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**THE ROLE OF VALUE NETS
IN SOFTWARE BUSINESS MODELS: CASE BASWARE**

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ARVOVERKOSTOJEN ROOLI OHJELMISTOALAN LIIKETOIMINTAMALLEISSA: CASE BASWARE

Tutkimuksen tavoitteet

Tutkimuksen tarkoituksena on kuvata ja ymmärtää arvoverkostojen roolia suomalaisen ohjelmistoalan liiketoimintamalleissa. Edelleen tarkoituksena on luoda liiketoimintamallikehikko työvälineeksi ohjelmistoalan olemassaolevien ja uusien liiketoimintamallien analysoimiseen ja luomiseen.

Tutkimusmenetelmä

Tutkimuksen empiirinen osuus suoritettiin laadullisena case-tutkimuksena. Aineisto kerättiin pääasiassa henkilökohtaisella puolistrukturoidulla teemahaastattelulla. Lisäksi merkittävä osa aineistoa koostui yritystä koskevista dokumenteista sekä tekijän kohdeyrityksessä aiemmin muodostuneen työkokemuksen kautta.

Tutkimustulokset

Tutkimuksen mukaan strategisilla verkostoilla on tärkeä asema arvoa luovissa liiketoimintamalleissa. Tutkimuksessa luotu laajennettu liiketoimintamallikehikko sisältää kuusi elementtiä jotka tulee ottaa huomioon tuotteen tai tuoteportfolion liiketoimintamallia tutkittaessa. Nämä elementit liittyvät tuotekehitykseen, ansaintalogiikkaan, markkinointiin ja myyntiin, sekä palveluihin. Asiakkaat ovat keskeisiä ja toimijoilla on määritellyt roolit ja asemat ympäröivässä arvoverkostossa joka tukee liiketoimintamallia.

Avainsanat

Arvo, Liiketoimintamalli, Ohjelmisto, Verkosto

**THE ROLE OF VALUE NETS
IN SOFTWARE BUSINESS MODELS: CASE BASWARE**

Purpose of the Study

The purpose of the Study is to describe and understand the role of value nets in business models for the Finnish software industry. Furthermore, the purpose is to create a business model framework tool to analyze and create existing and new types of software business models.

Methodology

The empirical part of the Study is conducted as a qualitative single-case study. The main data collection method utilized was the personal semi-structured theme interview. Also, a significant part of the data was composed of documents by the company and knowledge gained by the interviewer through previous work experience in the case company.

Findings

The Study suggests that strategic networks have an integral role in the value-creating business models. The extended business model framework created in the Study includes six internal elements that have to be taken into account when considering a business model of a product or product portfolio. These elements relate to the product development, revenue logic, marketing and sales, and implementation and servicing of the product. Customers are seen to have the central position, and actors have defined roles and positions in the surrounding value networks that supports the business model.

Key Words

Business Model, Network, Software, Value

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1 INTRODUCTION

1.1 Introduction to the Study

The purpose of the Study is to research the role of value nets in business models for Finnish software industry. The aim is to study the value creating nets and their role in recognizing and developing new business models. Empirical study is conducted from the perspective of a case company.

According to the Tapscott et al. (2000, 28) business model innovation becomes the basis of competitive advantage. However, business model as a phenomenon seems very complex to define, and specific business models are result of many individual factors. According to the definition by Rajala et al. (2001, 19) the business model spells out how a company makes money by specifying where it is positioned in the value chain or a value net.

Pigneur (2000) sees business model as an operational level concept. However, according to Bovet and Martha (2000, 1) a value net elevates operational design to the strategic level, and is strategic in nature. This study examines the core factors related to the strategic networks in contrast to the business models for the software industry, and empirically evaluates the extended business model framework by specifying the role of value nets and their actors in business models.

There are scarcely industry-specific business model frameworks. Therefore, this Study uses a framework developed by Rajala et al. (2001) as a basis for analysing software business models. However, the abovementioned framework lacks the important factor of strategic networks in analyzing and planning software business. The Study aims to fill this obvious research point.

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1.2 Software business

Software business is currently one of the fastest increasing industries, with a global turnover of 320 billion euro. (Nukari & Forsell 1999, 7-11) Due to the rapid evolvement of software business, the earlier classifications about the software industry are insufficient. New classifications include differentiating software products from the service business as a basis. There has also been discussion about if the software business is reasonable to consider as an industrial business or part of business services (Toivonen 2001)

The factor behind the rapid growth of Finnish software product companies are increasing amount of available venture capital, as well as entrepreneurship and co-operative communities between the companies. The former means, that a successful software company is always based on a good product and business idea, the latter means that regardless of competition software companies use business networks more effectively to strengthen their business and industry compared to other industries. (Spin 2001)

1.3 Objectives of the Study and research design

The initial research problem is how so-called strategic nets or value nets effect on the development and existence of business models. Specifically the study aims to find out and describe what kind of effects the actors and activities of the surrounding nets have on the business model design. The presumption is that new actors or dissolution of existing relationships have clear impact on the business model. On the other hand, benefiting and finding new business opportunities, especially in high-velocity markets like software business, need networking with other actors, and new business models. This means that managers need to take active consideration about relationships and activities in the surrounding nets.

Objectives of the Study are to present essential concepts and terms related to the networks, value, and business models in order to give background for understanding the interrelatedness of these topics. The Study examines this

relatedness by extending the software business model framework developed by Rajala et al. (2001) with network model. Finally the Study applies qualitative methods to evaluate the extended framework and find out the managerial key challenges related to it.

1.4 Structure of the Study

The Study consists of abstracts, six chapters, list of references, and appendix. Chapter one presents background, objectives and central terminology of the Study. Chapter two deals with the strategic networks and presents value and value system in relation to networks. Chapter three defines business models and examines the parts of the conceptual extended business model framework. This chapter aims to build background and framework for the empirical. Chapter four presents the research methodology, and introduces the central criteria for the quality of the data. The case study is presented in Chapter five, and conclusions are presented in Chapter six. Sources of information used in the Study are listed in the references.

1.5 Terminology

Software business = Software business can be classified as software project business (tailored or customized software business) and software product business. Also, some classifications see embedded software as different from these sectors. Most of the software developed by Finnish software companies is customer specific software developed through projects, but global markets require more and more merchandised product innovations, e.g. software products. (Autere et al. 1999, 10; Alajoutsijärvi et al. 2000; Tähtinen 2001)

Value = Value equals to the price customers are willing to pay for a firm's offering. (Porter 1985, 38) A slightly wider definition incorporates that value has a cost component and is perceived by the customer; he reflects the offering and its cost with his needs. Thus, value is the total cost as the customer uses, acquires and

consumes what he buys. (DeRose 1994, 12-14) The value of a product depends also on the purpose of its use. In context of software, the use value of a program is its economic value as a tool, and the sales value of a program is its value as a sellable commodity. (Rajala 2001, 43)

Value chain = Value is generated in a process of activities, that add value to the final output. The activities can be performed by a single company, or the chain may consist of number of firms which each process only one step in the process. Usually value chain refers to a value-creating system in a context of vertical integration.

Value network = Value network is an interconnecting web of value-creating and value-adding processes that are held together by a unifying design and shared values. (DeRose 1994, 16) A value network is a usually a set of relationships between firms, where companies engage in multiple two-way relationships to bring increasingly complex products and services to the market. (Aldrich 1998) With respect to intentionality in a network, the Study uses value nets, strategic nets and business nets together in the same meaning.

Business model = This Study defines business model as a system for product or service or their portfolio, including description of business actors and their roles, relationships, resources and activities in value network. It includes a set of internal and extended definitions, streams and functional models and aims to create maximum value throughout the value network. A simple and useful definition for this Study is also presented by Rajala et al. (2001, 19); business model spells out how a company makes money by specifying where it is positioned in the value chain, or a value net.

2 INDUSTRIAL NETWORKS AND VALUE

Chapter two introduces two major areas of research, the network approach to the industrial marketing and relationships, and the value concept. First, definitions and characteristics of the strategic networks are presented. Then impact and existence of networking in knowledge intensive services such as software sector is presented. The second part of the chapter describes the evolution of value concept from a simple approach to the value network, and acts as a background to the business models.

2.1 Introduction to the network approach

Networks are an integral market phenomenon describing present day business. Emerging networks of firms are rapidly replacing traditional markets and vertically integrated companies. However, it is important to distinguish between a “network of organizations” and a “network organization”. The former refers to any group of organizations or actors that are interconnected with exchange relationships. (Möller et al. 2002) As to the contrary of this simple macro network Achrol & Kotler (1999) define a network organization as follows:

A network organization is an interdependent coalition of task – or skill-specialized economic entities (independent firms or autonomous organizational units) that operates without hierarchical control but is embedded, by dense lateral connections, mutuality, and reciprocity, in a shared value system that defines membership roles and responsibilities.

According to the Industrial Network Theory, companies are inter-related through a web of resource ties and activity links. (Axelsson and Easton 1992). These managed networks provide superior information processing, knowledge creation, and adaptive properties to conventional firms. (Achrol & Kotler, 1999) Möller et al. (2002) take a deeper insight of the terminology by using the “network” term to refer to macro networks, and the “net” to refer to intentional nets of restricted group of actors.

