pdf, 05/10/2005.

Creswell, John W. (1994). Research Design: Qualitative and Quantitative Approaches, Thousand Oaks, CA: SAGE

Creswell, John W. (1998). Qualitative Inquiry and Research Design: Choosing Among Five Traditions, Thousand Oaks, CA: SAGE

Cross, Rob, Jeanne Liedtka and Leigh Weiss (2005). 'A Practical Guide to Social Networks', *Harvard Business Review* (March): 124–133.

Csendes Zoltán (2004). *Internet vállalkozások indításának stratégiai és motivációs elemzése - A magyar portálszolgáltató vállalatok esete*, PhD értekezés, Budapest: BCE Gazdálkodásttudományi kar.

Czakó Erzsébet et. al. (2003). The Hungarian Automotive Industry Prior to Accession to the European Union, Presentation, BUESPA, February 7th.

Davenport, Thomas H. and John C. Beck (2000). 'Getting the attention you need', *Harvard Business Review*, September-October: 119–126. Magyarul megjelent: Davenport, Thomas H. és John C. Beack (2002). 'Hogyan kaphetjuk meg a kellő figyelmet', *Harvard Business manager*, 1: 6–14.

Davila, Antonio, Mahendra Gupta and Richard Palmer (2003). 'Moving Procurement Systems to the Internet: The Adoption and Use of E-Procurement Technology Models', *European Management Journal* Vol. 21 (February): 11–23.

De Reuver, Mark, Harry Bouwman and Ian MacInnes (2007). 'What Drives Business Models Dynamics – A Case Survey', Eight World Congress on the Management of eBusiness, IEEE.

Demos, Nick, Steven Chung and Michael Beck (2001). 'The New Strategy and Why It Is New', *Strategy + business* Issue 25 (4): 1–5.

Dobák Miklós (2008). 'Átjárhatók-e a szervezeti határok?' *Harvard Business Review (Hungarian Edition).* 10(6):31–36.

Dobák Miklós szerk. (1996). *Szervezeti formák és vezetés*, Budapest: KJK.

Drótos György (1999). Az üzleti célú Internet használat néhány általánosabb kérdése a gyakorlati tapasztalatok alapján, A Pénzintézeti Informatika Konferencia előadása.

Drótos György (2001). Az információrendszerek perspektívái. PhD értekezés, Budapesti Közgazdaságtudományi és Államigazgatási Egyetem. Available in English: Perspectives of Information Systems, Ph.D. Thesis.

Drótos György (2002). 'Stratégiai információrendszerek – versenyelőny-szerzés informatikával', Előadás, Budapesti Vezetőképző Központ, Informatikai Menedzser Program, 2007. március 18., Budapest.

Drótos György (2007). 'Az üzleti stratégia és az informatikai stratégia kapcsolata, különös tekintettel az internetes üzleti lehetőségek kiaknázására', Az e-gazdaság és kereskedelem – az internetes üzleti megoldások távlatai Magyarországon és a régióban c. konferencia, 2007. január 26., Budapest.

Drótos György és Móricz Péter (2006). 'Critical Factors of Attracting Supply Chain Network Members to Electronic Marketplaces: The Case of Sunbooks Ltd. and the Hungarian Book Trade', *Society and Economy* 28(2): 147–164.

Drótos György és Nemeslaki András (1992). Számítógépes információrendszerek feltáró jellegű vizsgálata hazai vállalatoknál vett minta alapján. Kutatási jelentés. Budapest: OTKA 3087.

Drótos György és Nemeslaki András (2002). 'Valóság-e az elektronikusan összekapcsolt szervezetek hálózata?', Előadás, VIII. Budapesti Process & Performance Management Konferencia, november 20.

Duma László (2005). *A logisztikai üzleti modellek és értékelés módszerek a hálózati gazdaságban*, PhD értekezés, Budapest: Budapesti Műszaki és Gazdaságtudományi Egyetem.

Dyer Jeffrey H. (1997). 'Effective Interfirm Collaboration: How Firms Minimize Transaction Costs and Maximize Transaction Value', *Strategic Management Journal* 18(7):535–556.

Dyer, Jeffrey H. and Harbir Singh (1998). 'The Relational View: Cooperative Strategy and Sources of Interorganizational Competitive Advantage', *Academy of Management Review* Vol. 23 (4): 660–679.

Ebers, Mark and J. Carlos Jarillo (1997). 'The Construction, Form and Consequences of Industry Networks', *International Studies of Management & Organization* Vol. 27 (4): 3–21.

Economist Intelligence Unit (2001-2009). E-readiness Rankings 2009, A report from the Economist Intelligence Unit, London, June 2009. Previous Versions: E-Business Rankings 2001, 2002, 2003, 2004, 2005, 2006, 2007, and 2008.

Eisenhardt Kathleen M. and Jeffrey A. Martin (2000). 'Dynamic capabilities: what are they?', *Strategic Management Journal*, Special Issue 21(10–11): 1105–1121.

Eisenhardt, Kathleen M. (1989). 'Building Theories from Case Study Research', *Academy of Management Review* 14(4): 532–550.

El Sawy, Omar A., Arvind Malhotra, Sanjay Gosain and Kerry M. Young (1999). 'IT-Intensive Value Innovation in the Electronic Economy: Insights From Marshall Industries', *MIS Quarterly* 23(3) (September): 305–335.

Essler, Ulf and Randall Whitaker (2001). 'Re-thinking E-commerce Business Modelling in Terms of Interactivity', *Elektronic Markets* Vol. 11 (1): 10–16.