It is important to study about networks and operating in networks, in order to managers to find out actors, relationships and dominances, new potential network relationships and possibly dissolutive relationships in the networks surrounding them. As companies' goal is to achieve competitive advantage and survive in high competition, it is very important to recognize these factors. Möller (2001) claims, that in order to understand business in networks, managers need to have a thorough view of networks, i.e. theory describing industries as a network, and the behaviour of this network.

2.2 The ARA-Model and Network position

In order to understand networks, it is important to understand also fundamentals of relationships. The network approach stems from the idea that each company in a business market has a number of different relationships with both customers and suppliers. A basic form is a relationship between two actors. In a literature these are called as dyads. These dyads or set of relationships with three or more actors are part of a complex network. Companies are able to enhance their effectiveness and competitive advantages through the network. Håkansson and Johanson (1992, 29) created a model of basic elements of networks, which includes interrelated networks of actors, resources, and activities (ARA-model). These three elements are discussed in the next.

2.2.1 Actors in Networks

Network consists of a group of identifiable actors that may be organizations or parts of an organization. (Hertz 1992, 106). According to the Håkansson and Johansson (1992) network actors have five different characteristics. They perform and control activities that are based on control over resources, and develop relationships with each other through exchange processes. Business relationships always have a social content. Social dimensions add up to the actor bonds existing between the companies. These multidimensional bonds are a central part of the

identity of a company and its ability to work with others. (Ford et al. 2002, 42-47)

According to Holmlund and Törnroos (1997) actors are goal-oriented; they act in order to make economic gain and to increase their control over the network. Actors also have differential knowledge about activities, resources, and other actors in the network. They act as information sources and provide opportunities for seeing new alternatives. Actors are consequently having efforts to achieve better position in the network. This is enabled by direct control over critical resources.

2.2.2 Resources in Networks

A relationship is also a way of tying the resources of companies together. Resources of one company are likely to become oriented toward a specific use and will be tied to the resources of other companies. (Ford 1998, 42) Resources are categorized into informational, human, organizational, legal, financial, physical, and relational. (Håkansson and Johansson 1992) The resource-ties between companies are essential both to innovate in using resources and to develop new ones. (Ford et al. 1998, 42-43) The resource tie can be physical, but more commonly it is the knowledge resources of companies that are adapted to each other. (Ford et al. 2002, 40-41)

The pressures of cost and the range of required technologies mean that a company's new technology development is increasingly likely to take place within its relationships. When these technologies have been developed, then it is through relationships with other companies that the technologies will be exploited. The successful operations of many companies in business markets are not based on their own internal technological strengths, but in order to have value they have to bundle together technologies of the other companies. Through examining and matching their own technologies with those of other companies, companies need to synthesize or change technologies and bring them to new applications, often in a different form. (Ford et al. 1998, 272)

2.2.3 Activities in Networks

Relationships also systematically link the different inter-dependent activities of suppliers and customers together. (Ford et al. 2002, 40) Activity-links between companies are valuable because they give companies the chance to rationalise some of the operations that are important for their success, but are beyond their own boundaries and within their customers and suppliers. (Ford et al. 1998, 42) Activities occur when actors combine, develop, exchange, or create resources by utilizing other resources. (Håkansson and Johansson 1992) Together with resources, activities form a dimension of production system, which can be separated from governance structure dimension created by actors. Instead, these two dimensions constitute an industrial system, where network directs and controls the performed activities. (Johanson & Mattson 1992; Håkansson & Johansson 1993)

In industrial networks, the strong interdependence between all three elements – actors, activities, and resources – are important. In this way they are different from social networks, which are dominated by actors and their social exchange relations, and where activities and resources receive less attention. (Håkansson and Johansson 1993)

2.2.4 Position in network

Actors' interests, perceptions and positions are interesting subjects in network context. As stated before, actors are continuously having efforts to achieve better position in networks. Ford et al (1998, 49) note, that the company's network position consists of its portfolio of relationships and the activity links, resources ties and actor bonds that arise them, but they add the focal company, its suppliers and customers into the same model.

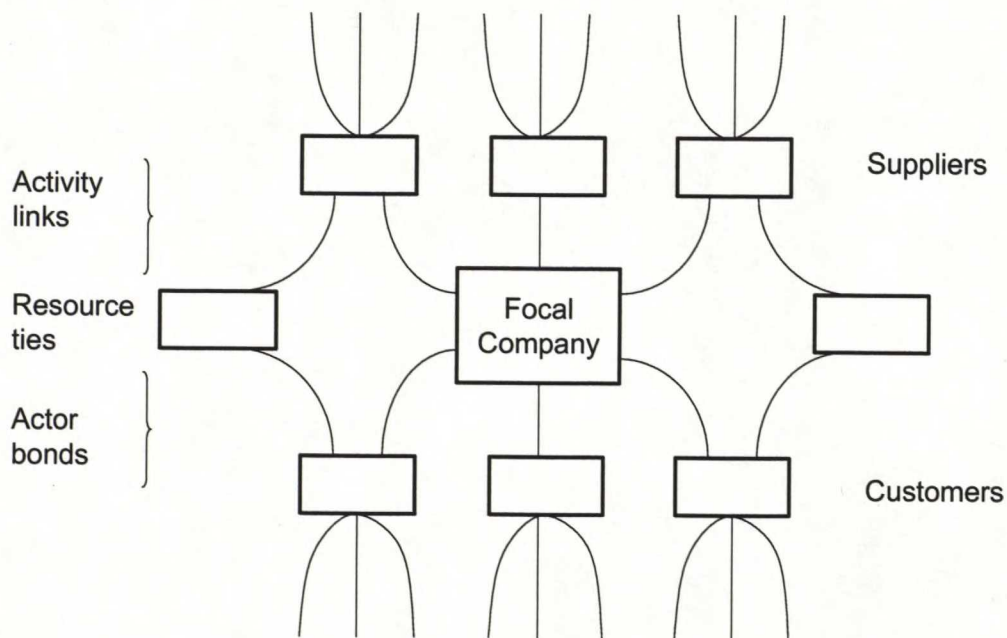


Figure 1 Network position

Source: Ford et al. 1998, 50

Focal firm concept refers to an individual company in a network. (Salmi 1995, 39) According to Alajoutsijärvi et al. (1999) a focal net is embedded in a larger network, which consist of actors that are perceivable and identifiable to the actors forming the focal net. A focal network should not be analysed in isolation from the broader network, but should consider the fact that the network of relationships includes organizations and relationships that are not identifiable by the focal firm. Jarillo (1988) concludes in a context of strategic networks, that a hub firm is a firm that sets up the network, and takes pro-active attitude in the care of it. Salmi (1995, 39) however claims that a focal firm is not same as hub firm, but focal firm's view is essential if we wish to derive managerial implications.

The concept of hub is in contrast to the view of Industrial Network Theory by Håkansson and Johanson (1993). According to the research tradition industrial networks emerge as a consequence of interaction between economic parties; they are neither designed nor strategically created. (Salmi 1995, 49) This applies also

to the governance of business nets; they cannot be fully controlled by single actor. However, Möller et al. (2002) claim that a strategic net cannot be managed in a strong sense (full control of another actor's resources and activities), but maintain that the management of nets is a relative issue, and that the opportunities and challenges of control and coordination vary considerably in terms of novelty and complexity as expressed along the so-called value-system continuum. The issue of designed or strategically created nets is also controversial; Möller et al. (2002), for example, refer the term net to intentional nets of a restricted group of actors. This view recognizes that in spite of organic development, organizations can build intentional strategic nets in order to pursue some goal. Also, according to this view, large companies are participants and hubs in all kind of nets.

As noticed, each company in a network has a unique position in relation to all the others. By definition, a company's network position is defined by the characteristics of the company's relationships and the benefits and obligations that arise from them. An assessment of networks position is an important basis in order to achieve change in that position. (Ford et al. 2002, 48)

In order to recognize a company's role and position in a network, we need to recognize its core competences and constituencies, and also recognize the object of value creating process, and other actors in the network. One of the central issues in understanding companies in nets is focusing and development of core competencies by all actors. Core competencies of the company are mainly activities of the value chain model presented later in the chapter two. (Luomala et al. 2001, 75-76) Next chapter discusses about benefits of the networks, and presents the central issues in order to understand value nets.

2.3 Networking of knowledge-intensive services

In addition to mergers and forming chains, loose and tight business networks are typical to the knowledge-intensive services. These are crucial in order to meet the requirements of specializing and effectiveness, i.e. giving capability to satisfy customer expectations in increasingly complex problems, and on the other hand

giving possibility to produce services to large number of customers. By using the knowledge and special know-how provided by the networks, companies can react fast and flexibly to the changing requirements of the market. Networks give companies an opportunity to broaden their service range. Additionally, they provide a way to make new customer contacts and a remarkable resource of knowledge, know-how and best practices. (Toivonen 2001)

In regard to strategic alliances in high technology markets, Davies and Brush (1997) claim that strategic alliances are used by high-tech companies to acquire technology, expand their areas of technical expertise, acquire operational expertise, increase the size of their market, acquire market access, increase their market share, increase their sales, increase their production capacity, acquire production skills and know-how, reduce time-to-market, stretch their resources, acquire capital, eliminate or co-opt a competitor, provide component and material sourcing, facilitate economies of scale, achieve managerial synergies, achieve marketing synergies, achieve technical and R&D synergies, improve market knowledge, improve geographical presence, and accommodate converging customer needs. However, by term strategic alliance they refer to less-than-arms-length equity and non-equity agreements, such as joint R&D, joint product development, joint marketing, and research consortia. Actually these benefits are basis for all strategic nets.

There are increasingly appearing new network structures and they are more complex than before. Networking is a crucial part of the economy based on outsourcing and the use of external experts; customers and service companies are forming networks. Similarly, subcontracts and integration of subcontractor chains are forming new network structures. These kinds of subcontractor chains appear also in knowledge-intensive services sector. For example, in software industry there is a clear shift to component-based software production, making companies to form networks. (Toivonen 2001)

Loose and tight networks are crucial way of survival for small and middle-sized companies in the markets dominated by large international multi-industry companies. Also large companies might be interested in forming networks with

small companies, especially when these are representing new interesting areas of business. For example, large software companies can use these as antennas in new media industry. After all, the increase in networked business way of action is related to the increase of openness in economy. Open business practices, communication, business culture and standards are winning. Openness equals to networking. Also short-term business networks are increasing in all levels. (Toivonen 2001) Virtual corporations are an example of short term networks. Companies create virtual corporations in order to achieve concrete functions. Usually these virtual corporations are combined for certain activities or projects, like product development ventures. As opposed to virtual organizations, strategic net is a long-term structure of firms sharing mutual aims and organisational practices. (Luomala et al. 2001, 10)

The vertical reorganisation of supplier networks is only one consideration when looking at the changing supply chain structures of the ICT cluster, for firms tend to build and rearrange their horizontal relationships as well. The cluster actors merge both vertically and horizontally in order to take hold of wider ranges of the value chain. Horizontal merging and partnerships are especially common in attempts to create industry standards. As a result, value-adding structures have become much more complex compared to the more traditional vertical supply chains with supply-driven command-control hierarchies. (Sallinen 2002, 124)

Networks cause new kind of relationships between companies; actors in networks can simultaneously be competitors and co-operate in, for example, training and education services. In addition, as they can be competitors and partners at the same time, they can also be competitors and customers at the same time. It is also possible, that there is intra-firm competition. (Toivonen 2001)

Requirements in the skills of forming networks have remarkably increased. The importance of co-operation and team work skills is growing. Simultaneous management of competition and co-operation is difficult. In co-operation companies have to reveal their know-how, which affects the balance between actors. Business networks are increasingly reaching abroad, which demands setting together skills and knowledge of internationalizing and networking. Also

networking related to integration of different industries, especially knowledge-intensive industries, has increased. Forming and developing networks is actually seen as a crucial way to support business know-how. (Toivonen 2001)

Managing in business markets is a complex and a difficult task, and requires understanding of relationships and networks. (Ford et al 1998, 13) The key issues and challenges related to strategic networks can be divided to four interconnected levels. Möller and Halinen (1999) claim that these levels are basis for the network management model. These levels are (1) industries as macro networks, (2) strategic nets, (3) net and relationship portfolios and (4) strategic relationships. The underlying question about networks is how to combine the value activities of multiple actors in order to form value-creating end products. (Anderson and Narus 1999; Norman and Ramirez 1993).

According to Möller et al. (2002), three factors have a core role in understanding the nature of any value net and its management. The first is the level of determination of the value activities and the actors forming the net, i.e. the nature of the value system embraced by the net. Second is the goal of the value net or its hub firm. Third is the structure of the value net. Additionally, they argue that the value system and its level of determination have a central role in the understanding of the strategic nets.

It is obvious that understanding the dynamics of networks is important for analyzing value nets and their impact on business models. On the contrary, understanding value is the key to understanding management and challenges related to networks. Therefore, this study defines and examines the value concept in regard to networks.

2.4 Value

The value chain has been commonly used method to describe business logic. Porter's (1985, 37) generic value chain includes nine value-creating elements for an individual company. Additionally, he divides these elements as primary and secondary elements.

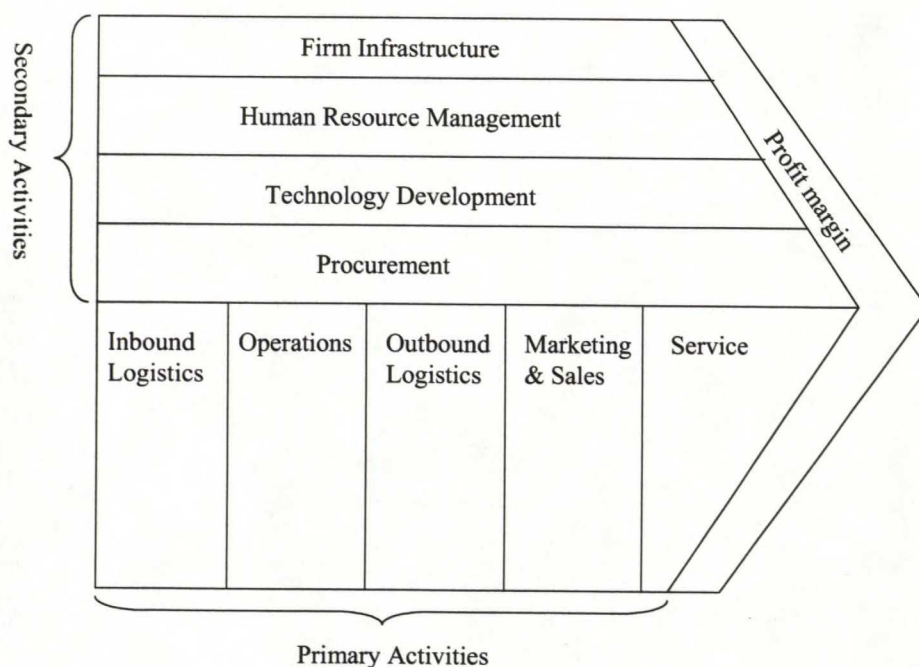


Figure 2 The generic value chain

Source: Porter 1985, 37

Companies in the same industry may have similar type of value chains, but there are considerable differences in the way activities are conducted. This concept has been extended to include all participants required to produce the product or service. The extended concept of value chain (Porter 1985, 35) includes also suppliers, other channel members and buyers. Participants in the value chain have interdependent links, which Porter defines as vertical links. According to the Porter, these links form a relationship that adds value to the final customer.

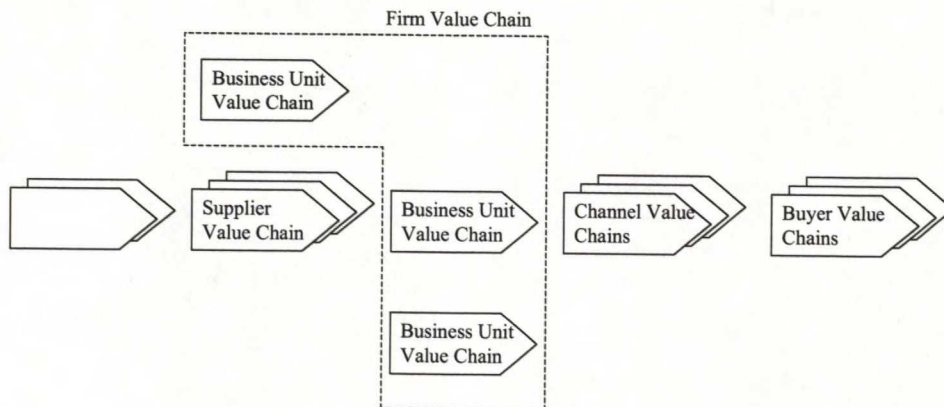


Figure 3 The Value System

Source: Porter 1985, 35

Normann and Ramirez (1993) claim, that successful companies do not just add value, but reinvent it. Their focus of strategic analysis is not the company or industry but the value-creating system itself, within which different actors work together to co-produce value. The key strategic task is the reconfiguration of roles and relationships among the constellation of actors in order to mobilize the creation of value in new forms and by new players. The value constellation takes place in a value star model (see Wikström and Normann 1994, 31), which provides a step closer to network perspective. The value star model emphasizes the role of customer in value creation, and a company's offerings have value to the degree that customers can use them as inputs to leverage their own value creation. As potential offerings become more complex and varied, so do the relationships necessary to produce them. Thus, one of the chief strategic challenges is to integrate knowledge and relationships - create an ever-improving fit between competencies and customers. In order to exploit established

relationships a company needs to enlarge and maintain its knowledge-base continuously.