Evans, Philip (2000). 'Strategy the end to the endgame? (impact of Internet economy on strategy)', *Journal of Business Strategy*, November.

Evans, Philip and Thomas S. Wurster (2000). *Blown to Bits: How the New Economics of Information Transforms Strategy.* Boston: Harvard Business School Press.

Evans, Philip B. and Thomas S. Wurster (1997). 'Strategy and the New Economics of Information', *Harvard Business Review* 75(September-October): 71–82. Magyarul megjelent: Evans, Philip B. és Thomas S. Wurster (2000). 'A stratégia és az információ új gazdaságtana', *Harvard Business manager* 1: 39–49.

Fekete László (2004). 'Az új gazdaság retorikája', *Élet és Irodalom* 48 (02).

Freeman, C. and C. Perez (1988). Stuctural crises of adjustment business cycles and investment behaviour. In: Dosi, G. et al., Technical Change and Economic Theory. NY: Pinter Publishers.

Fukuyama, Francis (1995). *Trust: The Social Virtues and the Creation of Prosperity*, London: Hamilton.

Fülöp Gyula, Kormos János, Kovács Zoltán Csaba és Lencse Zsolt (2007). 'The Role of Managerial Notes in Knowledge Sharing: Helping the Management of Unstructured Information by Using Maps', In: Proceedings of the European Knowledge Management Conference, 3-5 September, Barcelona, Spain, pp. 147-159. http://webadmin.kripto.hu/webadmin/portals/kovex/attachments/ECKM2007_FKKL_FINAL.pdf

Gábor András (szerk.) (1997). *Információmenedzsme*nt. Budapest: Aula Kiadó.

Gallaugher, John M. (2002). 'E-Commerce and the Undulating Distribution Channel', *Communications of the ACM* Vol. 45 (July): 89–95.

Galliers, Robert D. (1991). 'Strategic Information Systems Planning: Myths, Reality and Guidelines for Successful Implementation', *European Journal of Information Systems*, Volume 1.

Geoffrion, Arthur M. and Ramayya Krishnan (2003). 'E-business and Management Science: Mutual Impacts (Part 2 of 2)', *Management Science* Vol 49 (November): 1445–1456.

Gordijn, Jaap and Hans Akkermans (2001). 'Designing and Evaluating E-business Models', *IEEE Intelligent Systems* 16(4): 11–17.

Gordijn, Jaap and Hans Akkermans (2003). 'Does e-Business Modeling Really Help?', *Proceedings of the 36th Hawaii International Conference On System Sciences*, IEEE.

Gordijn, Jaap and Yao-Hua Tan (2005). 'A Design Methodology for Modeling Trustworthy Value Webs', *International Journal of Electronic Commerce* 9(3) (Spring): 31–48.

Gordijn, Jaap, Alexander Osterwalder, and Yves Pigneur (2005). 'Comparing two Business Model Ontologies for Designing e-Business Models and Value Constellations', 18th Bled eConference: eIntegration in Action, Bled, Slovenia, June 6-8.

Grandori, Anna and Giuseppe Soda (1995). 'Inter-firm Networks: Antecedents, Mechanism and Forms', *Organization Studies* Vol. 16 (2): 183–214.

Granovetter, M. S. (1973). 'The strength of weak ties', *American Journal of Sociology* 78: 1360–1380.

Grant, Robert M. (1991). 'The Resource-Based Theory of Competitive Advantage: Implications for Strategy Formulation', *California Management Review* (Spring): 114–135.

Grover, Varun and Pradipkumar Ramanlal (1999). 'Six Myths of Information and Markets: Information Technology Networks, Electronic Commerce and the Battle for Consumer Surplus', *MIS Quarterly* Vol. 23 (December): 465–495.

Gulati, Ranjay (1995). 'Does Familitarity breed Trust? The Implicatios of repeated Ties for Contractual Choise in Alliance', *Academy of Management Journal* Vol. 38 (1): 85–112.

Gulati, Ranjay (1998). 'Alliances and networks', *Strategic Management Journal* 19(4): 293–317.

Gulati, Ranjay (1999). 'Network location and learning: the influence of network resources and firm capabilities on alliance formation', *Strategic Management Journal* 20(5): 397–420.

Gulati, Ranjay, N. Nohria and A. Zaheer (2000). 'Strategic networks', *Strategic Management Journal*, Special Issue 21(3): 203–215.

Gupta, Samir and Arch Woodside (2006). 'Advancing Theory of New B-to-B Relationships: Examining Network Participants' Interpretations of E-Intermediary Innovation, Diffusion, and Adoption Processes', *Journal of Business-to-Business Marketing* 13(4).

Gyulavári Tamás (2005). *Fogyasztói árelfogadás az interneten*, PhD értekezés, Budapest: BCE Gazdálkodásttudományi kar.

Hackbarth, Gary and William J. Kettinger (2000). 'Building an E-Business Strategy', *Information Systems Management* (Summer): 78–93.

Haeckel, Stephan H, and Richard L. Nolan (1993). 'Managing by Wire', *Harvard Business Review* 71(Sept-Oct).

Hagel III, John and John Seely Brown (2001). 'Your Next IT Strategy', *Harvard Business Review*, October: 105–113. Magyarul megjelent: Hagel III, John és John Seely Brown (2002). 'Az Ön következő IT stratégiája', *Harvard Business manager*, október-november: 74–83.

Hall, Roger I. and William B. Menzies (1983). 'A Corporate System Model of a Sports Club Using Simulation as an Aid to Policy Making in a Crisis', *Management Science* 29(1): 52–64.

Hamel, Gary (2000). *Leading the Revolution*, Boston: Harvard Business School Press.

Hamel, Gary and Gary Getz (2004). 'Funding Growth in an Age of Austerity', *Harvard Business Review*, July-August: 76–84. Magyarul megjelent: Hamel, Gary és Gary Getz (2004). 'Növekedés szűkös időkben', *Harvard Business manager*, december: 13–20.

Hartman, Amir, John Sifonis and John Kador (2000). *Net Ready: Strategies for Success in the E-conomy*. New York: McGraw-Hill.

Hoffman, W., J. Keedy és K. Roberts (2002). 'The Unexpected Return of B2B', *McKinsey Quarterly* (3): 22–32.

Holzmüller, Hartmut H. and Jan Schlüchter (2002)'Delphi study about the future of B2B marketplaces in Germany', *Electronic Commerce Research and Applications* (1): 2-19.

Hooft, Floris P.C. van and Robert A. Stegwee (2001). 'E-Business Strategy: How to Benefit From a Hype', *Logistics Information Management*, 1/2: 44–53.

Horváth Krisztián, Kauzli Katalin és Drótos György (2001). Sunbooks Kft. avagy érdemes-e újításba kezdeni a magyar könyvszakmában? Esettanulmány, Vezetési és szervezési tanszék, BKÁE, Budapest.

Hughes, Thomas P. (2000) 'Technological momentum', In: Albert Teich, ed., Technology and the Future, 8th edition.

Hui, Kai Lung and Patrick Y.K. Chau (2002). 'Classifying of Digital Product', *Communications of the ACM* Vol. 45 (June): 73–79.

Iansiti, Marco and Roy Levien (2004). 'Strategy as Ecology', *Harvard Business Review*, May: 68–78. Magyarul megjelent: Iansiti, Marco és Roy Levien (2004). 'A stratégia mint ökológia', *Harvard Business manager*, október: 26–36.

Johnson, Mark W., Clayton M. Christensen and Henning Kagermann (2008) 'Reinventing Your Business Model', *Harvard Business Review* 86(12): 51–59.

Kambil, Ajit and Eric van Heck (1998). 'Reengineering the Dutch Flower Auctions', *Information Systems Research* 9 (1) (March).

Kaplan, Robert S. and David P. Norton (2000) *The Strategy-Focused Organization. How Balanced Scorecard Companies Thrive in the New Business Environment*, Boston: HBS Press. Magyarul megjelent: Kaplan, Robert S. és David P. Norton (2002) A stratégiaközpontú szervezet. Hogyan lesznek sikeresek a Balanced Scorecard vállalatok az új üzleti környezetben? Budapest: Panem.

Kaplan, Steven and Mohanbir Sawhney (2000). 'E-Hubs: The New B2B Marketplaces', *Harvard Business Review*, May-June: 97–103. Magyarul megjelent: Kaplan, Steven és Mohanbir Sawhney (2001). 'E-Centrumok: az új B2B piacterek', *Harvard Business manager*, március-április: 16–22.

Kápolnai András, Nemeslaki András és Pataki Róbert (2002). *E-business stratégia vállalati felsővezetőknek.* Budapest: Aula Kiadó. Társszerző [co-author]: Móricz Péter és Duma László. [E-business strategy for corporate executives]

Kare-Silver, Michael de (2001). *e-shock: the new rules.* Hampshire: Palgrave.

Keating, Patrick J. (1995). 'A Framework for Classifying and Evaluating the Theoretical Contributions of Case Research in Management Accounting', *Journal of Management Accounting Research* 7(Fall): 66–86.

Keen, Peter and Sajda Qureshi (2006). 'Organizational Transformation through Business Models: A Framework for Business Model Design', Proceedings of the 39th Hawaii International Conference On System Sciences, IEEE.

Kelen András (2004). 'Az új gazdaság, és akik nem akarják', *Magyar Tudomány* (2).

Kern, Thomas, Jeroen Kreijger and Leslie Willcocks (2002). 'Exploring ASP as sourcing strategy: theoretical perspectives, propositions for practice', *Journal of Strategic Information Systems* Vol. 11: 153–177.

Kettell, Brian (2001). 'Technology Companies and the Internet Economy: What Made it all Happen', *European Case Clearing House* 201-051-6: 1–20.

Kieser, Alfred szerk. (1995). *Szervezetelméletek*, Budapest: AULA. Original Edition: Kieser, Alfred ed. (1993) Organisationstheorien, Verlag W. Kohlhammer.

Kim, Dan J., Yong I. Song, S.B. Braynov and H.R. Rao (2005). 'A multidimensional trust formation model in B-to-C e-commerce: a conceptual framework and content analyses of academia/practitioner perspectives', *Decision Support Systems* 40: 143–165.

Kim, W. Chan and Renee Mauborgne (1997). 'Value Innovation: The Strategic Logic of High Growth', *Harvard Business Review* 75(1) (Jan-Feb): 103–112.

Kim, W. Chan and Renee Mauborgne (2005). *Blue Ocean Strategy – How to create uncontested market space and make the competition irrelevant*, Boston: Harvard Business School Press.

King, John L. and Lynda M. Applegate (1997). 'Crisis in the Case Study Crisis: Marginal Diminishing Returns to Scale in the Quantitative-Qualitative Research Debate',In: A. S. Lee, Jonathan Liebenau. and Janice I. DeGross (1997). *Information Systems and Qualitative Research*. London: Chapman and Hall.