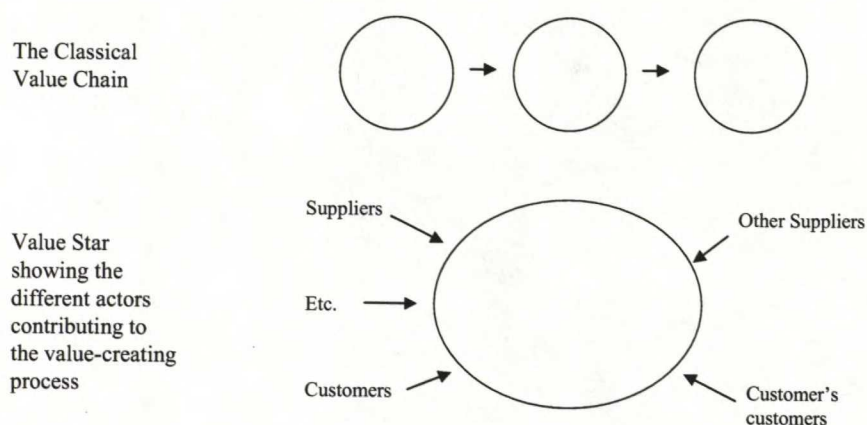


Figure 4 From Value Chain to Value Star

Source: Wikström and Normann 1994, 31

An extended perspective of the value constellation thinking is the concept of the value network. Germany and Muralidharan (2001), however, use the terms value web and value constellation as synonyms for an extended enterprise that is part of an interdependent community whose members continually negotiate responsibility for value creation. In addition to the dynamic and complex partnerships that create value through the co-operation with other actors Reingoldt (2001) claims that the value network is a wider business design, which exploits digital information and shared resources and competencies to achieve superior customer satisfaction and profitability by bringing all members of the network together. Also Stabell and Fjeldstad (1998) see that as opposed to the value chain, where product is a medium for transferring value, the value network uses mediating technology that facilitates exchange relationships. The value network model emphasizes the central role of customer, and in general, builds up around him. The controlling

company of the value network is located in the circle next to the customer. Value network see every customers as unique, and allows them to choose the product or service, which attributes their value most. (Bovet and Martha 2000, 2-4)

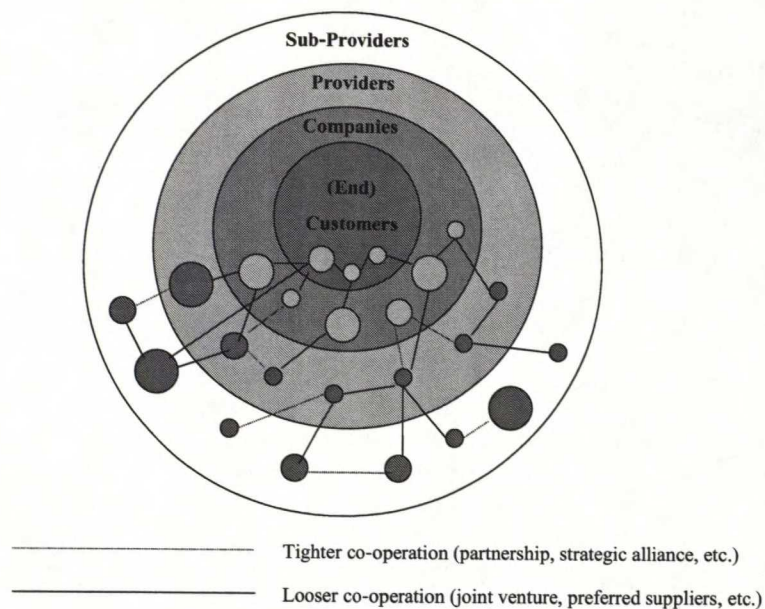


Figure 5 The Value Network

Source: Bovet and Martha 2000, 4

Also the primary activity categories presented in generic value chain are different. In value network model they are network promotion and contract management, service provisioning, and infrastructure operation. (Stabell and Fjeldstad 1998) The goal of a value network is to generate economic success or other value (benefits) for its participants. In a successful value network every actor or participant contributes and receives value in ways that sustain both their own success and the success of the value network as a whole. (Allee 2002)

2.5 Value in Networks

Achrol and Kotler (1999) distinguish four categories of network organizations on theoretical and practical grounds. Internal networks are designed to reduce hierarchy and open firms to their environments. Vertical networks maximize the productivity of serially dependent functions by creating partnerships among independent skill-specialized firms. Intermarket networks, in turn, seek to leverage horizontal synergies across industries, and opportunity networks are organized around customer needs and market opportunities, and designed to search for best solutions to them. Internal market networks and opportunity networks are likely to occur in dynamic, knowledge-driven industries, such as information and communication technology, including software business.

Berger et al. (1999) see three types of value networks that play important role in the world economy today: the captive value network, the relational value network, and the turn-key value network. Each network type has a different set of actors, has its origins in a different national context, and provides participating firms with a different set of advantages and limitations. Captive value networks rely on dominant lead firms to coordinate tiers of largely captive suppliers, and are characterized by lean production. Relational value networks are built through social and spatial proximity and especially through long term contracting relationships between firms. They can adapt to volatile markets quite rapidly, and are characterized by flexible specialization. Turn-key value networks are based on highly qualified suppliers with the capability to provide customers with end-to-end-solutions, and are characterized by virtual corporation.

Möller et al. (2002) claim, that managerial challenges of strategic nets are fundamentally influenced by the position of the specific net in the so-called value-system continuum. Further, they claim that most existing strategic nets can be positioned in three types of value nets:

- Vertical nets (supplier nets, channel and customer nets, vertically integrated value systems.)
- Horizontal value nets (competition alliances, resource/capability access alliances, resource & capability development alliances, market and channel

access/cooperation alliances, “networking forums” – company driven, institutionally driven).

- Multidimensional value nets (“core or hollow organizations”, complex business nets, new value-system nets.)

Each type of net has different goals and characters. According to Möller et al. (2002) the dominant goal of vertical value nets is to increase the operational efficiency of the value system, i.e. improving the activities in supplier network. Horizontal nets, in turn, are characterized by competitor alliances and co-operative arrangements involving various institutional actors (government agencies, industry associations, research institutes, universities) that aim either to provide access to existing resources or to co-develop new resources. Horizontal nets are created when competing firms recognize that they have products, channel relationships or customer-service systems that can be combined to achieve a stronger position in global-level competition. Further, Möller et al. (2002) note that companies have started to build forums for business networking, for example, the Hewlett Packard Mobile E-Services Bazaar. The firms are encouraged to form dyads or nets for providing new solutions. A simple multidimensional value net contains a hub or a core organization, sometimes called a “hollow” organization, that creates its market offer by integrating the products and services required to form a group of different types of suppliers and channel firms. More complex business nets require the knowledge and development capabilities of several actors. At the most radical level, multidimensional value nets are formed with a view to creating new technologies or new business concepts requiring the orchestration of several actors and the creation of new value activities.

Table 1 Types of strategic nets

	Vertical Value Nets		Horizontal Value Nets	Multidimensional Value Nets
	Suppliers	Channels & Customers		
Stable Value System	Multi-tier Supplier nets	Channel & Customer Service Nets	Competition Alliances	"Hollow Organizations"
Incremental Change	R&D Cooperation Nets	Pilot Customer / Lead user Nets	Resource & Access Alliances with Competitors/ Institutions	Complex Business Nets
Radical Change	Integrated-Value-System Nets		R&D / Technological Project Nets	New Value System Nets

Source: Möller et al. 2002

Germany and Muralidharan (2001) claim, that efficient value capturing needs continuous business model innovation, centered on customer needs. Allee (2002) in turn claims, that the key to creating successful business models for the knowledge economy lies in understanding the dynamics of value networks. Next chapter discusses about business models and creates a framework for evaluating business models in software industry with network approach.

3 BUSINESS MODELS

Current academic literature and business articles are widely using the concept of a business model in the context of new innovative ways to gain competitive advantage and to create value to a greater extent. Business models have become an interesting topic during the last years, and the concept of a business model has emerged together with high-technology industries, especially Information and Communication sector, which includes also software business. The purpose of this chapter is to explore the definitions and elements of business models, and finally to create a business model framework for software business.

3.1 Introduction to business models

Although the term business model is commonly used in both business articles and academic literature, especially dealing with e-commerce and information economy, the definitions used are often either inaccurate or variable. Common interchangeable terms used are e.g. business model, business design, operating model, and organizational model. Currently the term business model is most used, especially in relation with high technology markets.

In regard to business model definition, Tapscott and Gaston (1993, 202-203) emphasize vision, model of how business will function, decomposing business functions into internal components of the value network, and management control view of the business in contrast with definition of business model. Slywotzky (1996, 4) in turn defines business design as the totality of how a company selects its customers, defines and differentiates its offerings, defines the tasks it will perform for customers and captures profit. Similarly it is the entire system for delivering utility to customers and earning profit from that activity. Companies may offer products or technology, but that offering is embedded in a comprehensive system of activities and relationships that represent the company's business design. Barabba (1998, 34-59) takes a more network approach and concludes that activities and relationships are central to this definition.

Timmers (1999, 31-32) defines business model in context of e-commerce as an organization or architecture for product, service and information flows, including a description of the 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 revenue. Boulton et al. (2000, 31), in turn, define business models in terms of company asset portfolios, and claim that in new emerging business models, intangible assets, such as relationships, knowledge, people, brands, and systems are taking center stage.

Sweet (2000) has researched relationships between micro-(firm) level value configuration logics and macroeconomic paradigms. He claims that underlying different business models are four strategic value configuration logics. These logics are value-extracting, value-adding, value-capturing and value-creating. Additionally, he claims that co-creating value with consumers is the essence of new business models. Ramirez (1999) claims that in contrary to the industrial view in value co-production value is not added, but rather co-invented, combined and reconciled. Additionally, he claims that studying business definition reveals how economic actors (1) design new offerings, joining actors in innovative co-productive relationships, (2) reconfigure the roles each co-producer holds in relating to others, resulting in (3) new value creation systems.