Kling, Rob (1980). 'Social Analysis of Computing: Theoretical Perspectives in Recent Empirical Research', *ACM Computing Surveys* 12(1): 61–110.

Kis Gergely, Szalay Katalin, Takács Nikoletta és Nagy Piroska (2008). 'Az online vásárlás vevői elfogadottsága Magyarországon', *Vezetéstudomány* 39(12): 16–26.

Klein, Heinz K. and Michael D. Myers (1999). A Set of Principles for Conducting and Evaluating Interpretive Field Studies in Information Systems, *MIS Quarterly* 23(1) (March): 67–94.

Kocsis Éva és Szabó Katalin (2002). ‘Dinamikus árazás az elektronikus piactereken’, *Közgazdasági Szemle* XLIX. évf. (október): 858–874.

Kogut, Bruce (2000). ‘The network as knowledge: generative rules and the emergence of structure’, *Strategic Management Journal*, Special Issue 21(3): 405–425.

Konsynski, Benn R. and F. Warren McFarlan (1990). ‘Information Partnerships—Shared Data, Shared Scale’, *Harvard Business Review* 68(September-October): 114–120.

Kováts Gergely (2003). Index.hu (B), Esettanulmány, Vezetésfejlesztési Alapítvány, Budapest.

Kühn, Harald, Stefan Junginger and Franz Bayer (2000). How Business Models Influence the Development of E-business Applications, in: Stanford-Smith, Brian and Paul T. Kidd eds. (2000). *E-business – Key Issues, Applications and Technologies*, Amsterdam: IOS Press, 1024–1030.

Kuhn, Thomas S. (1970). *The Structure of Scientific Revolutions*. Chicago: University of Chicago Press. Magyarul megjelent: T. S. Kuhn (1984). *A tudományos forradalmak szerkezete.* Budapest: Gondolat.

Kumar, Krishnan, Han G. van Dissel and Paola Bielli (1998). ‘The Merchant of Prato – Revisited: Toward a Third Rationality of Information Systems’, *MIS Quarterly*, June.

Kumar, Pushpa and Kang Zhang (2007). ‘Social Network Analysis of Online Marketplaces’, IEEE International Conference on e-Business Engineering, pp. 363–367.

Lam, Long W. and L. Jean Harrison-Walker (2003). ‘Toward an objective-based typology of e-business models’, *Business Horisons* (November-December): 17–26.

Latour, Bruno (2005). *Reassembling the social: an introduction to Actor-network theory*, NY: Oxford University Press.

Lederer, Albert L. and Vijay Sethi (1988). ‘The Implementation of Strategic Information Systems Planning Methodology’, *MIS Quarterly*, September.

Lee, A. S., Jonathan Liebenau. and Janice I. DeGross (eds.) (1997). *Information Systems and Qualitative Research.* London: Chapman and Hall.

Lieberman, Marvin. B. and David B. Montgomery (1988). ‘First-mover advantages’, *Strategic Management Journal*, Summer Special Issue 9: 41–58.

Madnick, Stuart and Michael Siegel (2002). ‘Seizing The Opportunity: Exploiting Web Aggregation’, *MIS Quarterly Executive* Vol. 1 (March): 35–46.

Magretta, Joan (1998). ‘The Power of Virtual Integration: An Interview with Dell Computer’s Michael Dell’, *Harvard Business Review*, March-April.

Magretta, Joan (2002). ‘Why Business Models Matter’, *Harvard Business Review*, May: 86–92. Magyarul megjelent: Magretta, Joan (2003). ‘Miért fontosak az üzleti modellek?’, *Harvard Business manager*, március-április: 26–33.

Mahadevan, B. (2000). ‘Business Models for Internet-Baed E-Commerce: An Anatomy’, *California Management Review* Vol. 42 (4): 55–69.

Makó Csaba (2001). ‘A munkaerő szubjektív, valamint emocionális és esztétikai jellemzőinek felértékelődése a munkafolyamatokban: Példák a “régi” és az “új” gazdaságból’, *Vezetéstudomány* 32(12) (december).

Makó Csaba és Csizmadia Péter (2003). ‘Gazdasági és társadalmi erőforrások árendeződése kooperatív hálózatokban – Egy kisvállalkozói övezet tíz évének története’, *Társadalomkutatás* 21(2): 139–165.

Makó Csaba, Móricz Péter és Illéssy Miklós (2003). Business Models in the Digital Value Chains: The Example of the TEDIP Regions, Research Report, TEDIP (Technology, Economics and Diversity in the Periphery) project, Budapest: MTA Szociológiai Kutatóintézet.

Malone, Thomas W. and Robert J. Laubacher (1998). 'The Down of the E-Lance Economy', *Harvard Business Review*, September-October: 126–135. Magyarul megjelent: Malone, Thomas W. és Robert J. Laubacher (2000). 'Az e-szabadúszó gazdság hajnala.', *Harvard Business manager*, 1: 50–56.

Malone, Thomas W., Joanne Yates and Robert I. Benjamin (1987). 'Electronic Markets and Electronic Hierarchies: Effects of Information Technology on Market Structure and Corporate Strategies', *Communications of the ACM* 30(6): 484–497.

Malone, Thomas W., Peter Weill, Richard K. Lai, Victoria T. D'Urso, George Herman, Thomas G. Apel, and Stephanie L. Woerner (2006). 'Do Some Business Models Perform Better than Others?' MIT Sloan Working Paper 4615-06, May 2006, downloaded from http://ssrn.com/abstract=920667.

Mandják Tibor and Simon Judit (2004). An integrated concept on the value of business relationships, How could it be useful?, Copenhagen: Copenhagen Business School.

Markides, Constantinos (1997). 'Strategic Innovation', *Sloan Management Review* 39(Spring): 9–23.

Markides, Constantinos (1998). 'Strategic Innovation in Established Companies', *Sloan Management Review* 40(Spring): 31–42.

Markus, M. Lynne and Allen S. Lee (1999). 'Special Issue on Intensive Research in Information Systems: Using Qualitative, Interpretive, and Case Methods to Study Information Technology – Foreward', *MIS Quarterly* 23(1) (March): 35–38.

Maxwell, Joseph A. (1996). Qualitative Research Design: An Interactive Approach, Thousand Oaks: SAGE.

McGahan, Anita (2004). 'How industries change', *Harvard Business Review* 82 (October):87–94.

Mészáros Tamás (2005). *A stratégia jövője – a jövő stratégiája*, Budapest: Aula.

Mészáros Tamás és Bálint András (2002). 'Mi lesz veled stratégia?', *Vezetéstudomány* 33(1): 3–11.

Miles, Matthew B. and A. Michael Huberman (1994). *Qualitative Data Analysis: An Expanded Sourcebook*, Thousand Oaks: SAGE.

Mitchell, Donald W. and Carol Bruckner Coles (2004). 'Establishing a continuing business model innovation process', *The Journal of Business Strategy* 25(3):39–49

Mojzes Imre és Talyigás Judit (2000). *Az elektonikus kereskedelem*, Technika Alapítvány, Budapest.

Moore, James F. (1993). 'Predators and Prey: A New Ecology of Competition', *Harvard Business Review* 71(3) (May/June).

Moore, Geoffrey A. (1991). *Crossing the Chasm: Marketing and Selling High-Tech Products to Mainstream Customers*, Harper Business Essentials.

Móricz Péter (2000). A vevő-eladó kapcsolat életciklusa és az internetes kereskedelem. Az internetes kereskedelem magyarországi helyzete és perspektívái. Egyetemi szakdolgozat [Thesis], Budapesti Közgazdaságtudományi és Államigazgatási Egyetem. [Electronic commerce and the customer-supplier life-cycle]

Móricz Péter (2001). Az Internet gazdaság rétegei, Műhelytanulmány [Working Paper], BKÁE Vezetési és szervezéi tanszék. [Layers of the internet economy]

Móricz Péter (2005). E-business üzleti modellek kritikai elemzése, PhD értekezéstervezet, Budapesti Corvinus Egyetem, Gazdálkodástani PhD program. English version available: Móricz P. (2005): Critical analysis of e-business models, PhD dissertation proposal, Corvinus University of Budapest.

Móricz Péter (2007). 'Üzleti modellezés és az internetes üzleti modellek', *Vezetéstudomány* 38 (4): 14-29. [Business Modeling and E-business Models]

Möslein, Kathrin M. (2001). 'The Location Problem in Electronic Business: Evidence from Exploratory Research', Proceedings of the 34th Hawaii International Conference on System Sciences.

Myers, Michael D. (1997). 'Qualitative Research in Information Systems', *MIS Quarterly* 21(2) (June): 241–242. An *MISQ Discovery* updated version downloaded from http://www.qual.auckland.ac.nz, 05.10.2005.

Nemeslaki András (2004). *e-Business üzleti modellek.* Budapest: Adecom.

Nemeslaki András és Duma László (2002). 'E-business modellek: Stratégiai sikertényezők', *Harvard Business manager*, 2: 63–34.

Nemeslaki András és Duma László (2003). 'Marketline: B2B (vállalatközi) kereskedelem Magyarországon', *E-Business Research Center* (June): 1–25.

Nemeslaki András, Szutorisz Gábor, Szabó Balázs és Orbán Zsolt (2008a). 'Az e-business-modellek második generációjának mozgatórúgói és jellemzői', *Vezetéstudomány* 39(12): 27–38

Nemeslaki András, Urbán Zsolt és Trestyén Andrea (2008b). 'Alapvető e-business-modellek működése és magyarországi elterjedtségük', *Vezetéstudomány* 39(12): 4–15.

Nolan, Richard and F. Warren McFarlan (2005) 'Information Technology and the Board of Directors', *Harvard Business Review* 83(10): 96–106.

Nyström, Harry (1983). *Kreativitás és innováció.* Budapest: Közgazdasági és Jogi Könyvkiadó.

O'Daniel, Thomas (2001). 'A Value-added Model for e-Commerce', *Elektronic Markets* Vol. 11 (1): 37–43.

O'Reilly, Tim (2005). 'What Is Web 2.0 – Design Patterns and Business Models for the Next Generation of Software', O'Reilly.com, downloaded from: http://oreilly.com/lpt/a/6228

O'Toole, Don (2002). New Business Models with Web Services. Presentation.

Ordanini, Andrea and Annalisa Pol (2001). 'Infomediation and Competitive Advantage in B2b Digital Marketplaces', *European Management Journal* 19(3): 276–285.

Orlikowski, W.J., S.R. Barley and D. Robey (2001). 'Technology and Institutions: What can research on information technology and research on organization learn from each other', *MIS Quarterly* 25(2): 145–165.

Osterwalder, Alexander (2004). *The Business Model Ontology a Proposition in a Design Science Approach*, These, Universite De Lausanne Ecole, Des Hautes Etudes Commerciales.

Osterwalder, Alexander and Yves Pigneur (2002). 'An e-Business Model Ontology for modelling e-Business', *15th Bled Electronoc Commerce Conference. E-Reality: Constructing the e-Economy* (June): 1–11.