Cartwright and Oliver (2000) claim that a business model describes how and where the firm engages in business, who its customers are, and often, who its major competitors are. Typically, the firm will also describe the major activities that it performs in the course of its business. Cartwright and Oliver call this collection of activities as the Value Cluster. Other terms used in the context of business models are e.g. Business Ecosystems (see Moore 1996, 26; Tapscott et al. 2000, 14-15), which includes actors in business environment co-evolving their capabilities and roles, and aligning themselves with the direction set by central companies.

The term business model is also closely related to the term business strategy. Brandenburger and Stuart (1996) identify four value-based business strategies. These strategies are (1) the classic differentiation strategy, (2) lowering

opportunity cost to suppliers of providing resources to the firm, (3) lowering willingness-to-pay of buyers to other firms' products, and (4) raising the opportunity cost to suppliers of providing resources to other firms. Lowering opportunity cost to suppliers closely relates to the prescription, that companies should establish value-managed partnerships with their suppliers.

Tapscott et al. (2000, 15-17) present a network-oriented concept of b-web as a latest business model innovation. It can be either long-range or temporary arrangement, and may or may not use ownership to integrate the partnerships. A b-web is a distinct system of suppliers, distributors, commerce service providers, infrastructure providers, and customers that use the Internet for their primary business communications and transactions. Several b-webs may compete with one another for market share within an industry. Three primary structures of the b-web universe are internetworked enterprises, teams, and individuals; b-webs themselves; and the industry environment (eg. software industry). These provide the fundamental components of collaboration and competition. Typically, any single entity participates in several – sometimes competing – b-webs. The lead firm in a b-web wants to control core elements of its digital capital – like customer relationships, the choreography of value creation and management process, and intellectual property.

Finally, Äijö and Saarinen (2001) claim that business model is an integral part of strategic planning. From the basis of earlier definitions they create a new extended business model concept, which stems from the way of needed product and customer definition. It incorporates issues that deal with various forms of cooperation with other producers and with various layers of the customer chain. According to this concept, a business model defines the domain selection, and definition, as well as domain infrastructure dimensions of the strategy. Domain selection refers to business portfolio (corporate strategy) and domain navigation refers to functional level concepts (business strategy). Business model takes place in architectural level; it is generally unit level domain selection, a challenge between corporate and functional levels. (Äijö and Saarinen 2001; Pigneur 2002)

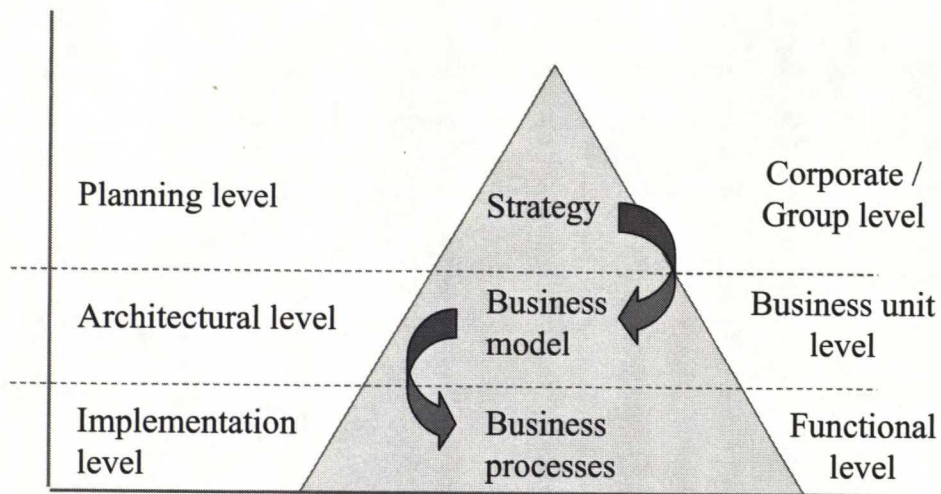


Figure 6 Business model approach

Source: extended from Pigneur 2002; Äijö and Saarinen 2001

Lately business models have been started to research as combinations of elements, each possessing characteristics that can describe the business model. Pigneur (2002) divides business models to four concepts: product innovation, customer relationship, infrastructure logistics, and financial aspects. According to him a business model is the value a company offers to one or several segments of customers, 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 revenue streams.

Äijö and Saarinen (2001) have also recognized elements in the business model concept, and define a business model along two dimensions: focus of activity (business definition or value stream), and perspective of activity (internal or external/extended). The resulting matrix has four fields: internal and extended business definitions, and internal and extended value streams. Each field includes

a set of concepts forming the characteristics of the elements. The classification of internal and external will be used later in the framework.

Table 2 Conceptual design of a business model

Perspective of activity	Internal	Internal Business Definition -Organization -Product concept -Technology concept -Customer/market concept -Revenue stream model/concept	Internal value stream -Upstream supply chain, purchasing, logistics -Innovation, technology, R&D -Production and operations mgmt -Marketing, sales and service mgmt -Organization, support activities
	External/extended	Extended business definition -Organization of extended business -Extended product concept -Extended technology concept -Extended customer/market concept -Extended revenue stream model/concept	Extended value stream -Outsourcing and cooperation -Extended value network members -Relationships within ext. value net -Role of the company within the extended value network -Modes of operation
		Business definition	Value stream
Focus of activity			

Source: Äijö and Saarinen, 2001

This study defines business model as a system for a product or a service or their portfolio, including description of business actors and their roles, relationships, resources and activities in value network. It includes a set of internal and extended definitions, streams and functional models and aims to create maximum value throughout the value network.

3.2 External factors of the business model

Rajala et al. (2001, 27) claim, that different business models can be viable for situations with the constraints set by multiple factors: competing environment, customers, resource environment, and financing environment. In addition to material resources, we should also consider immaterial resources like knowledge

or patents. Political environment is also important external factor related to business model innovation; legal or political aspects may affect directly or indirectly to business innovation industry wide. For example, a new business around electronic transaction systems or electronic document archiving cannot be created before political and legal change in acceptance of inter-organizational electronic billing systems or archiving of company's financial documents.

Also corporate and business strategies have some implication to software vendors applied business model. (Rajala et al. 2001, 33) Long-term goals and designs of the company are clearly related to the development of business models, as business models should support these goals and meet the preset requirements set by the strategy. Despite of this, the role of long-term strategy is outside of this Study. Rajala et al. (2001, 33), however, give an example of this issue; if a software company has adopted a growth strategy, its business model is likely to be product oriented, in contrast to competence-orientation, if a company decided to focus on some specific domain of knowledge.

The abovementioned factors are external factors related to the business model concept, except of customers. As stated before, according to the value network theory customers are in the centre of the model, and the value network builds up around them. Thus, a business model should be developed in regard to this. The internal role of customer in business models will be discussed later in the chapter 3.3.5. During the next chapters this Study aims to create a framework for business model development. The external factors presented here are important to include in the framework due to their impact on it.

Business model also spells out how a company makes money by specifying where it is positioned in the value chain, or a value net. (Rajala 2001, 19) Through understanding the characteristics of dynamically changing value systems and combining them with supporting business model companies can benefit and gain competitive advantage. However, in order to achieve this we need to have a tool for creating a business model, which incorporates the network approach in relation to the internal elements of the model. Next chapters aim to create this tool.

3.3 The Software Business Model

Rajala et al. (2001,19-20) have researched software business and claim that business model can be examined in terms of two axes: firm/value network and product/product portfolio. Business model on the other hand describes the key business processes. Furthermore, they see that business model refers to a single company, and a business model encompasses only to a single product/market situation. Thus, discussing about a business model in software industry encompasses a set of decisions of a given software company. Rajala et al. (2001, 37) describe a business model as a combination of different functional models of product development, revenue, sales, marketing, servicing and implementation (see also McHugh 1999, 84). They claim that in all networked software businesses, part of the sales and marketing model is implemented with strategic partners and, thus, this model is to be considered workable only within a networked ecosystem of interrelated actors. (Rajala et al. 2001, 46) McHugh (1999, 105-112), in turn, claims that normally network of partnerships is built up to provide greater selling coverage and implementation muscle when executing a winning business model.

However, creating value involves all activities of actors, not only marketing and sales. Sturgeon (2000) lists value chain/production network actors and activities, which include e.g. marketing, sales, distribution, R&D, and service. Thus, value is produced throughout all the activities and by all actors, and the network concept relates to all parts of the abovementioned functional model. It is important to include the network model into the business model framework, as it has a clear impact on these functional models. Together with internal components, external environment and actors the business model can produce maximum value to throughout the value network.

According to Davies and Brush (1997) there are industry- and product-specific factors that affect the development and implementation of successful high-tech industry marketing strategies. These industry-specific factors include the short life of high-tech products, the interdependence of high-tech products, tech support,

maintenance pricing, and strategic alliances. These factors, in fact, are basis for the central elements of software business model framework.