Osterwalder, Alexander, Yves Pigneur, and Christopher L. Tucci (2005). 'Clarifying Business Models: Origins, Present, and Future of the Concept', *Communication of the Association for Information Systems* 15(May).

Ouchi, William G. (1980). 'Markets, Bureaucracies and Clans', *Administrative Science Quarterly* 25(March): 125–141.

Parsons, G. L. (1983). Strategic Information Technology, Class Discussion Paper, Harvard Business School.

Pateli, Adamantia (2002). 'Reviewing and Organising Research on Business Models (BMs)', *The HERMES Newsletter by ELTRUN* Issue 18 (October-November): 1–5.

Peterovic, O., C. Kittl and R.D. Teksten (2001). Developing Business Models for eBusiness. International Conference on Electronic Commerce 2001, Vienna.

Porter, Michael E. (1985). *Competitive Advantage: Creating and Sustaining Superior Performance*, Free Press: New York.

Porter, Michael E. (2001). 'Strategy and the Internet', *Harvard Business Review*, March: 63–78. Magyarul megjelent: Porter, Michael E. (2002). 'Stratégia és internet', *Harvard Business manager*, 2: 45–62.

Porter, Michael E. and Victor E. Millar (1985). 'How information gives you competitive advantage', *Harvard Business Review* 63(4): 149–160.

Powel, Walter W. (1990). 'Neither market nor hierarchy: Network forms of organization', *Research in Organizational Behavior* 12:295-336, downloaded from http://www.stanford.edu/~woodyp/paper_index.htm, 05.10.2005.

Prahalad, C.K. and Gary Hamel (1990). 'The Core Competence of the Corporation', *Harvard Business Review* (May-June): 79–91.

Prahalad, C.K. and Venkatram Ramaswamy (2000). 'Co-Opting Customer Competence, *Harvard Business Review* 78(1): 79–87.

Prahalad, C.K. and Venkatram Ramaswamy (2002). 'The CoCreation Connection', *Strategy + Business* Issue 27: 1–12.

Radácsi László (2000). *Szervezeti etika és etikai intézményesítés*, Ph.D. értekezés, Gazdálkodástani Ph.D. program, Budapesti Közgazdaságtudományi és Államigazgatási Egyetem.

Rappa, Michael (1999). 'Business models on the web', Course Material, downloaded from http://www.ecommerce.ncsu.edu/topics/models/models.html, 06/22/2003.

Rayport, Jeffrey F., J. J. Sviokla (1995). 'Exploiting the Virtual Value Chain', *Harvard Business Review* 73(6) (Nov-Dec): 75–85.

Reichheld, Frederick F. and Phil Schefter (2000). 'E-Loyality, Your SecretWeaponon the Web', *Harvard Business Review*, July-August: 105–113. Magyarul megjelent: Reichheld, Frederick F. és Phil Schefter (2001). 'E-hűség Titkos fegyver a weben', *Harvard Business manager*, 4: 6–14.

Reingold, Teemu (2001). 'Thesis: The New Era of Value Creation Case: Sonera Zed', *Lappeenranta University of Technology Department Business Administration* (May): 1–101.

Remenyi, Dan and Ann Brown (2002) *The make or break issues in IT management: a guide to 21st century effectiveness*, Butterworth-Heinemann.

Rentmeister, Jahn und Stefan Klein (2003). 'Geschäftsmodelle – ein Modebegriff auf der Waagschale', *Zeitschrift für Betriebswirtschaft* 73(1): 17–30.

Reuters (2009). 'Google CEO questions Murdoch's online pay plan', Reuters Online, Sep 17, http://www.reuters.com/article/internetNews/idUSTRE58G65M20090917

Riemer, Kai, Marcel Gogolin and Stefan Klein (2002). Introduction to organizational networks: Emergence, motives, classification and types, Teaching note, Universität Münster.

Riggins, F.J. (1999). 'A Framework for Identifying Webbased Electronic Commerce Opportunities', *Journal of Organisational Computing and Electronic Commerce* 9(4): 297–310.

Rindova, Violina P. and Suresh Kotha (2001). 'Continuous "Morphing": Competing Trough Dinamic Capabilities, Form and Fubction', *Academy of Management Journal* Vol. 44 (6): 1263–1280.

Robert, Michael and Bernard Racine (2001). *e-Strategy. Pure and Simple.* New York: McGraw-Hill.

Rogers, Everett M. (1962). *Diffusion of Innovations*, Glencoe: Free Press.

Sambamurthy, V. and Robert W. Zmud (2000). 'Research Commentary: The Organizing Logic for an Enterprise's IT Activities in the Digital Era – A Prognosis of Practice and a Call for Research', *Information Systems Research* Vol. 11 (June): 105–114.

Sarkar, Mitra Barun, Brian Butler and Charles Steinfield (1995). 'Intermediaries and Cybermediaries: A Continuing Role for Mediating Players in the Electronic Marketplace', *Journal of Computer Mediated Communications* 1(3).

Sarkar, Mitrabarun, Brian Butler and Charles Steinfield (1998). 'Cybermediaries in Electronic Marketspace: Toward Theory Building', *Journal of Business Research* (41): 215–221.

Sawhney, Mohanbir and Deval Parikh (2001). 'Where Value Lives in a Networked World', *Harvard Business Review* 79(January):79–86.

Schmied, Beat F. (2001). 'What is New About the Digital Economy?', *Elektronic Markets* Vol. 11 (1): 44–51.

Schumpeter, Joseph A. (1934). The Theory of Economic Development: An Inquiry into Profits, Capital, Credit, Interest and the Business Cycle, Harvard University Press: Cambridge, MA. Magyarul megjelent: Schumpeter, Joseph A. (1980). A gazdasági fejlődés elmélete, KJK, Budapest.

Scott, W. R. (1981). *Organizations: Rational, Natural, and Open Systems*, Englewood Cliffs, NJ: Prentice-Hall.

Scott Morton, M. S. (1991). Introduction. In: Scott Morton, M. S. (ed.): *The Corporation of the 1990s: Information Technology and Organizational Transformation.* Oxford University Press, New York, 1991.

Shapiro, Carl and Hal R. Varian (1998). *Information Rules: A Strategic Guide to the Network Economy*, Cambridge: Harvard Business School Press.

Shuman, Jeffrey and Janice Twombly (2001). 'Strategy and the Internet', Letters to the Editor, *Harvard Business Review* 79(June):137–142.

Stabell, C.B. and O.D. Fjeldstad (1998). 'Configuring Value for Competitive Advantage: On Chains, Shops and Networks', *Strategic Management Journal* 19(5) (May): 413–437.

Stalk, George Jr. and Thomas. M. Hout (1990) *Competing Against Time; How Time-based Competition is Reshaping Global Markets*, The Free Press: NY.

Stähler, Patrick (2002). 'Business Models as an Unit of Analysis for Strategizing', Draft Working Paper.

Strader, Troy J. and Michael J. Shaw (1997). 'Characteristics of electronic markets', *Decision Support Systems* 21:185–198.

Suarez, Fernando and Gianvito Lanzolla (2005). 'The Half-Truth of First-Mover Advantage', *Harvard Business Review* (April): 121–127.

Swaminathan, Jayashankar and Sridhar R. Tayur (2003). 'Models for Supply Chains in E-Business', *Management Science* Vol. 49 (October): 1387–1406.

Szabari Vera (2007). 'A társulások szociológiája – Könyvismertető', *Szociológiai Szemle* (1-2): 109–118.

Szabó Katalin (2002). 'Az információs technológiák szétterjedésének következményei a hagyományos szektorokban', *Közgazdasági Szemle* XLIX. évf. (március): 193–211.

Szabó Katalin és Hámori Balázs (2006). *Információgazdaság*, Budapest: Akadémiai Kiadó.

Szalavetz Andrea (2004). 'Az új gazdaság-buborék kipukkadása', *Magyar Tudomány* (2).

Szekfű Balázs és Z. Karvalics László (2000). 'Hálózati közösségek az új gazdaságban', *Harvard Business manager*, 1: 57–64.

Szintay István (1997). 'Az informatika és a vállalati menedzsment strukturális változásainak kapcsolata', . *GÉP*, 49. évfolyam, 2. szám.

Tapscott, Don (2001). 'Rethinking Strategy in a Networked World, (or Why Michael Porter is Wrong about the Internet)', *Strategy+business*, Issue 24 (Fall).

Tapscott, Don and Anthony D. Williams (2006). *Wikinomics: How Mass Collaboration Changes Everything*, NY: Portfolio. Magyarul megjelent: Wikinómia – Hogyan változtat meg mindent a tömeges együttműködés, Budapest: HVG Könyvek, 2007.

Tapscott, Don, Alex Lowy and David Ticoll eds. (1998). *Blueprint to the Digital Economy*. New York: McGraw-Hill.

Tapscott, Don, David Ticoll and Alex Lowy (1999). 'Rise of the Business Web', *Business 2.0*, November: 198–207.

Tapscott, Don, David Ticoll and Alex Lowy (2000). *Digital Capital: Harnessing the Power of Business Webs*, Harvard Business School Press, Boston.

Tari Ernő (1998). *Stratégiai szövetségek az üzleti világban*, Budapest: Közgazdasági és Jogi Könyvkiadó.

Teece, David J., Gary Pisano and Amy Shuen (1997). 'Dynamic Capabilities and Strategic Management', *Strategic Management Journal* 18(7): 509–533.

Thompson, James D. (1967). *Organizations in action: Social Science Bases of Administrative Theory*, NY: McGraw-Hill.

Ticoll, David (2001). 'Strategy and the Internet', Letters to the Editor, *Harvard Business Review* 79(June): 137–142.

Timmers, Paul (1998). 'Business Models for Electronic Markets', *Focus Theme* Vol. 8 (2): 3–8.

Török Ádám (2004). 'Buborék és kristálygömb: Az új gazdaság fogalmáról és gazdaságfejlődési szerepéről', *Magyar Tudomány* (2).

Tóth Attila (2008). Vállalati felmérés – országosan reprezentatív telefonos felmérés a legalább 5 főt foglalkoztató magyarországi vállalatok körében az informatikai, illetve telekommunikációs eszközökkel való ellátottságról és használatról, GKI Gazdaságkutató Zrt., március.

Turban, Efraim ed. (2002). *Electronic Commerce: a Managerial Perspective.* New Jersey: Pearson Education International.

Tushman, Michael L. and Philip Anderson (1986). 'Technological discontinuties and organizational environments', *Administrative Science Quarterly*, 31:439-465.

Varian, Hal (2001). *Economics of Information Technology,* University of California, Berkeley, Revised: March 23, 2003.

Vecsenyi János (1999). *Vállalkozási szervezetek és stratégiák*, Budapest: Aula.