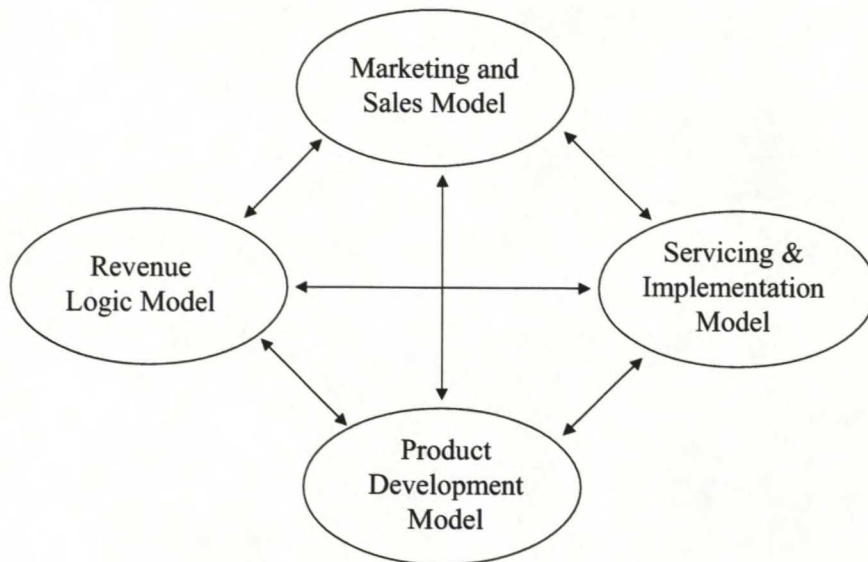


Figure 7 Elements of the Business Model

Source: Rajala et al. 2001, 38

Rajala et al. (2001, 38) recognize four major elements in the software business models. They are classified as models and include a set of descriptions and decisions to be considered. These models are Product Development model, Revenue Logic Model (including revenue stream mechanisms, sales revenue model and a basic idea of pricing), Marketing and Sales model (including different sales channels options), and Servicing and Implementation model (including services and actors implementing them, e.g. physical distribution, implementation and maintenance of offering)

A software company has multiple options to structure each of these elements in its business model: product development, sales, servicing and revenue. The options are subject to several dimensions such as (Rajala et al. 2001, 38):

- Timing, e.g. in project business the development work is done only after an assignment has been received
- Organization, e.g. offering can be delivered through direct or indirect channels, as part of a system or on its own.
- Level of vertical integration, e.g. company can have its own sales force or a partner handling the sales.

Concerning the level of integration, the following actors were identified:

- Vendor, each company has certain core functions that will be performed in house.
- Affiliate, most functions not performed by the company are performed by closely co-operating companies.
- Customer, especially in product oriented software offerings customer organization performs many functions.
- Community, the user base of the software can perform many functions.

The presented elements of the conceptual business model seem fairly reasonable and are considered more thoroughly in the following chapters. Each of these elements contain a set of descriptions and decisions that managers have to think about while considering a business model of a given product.

3.3.1 Product development approach

According to Rajala et al. (2001, 40) a Product Development model defines how the process that creates the value proposition is structured, i.e. what elements it comprises of and which actors provide them. Their Product Development model is restricted to the development of a core product, because product-related services are assumed to be part of a whole product and are taken into consideration in the Servicing and Implementation element of the business model.

The Product and technology Development model has following aspects: (extended from Äijö and Saarinen 2001; Rajala et al. 2001)

- Product concept
 - Core product in terms of customer's and customer's customers needs
 - Core product in terms of know-how, platform, product or service
 - Degree of customization: project, customized, parameterized, or standard
 - Degree of finalization: plausible promise, upgrades (smoothing), or finalized total product

- Technology concept
 - Compatibility; non-compatible technology or compatible technology
 - Degree of openness; compatible technology with exclusive rights by the producer (controlled migration) or open compatible technology with several suppliers (open migration)
 - Degree of discontinuity; radically new discontinuous technology or tried-out standard technology
 - Degree of competition; unique or highly competitive (several suppliers)

- Development and production strategy
 - Product development internally or co-developing with one or many value network actors
 - Responsible product innovation teams among value network members
 - Outsourced components (object orientation)
 - Internal or external quality assurance and documentation

The offering of a company is a combination of these components with different actors providing different components. Furthermore, it must be noted that the emphasis of Product Development model is in the process of creating the value

proposition, thus issues such as the nature or uniqueness of the value proposition or intellectual property are beyond its scope. (Rajala et al. 2001, 41)

Product concept

A defining characteristic of a software product is that it is not a physical, but an information product. (Rajala et al. 2001) A software core product can initially be platform, product or service. Sääksjärvi (1998, 5) claims, that a product platform supports the design of product architectures that spawn one or more product families. Thus, a product platform is not a product but rather the strategic core of a product family. Rajala et al. (2001, 42) describe product platform as a foundation of a product family, or the common core technology, from which a number of derivative products can be efficiently created.

Degree of software customization has four fundamental options. Software project business is a model where a company builds software solutions for customers on one time basis. (Rajala et al. 2002, 43) The software project business is mostly concerned with B-to-B markets, with firms producing customized software development services for their customers. (Sallinen 2002, 78) The degree of customisation decreases in a shift from software project business to standard off-the-shelf software products. Parameterized software product cannot be used as such, but must be tailored to specific customer by setting a number of parameters in the software; however as compared to customized product, parameterized product is similar to all different customers, but with customer-specific settings and requirements.

Degree of finalization in software product context has basically three possibilities. Plausible promise is a degree of finalization, when the product is first made available to users, but it is not finalized in terms of functionality or quality. Plausible promise is a concept used especially in open-source context. Its role is to help launch a project by assuring the potential user and contributor base that what might now be a buggy and poorly documented piece of software, will gradually evolve into a full-blown product. This kind of incremental evolving is used also in commercial software. Companies introduce products that are 'good enough',

improving these products by incrementally evolving their features, and then selling multiple product versions and upgrades to customers. In commercial context the term is often smoothing, i.e. gradually improving the product in terms of quality and functionality. Total finalized product, in turn, is a piece of software which has certain functionality for the end user. It is developed prior to sales and is not customized according to individual user requirements by parametrizable or tailoring, and has quality, both in terms of conformance and performance, on a level high enough not to undermine functionality. (Rajala et al., 2001, 41)

Technology concept

Ford and Saren (2001) emphasize that understanding of technology and management needs to take place within the context of the network of competing and co-operating companies within which all firms are enmeshed. The value of the technology is specific to the other companies and will be related to company's own technologies and to its view of technologies of other companies in the surrounding network. A company that seeks to meet the requirements of its customers will use its own technologies and those which are embodied in the products and services of other companies which supply it. The degrees of compatibility and openness are important issues in order to meet and fill the customer's requirements through network of interdependent actors. This strengthens the impact of interdependence between companies.

Development and production strategy

The issue of internal product development or co-development is obvious. According to Goyal and Moraga (2000) many markets are increasingly characterized by high level of inter-firm collaboration in R&D activity. Moreover, in addition to vertical collaboration, a significant proportion of such collaboration takes place between firms that are horizontally related, i.e. where firms exhibit some degree of market rivalry. In spite of joint R&D, also knowledge transfer and shared human resources are fundamental elements in R&D collaboration. De Meyer (1993) stresses the role of networking as a core element in organizing the relations within a decentralized R&D operation. The roles of the nodes, the

density of the communication on the links, the ties to other networks, and the dynamics of node roles and link density in regard to R&D are central issues in order to create a network organization which stimulates creation, validation and diffusion know-how.

Issues related to the outsourcing of components or services are also keen aspect in development and production strategy. Technology can be acquired internally, for example, through the company's own R&D, or externally, by licensing from other companies, or from contract research houses, or via joint ventures with others or from suppliers of products. (Ford and Saren 2001) Outsourced services may include, for example, localization or quality assurance services, or an agreement of delivering a subsystem or part of the technology required.

3.3.2 Revenue logic

The Revenue Logic Model element includes both sales revenues and other sources of financing. (Rajala et al. 2001, 43) There has been some discussion whether revenue model should be included into the concept of business model. Amit and Zott (2000) exclude it on the basis that revenue model deals with value appropriation and not with value creation. Rajala et al. (2001, 43) state a revenue model inherent part of business model as it can support the model in which it is used and thus create value. Opposed to the other elements of the business model, the Revenue Logic Model describes strictly how sales value is created to the company. Thus, the actor in the revenue model is always the company itself.

The Revenue Logic Model encompasses specifically pricing issues and options. It answers to the following questions: (extended from Äijö and Saarinen 2001; Rajala et al. 2001, 43-45)

- Who pays: direct customers, final customers, third parties
- What is paid for
- Price definition: what is included in the price

- Phasing and method of payment: giving the product for free initially to build a customer base vs. charging the full price from the start
- Which option or options will be used

There are a wide variety of options available. Especially emerging of the Open Source software has influenced to the development of different choices. In conjunction with Open Source software, revenues are achieved not by license sales, but support selling or other related products and services. The common revenue logic options are: (extended from Äijö and Saarinen 2001; Rajala et al. 2001, 43-45)

- Effort/cost-based pricing
- Licensing (involves selling the customer the right to use the software)
 - Product use licensing
 - Brand licensing: Open-source product, but use of brand is licensed
- Software leasing (customer pays for the right to use software in rental basis)
 - Leasing of license
 - Leasing of service (ASP)
- Revenue/profit sharing
- Charging by contact time: e.g. customers of an operator, portal, or service
- Surrogate pricing
 - Loss leader/support sellers (free or low price product in order to stimulate demand for related offerings)
 - Support selling (Revenue comes from associated products, e.g. books, and services)
 - Widget frosting (main product is hardware) or Accessorizing (software offered as an accessory to physical goods)

- Service enabler (software enables the use of online services, which is the actual revenue source)
- Media model (advertising revenue)
- Monetizing/harvesting (offering free products and services to maximize the traffic, so that it can be sold (monetized) in the future to advertisers, as market information, as membership fees, or in terms of auxiliary sales)
- Hybrids and magic (the company can appropriate value created by the good or service in the economic exchanges with third parties).