Venkatraman, N. (2000). 'Five Steps to a Dot-Com Strategy: How To Find Your Footing on the Web', *Sloan Management Review* (Spring): 15–28.

Venkatraman, N. and J. C. Henderson (1998). 'Real strategies for virtual organizing', *Sloan Management Review* 40(Fall): 33–48.

Viscio, Albert J, Bruce A. Pasternack (1996). 'Toward a New Business Model', *Strategy + Business* (2): 1–7.

Weill, Peter and Michael Vitale (2001). *Place to Space: Migrating to eBusiness Models*, Boston: Harvard Business Press.

Weill, Peter and Michael Vitale (2002). 'What IT Infrastructure Capabilities Are Needed To Implement E-Business Models?', *MIS Quarterly Executive* Vol. 1 (March): 17–34.

Werbach, Kevin (2000). 'Syndication: The Emering Model for Business in the Internet Era', *Harvard Business Review* (May-June): 84–93.

Wernerfelt, B. (1984). 'A Resource-Based View of the Firm', *Strategic Management Journal* 5(2): 171–180.

Whinston, Andrew B. et. al. (2000). 'Measuring the Internet Economy', June 6th 2000, Cisco Systems and University of Texas, downloaded form: http://www.internetindicators.com, October, 2000.

Whinston, Andrew B. et. al. (2001). Measuring the Internet Economy, January 2001, Cisco Systems and University of Texas, downloaded form: http://www.internetindicators.com, January, 2001.

Williams, Jeffrey R. (1992). 'How Sustainable is Your Competitive Advantage', *California Management Review* (Spring): 29–51.

Williamson, Oliver (1975). *Markets and Hierarchies*. New York: The Free Press.

Wise, Richard and David Morrisson (2000). 'Beyond the Exchange. The Future of B2B', *Harvard Business Review*, November-December: 87–96. Magyarul megjelent: Wise, Richard és David Morrisson (2002). 'A tőzsdén túl. A B2B jövője', *Harvard Business manager*, 2: 25–34.

Wiseman, Charles (1988). *Strategic Information Systems*. Chicago: Irwin.

Wortham, Jenna and Miguel Helft (2009). 'Hurting Rivals, Google Unveils Free Phone GPS', The New York Times Online, Oct 29, http://www.nytimes.com/2009/10/29/technology/companies/29gps.html?_r=1&scp=2&sq=we%20like%20the%20price%20of%20free%20&st=Search

Yin, Robert K. (1981). 'The Case Study Crisis: Some Answers', *Administrative Science Quarterly* 26(March): 58–65.

Yin, Robert K. (1994). *Case Study Research: Design and Methods*, Second Edition, Thousand Oaks: SAGE.

Yin, Robert K. (2004). *Case Study Research: Design and Methods*, Third Edition, Thousand Oaks: SAGE.

Main own publications regarding the research topic

Books, book chapters

Kápolnai András, Nemeslaki András és Pataki Róbert (2002). *E-business stratégia vállalati felsővezetőknek.* Budapest: Aula Kiadó. Társszerző [co-author]: Móricz Péter és Duma László. [E-business strategy for corporate executives]

Peer reviewed articles

Drótos György és Móricz Péter (2006). 'Critical Factors of Attracting Supply Chain Network Members to Electronic Marketplaces: The Case of Sunbooks Ltd. and the Hungarian Book Trade', *Society and Economy* 28(2): 147–164.

Móricz Péter (2007). 'Üzleti modellezés és az internetes üzleti modellek', *Vezetéstudomány* 38 (4): 14-29. [Business Modeling and E-business Models]

Conference papers

Drótos György és Móricz Péter (2006). Changing Structure and Identity of Virtual Organizations – The Case of the Hungarian Electronic Library, 22nd EGOS Colloquium.

Drótos György, Móricz Péter és Gast Károly (2005). Network-Catalyst Sunbooks Ltd. Attempts to Transform the Hungarian Book Trade. Paper, 2nd International Conference on Economics and Management of Networks (EMNET).

Working papers

Makó Csaba, Móricz Péter és Illéssy Miklós (2003). Business Models in the Digital Value Chains: The Example of the TEDIP Regions, Research Report, TEDIP (Technology, Economics and Diversity in the Periphery) project, Budapest: MTA Szociológiai Kutatóintézet.

Kápolnai András és Móricz Péter (2002). 'E-Strategy 8.10', Paper (available at authors).

Móricz Péter (2001). Az Internet gazdaság rétegei, Műhelytanulmány [Working Paper], BKÁE Vezetési és szervezéi tanszék. [Layers of the internet economy]

Magazines, etc.

Móricz Péter (2004). 'A tégla és a habarcs az internetre megy? Online eladás, beszerzés, kapcsolatteremtés és információszerzés az építőiparban'. *Entrepreneur – Az Üzlettárs* 0(május): 19–20. [The brick and the mortar go to the internet? Selling, purchasing, building relationships, and getting information online in the buliding industry.]

Essays

Móricz Péter (2005). E-business üzleti modellek kritikai elemzése, PhD értekezéstervezet, Budapesti Corvinus Egyetem, Gazdálkodástani PhD program. English version: Móricz P. (2005): Critical analysis of e-business models, PhD Thesis Proposal, Corvinus University of Budapest.

Móricz Péter (2000). A vevő-eladó kapcsolat életciklusa és az internetes kereskedelem. Az internetes kereskedelem magyarországi helyzete és perspektívái. Egyetemi szakdolgozat [Thesis], Budapesti Közgazdaságtudományi és Államigazgatási Egyetem. [Electronic commerce and the customer-supplier life-cycle]