In addition to the Open Source software, one of the major industry-wide operating models related to the revenue logic during the last years has been the rapid growth of service providers. The Application Service Provider (ASPs) model offers common benefits to the customers. These include economics, focus on core business, continuous best of breed, and minimal/zero integration. (Bontis & Chung, 2000) The customers no longer require the large support staff for applications, as the hosted nature of ASP allows the ASP to upgrade and maintain software once and consequently upgrade all customers at once.

As stated before, the Revenue Logic Model is an integral part of the business model. The fundamental pricing issues are not discussed in this paper, but the company needs to make decisions about the sales value in accordance to the marketing and sales network partners, e.g. actors in the distribution network. Deciding suggested pricing and actors' profit share depends also on the vertical depth of the distribution network. Next chapter presents the common marketing and sales channel options to be evaluated by software vendor.

3.3.3 Marketing and Sales Model

McHugh (1999, 85) claims that marketing is a part of business model. Whittingham (2000) describes the marketing model as an approach to profiling the company by segmenting markets and customers. The Marketing and Sales element reflects the decisions on marketing strategy and distribution strategy including distribution channels. It is also part of sales and implementation cycle of the product or service offering. Äijö and Saarinen (2001) mention also customer service in this context.

The basic options in Marketing and Sales Model include direct and indirect product and service sales. In all networked software businesses, part of the sales and marketing model is implemented with strategic partners, and this model is considered workable only within a networked ecosystem of interrelated actors. (Rajala et al. 2001, 46)

The Marketing and Sales Model also considers which value stream activities are handled outside the company by outsourcing or carried out in cooperation with value network actors. Specifically, these activities include marketing/sales, customer service, purchasing and logistics, and customer network management. (Äijö and Saarinen 2001) The model provides several options for these: (extended from Äijö and Saarinen 2001; Rajala et al. 2001).

- Direct selling (company's and its subsidiaries marketing and sales actions)
 - o Product selling (standard product or service to several customers)
 - o Product consulting with moderate degree of customization
 - o Solution consulting (customized solutions, may be based on standard products or on customer specific solutions)
 - o Customer partnership
- Indirect selling

- Agents
- Distributors, VADs
- Dealers
- OEMs, Republishers
- Resellers, VARs
- Retailers
- Strategic partners, affiliates (Integrators, Complementary Technology Partners CTPs)
- Sales and marketing partners

The first aspect of the Sales and Marketing Model deals with the sales channel (Rajala et al. 2001, 46). McHugh (1999, 105-112) claims that early stage business models usually require *direct selling* to gain first customers. He also points out that the typical progression in early life business models is to start out with a direct model, but later move towards the indirect model.

Indirect selling describes the channel partner options. Agents are typically individuals who operate solely on commission. (Rajala et al. 2001, 47-48) Distributors in software business are usually companies that sell large volumes of products, either to end users via direct means (such as off-the-page, catalogue or Web-page) or through a secondary tier comprising a network of dealers. (McHugh 1999, 95) Dealers are very similar to resellers but tend not to add much value to the software sale. They often operate within a two-tier distribution channel, whereby a network of dealers is managed by a number of major distributors. (Rajala et al. 2001, 47-48; Äijö and Saarinen 2001)

According to McHugh (1999, 94) republishers are a hybrid of an Original Equipment Manufacturer (OEM) and a reseller, who localise and rebadge a contracted product with their own branding as part of a broad portfolio, and then handle all sales and implementation activities. Use of resellers (or VARs, Value Added Resellers) is often very good way to gain market access and to build a profitable customer base. Retailers are used for accessing mass markets in particular by vendors seeking to target the small office or consumer market. (Rajala et al. 2001, 47-48; Äijö and Saarinen 2001) Resellers can in

theory address all of the business model components, acting very much as the software vendors' proxy in a particular market. It is often popular approach for opening up new geographic markets. Once established, a common ploy is to then acquire the reseller and form a subsidiary out of a fully stand-alone operation. (McHugh 1999, 94) Strategic partners, like Integrators and Complementary Technology Partners are essential in developing different forms of indirect channels and business networks. (Rajala et al. 2001, 47-48; Äijö and Saarinen 2001)

3.3.4 Servicing and Implementation model

Software implementation is the stage when the new application is delivered and installed according to the contract officially to the customer. (Warsta 2001, 37) Implementation usually requires servicing. The servicing and implementation model represents all the installation and deployment activities required to achieve a working solution based on the software product. (Rajala et al. 2001, 48) This includes also pre-sales and after sales services related to the software, as well as hosting services and self-serving. These functions can be managed by company or an external actor. Self-serving, in turn, means that the customer can maintain the product or offering by himself. Especially various update functions may download patches or updates from the Internet and require some actions by user during installation process.

The Servicing and Implementation Model contains the following functional components: (McHugh 1999, 88; Rajala et al. 2001, 49)

- Implementation services
- Consulting services
- Training
- Hosting services
- Maintenance or technical support contract
- Product upgrades
- New modules and/or products

Some partners in software business are focused on the servicing co-operation in order to deliver complete solution. (Rajala et al. 2001, 49) According to the McHugh (1999, 96) the term Strategic Partnerships is often used to describe arrangements with both Integrators and Complementary Technology Partners. However, all partners are more or less strategic. So it is important to notice that this typology is more focused on co-operation in order to deliver a complete solution than simply (re)selling a product. McHugh (1999, 97) calls the group of such partners as the Integrators because their role is to help customers put together a total working solution by integrating a number of different components, of which the vendor's product is ideally a key element. Integrators are type of strategic partners in servicing and implementation area, as opposed to the Complementary Technology Partners in product offerings area. The integrators can be system integrators, management and IT consultants or outsourcing companies.

On the other hand, service provisioning is rapidly growing in software industry, and new service providers have emerged into the market. Rajala et al (2001, 50) add service provisioning into the Integrators, and list, for example, application services providers (ASP), hosting services providers (HSP), communication services providers (usually ISPs), and content providers (CSPs). These actors form a wide variety of partner networks and co-operation opportunities for software vendors providing product-related services. Typically these companies provide hosting services for other companies in an outsourcing arrangement.

The Servicing and Implementation model enlarges McHugh's (1999, 96) concept of Strategic Partners with the services category. The concept includes both mainly product oriented CTPs and servicing oriented integrators. However, this division is not strict. Some CTPs may offer Application Services Provisioning as a side offer to other complementary solutions. Therefore, it is natural to see, that the Strategic Partners concept encompasses both to the Services and Implementation Model, and sales and marketing model. The current service hosting shift stresses the paradigm of services as a software product, and highlights the importance of the model.

In addition to the presented four elements, it is reasonable to include two major elements into the business model framework. Rajala et al. (2001, 27-30) mention customers in the context of external factors of a business model, but on the other hand stress their role in value creating process. Rajala et al. (2001, 8-11) also suggest that the analysis should include networks of companies i.e. value networks.

3.3.5 Customers

Customer-centricity is an important factor especially in software business. Product selling aims at selling a standard, unified product or service to several customers. Product consulting, in turn, allows slight customer-specific modifications, customization, parametrization or other type of tailoring to the product offering based on customer's needs. This solution consulting has a strong customer-specific emphasis. Thus, customer partnership aims at creating long-lasting customer relationships with constant stream of products or services sold to the customer. (Rajala et al. 2001, 46-47; Äijö and Saarinen 2001)

Gradually also the gap between producers and consumers is blurring. (Tapscott 1999, xxi) There is a growing involvement of consumers in the value-creating process. (Parolini 1999, 20) New product development involves providing customers with products and services they want and making them available and easy to use. (Takis et al. 2000, 113) In order to build sustainable value proposition, software vendor must understand the use value of the software as a key element of the business model. (Rajala et al 2001, 29) In the new economy, consumers become involved in the actual design process. They create the specs for new products and services, and involve in the product development process through initiating technology-facilitated dialogue. Consumers are taking the ownership of information about them selves and demand value for it. (Tapscott 1999, xxi-xxii) Knowledge about the customers is essential to companies providing products or services.

The company has to know what are the customer types that it will serve. Also it is important to know, what is the customer chain, who are the immediate customers and the end users. Other required information about customers includes what are the decision-making chain, influencers, and the customer purchasing behaviour. Äijö and Saarinen (2001, 24) All firms in the network should look at the whole product/service and define the value from the perspective of the end customer. (Womack & Jones 1996, 31-34)

3.3.6 Network approach

In addition to external partners and actors forming network, a company is seen to have also internal networks. Although research about networks is usually related to inter-organizational relationships and structures, it is important to notice the relevance of internal resources and networks emerging from them. The Network Approach element of the business model for software industry consists of internal and external network models.

According to Salmi (1995, 40-41) internal resources and internal organizational structure are by no means irrelevant in context of networks. They are needed to establish and maintain relations. In some cases, use of internal resources may even dominate the company's strategies. Blankenburg Holm and Johanson (1995) emphasize the role and functions of internal connections together with external connections in network context.

Achrol and Kotler (1999) have made an extensive research on network organizations, and they have recognized internal networks as a type of network structure especially in knowledge-rich industries. Their layered network organization includes the intra-organizational elements as crucial factors in networks. From an organization of functional departments, such as production, research and development, personnel and marketing they provide the level of cross-functional teams or organization of operations. Departments have not only external relations, but also internal relations to other departments. The complex of departments compounds a network of intra-organizational actors, where each

actor has tight relationships to other actors in the organization, and respective relations to the external actors. Figure 8 presents an example of relations in Internal Market Network by Achrol and Kotler (1999). Although differing in many parts, their other models also reveal the division of the internal and external networks.

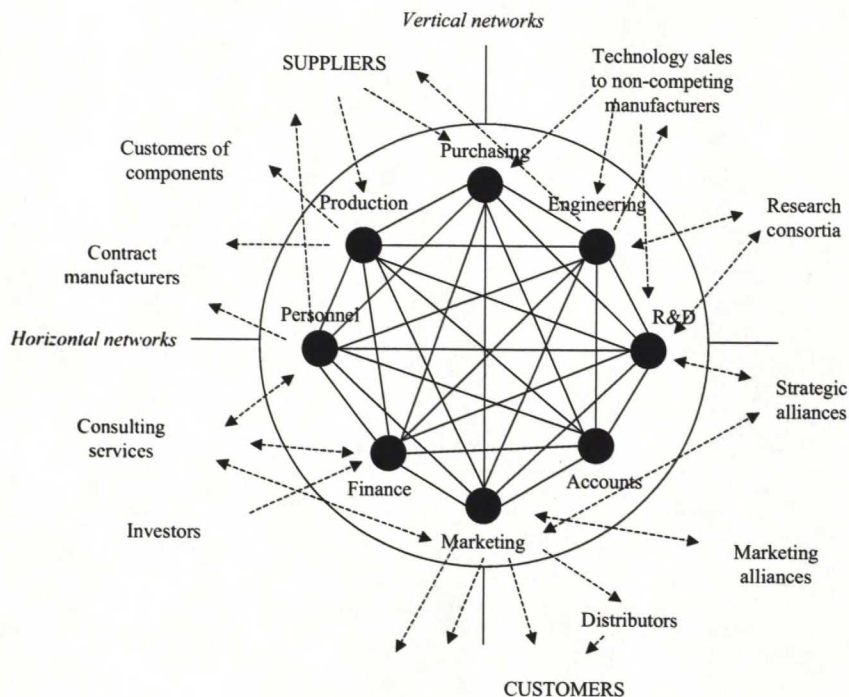


Figure 8 Organization of transactions in the Internal Market

Source: extended from Achrol and Kotler, 1999

Internal organizational structure relates to the internal actors in the network. The actor can be an individual, a department in a company, a business unit in a company, or an entire company in a group. (Salmi 1995, 40-41) Puisto (2001) has researched the network approach to the value creation in new media business, which has multiple similarities and common joints with software industry. (see Puisto, 2001; Kallio et al. 2002) In her research Puisto claims that corporation's internal business relationships are in central role, and form a great part of the value creating process. Large companies and groups are seen to form an internal network, which include business units and subsidiaries in the group. The

extensiveness of internal networks is also expected to intensify in the future. (Puisto 2001, 99-100)

External network model includes partners and other external actors that can be identified outside the company or organization. They can be divided into horizontal and vertical network partners. In their models of network organizations Achrol and Kotler (1999) recognize supply-side networks and customer-side networks. Supply side of the network includes, for example, external relationships of purchasing, contracting, technology cooperation, research and development functions. These can be vertical relations, such as technology suppliers or horizontal relations, such as research consortia. Customer side of the network include external relations of especially marketing and sales. Similarly, these can be either vertical relations, like distributors, or horizontal relations, like strategic alliances.

In this Study, the internal network model of the business model includes company-owned intra-organizational units, such as departments, business units and subsidiaries, and they are presented in the inner circle of the network model. Extra-organizational network relations are divided to supply-side and customer side relationships, and to vertical and horizontal network actor relationships. They are presented in the outer circle of the network model. Combined with the customer orientation of value network (see Bovet and Martha 2000) the network model supports and clarifies the role and position of actors in the extended business model framework for software business.

3.3.7 The extended software business model framework

Magrette (2002) claims that it is possible to model the behaviour of a business and the business model is a story that explains how enterprises work. The contents of each elements presented earlier help to create this story. According to Magrette (2002), business model is basis of communication both inside and outside of corporation, and aligns everyone in the organization around the kind of value created. Above all, business model is a planning tool designed to evaluate and

describe the managerial challenges. The business model tool is designed from the basis of the discussion and theories, and presented as a new conceptual business model framework for the software industry.

The central elements of this new conceptual framework are presented as models, which define the characteristics of each element. These characteristics can also be used as a guideline for development of new business models. External factors that have an influence in business models have been discussed earlier. These variable environmental factors are important to include in the business model framework, as changes in them may affect the functionality and design of a business model.

The internal elements of the new conceptual value creating business model are:

1. Product Development model
2. Revenue Logic model (including revenue stream mechanisms, sales revenue model and a basic idea of pricing)
3. Marketing and Sales model (including different sales channels options)
4. Servicing and Implementation model (including the set of services and actors implementing them, e.g. physical distribution, implementation and maintenance of offering)
5. Customers
6. Network Approach (internal and external networks)

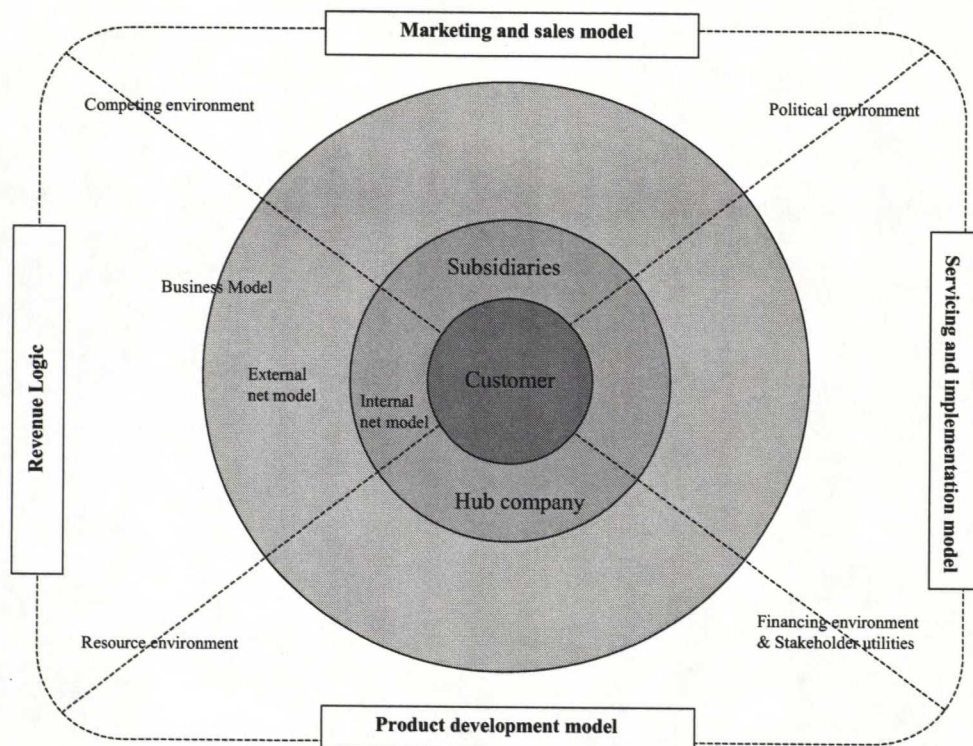


Figure 9 Elements of value-creating business model in software business

Rajala et al (2001, 19) claim that to summarize, the main elements of a business model are value creation and value appropriation through sets of processes and transactions. They describe who are in it and what they do, and what is in it for the company. According to Amit and Zott (2000) a business model refers to value creation whereas a revenue model is primarily concerned with value appropriation. These main elements are divided into the six internal components, which are presented above. The business model includes all the participants to a transaction, including final customers. (Amit and Zott, 2000) Therefore, the new conceptual model for a business model framework stresses the role and position of value network actors.

In order to use the created business model framework we need to recognize the actors and their activities in the value network. It is important to notice, that the network component has a crucial role in business model framework. It affects on all other components, and is to be considered simultaneously with other aspects of the framework. By utilizing the value network concept and its customer-centricity

it is possible to create a graphical map of the network relations in contrast to the business model. This helps to recognize the actors' roles and positions in the network, and estimate the business model as a whole.

The next chapter presents a case study, which shows the use of the created conceptual business model framework. The actors and their activities in the value network are recognized and included in the framework. It clarifies the business models of each product.

4 RESEARCH METHODOLOGY

Chapter four presents the research methodology used in the empirical study. First, selection of the research method is presented. Secondly, criteria about selecting the case company are presented. Then, the data collection is explained and quality of the data ensured. Finally, the case report structure is discussed.

4.1 Selection of the research method

There are several ways of doing empirical research. Yin (1986, 13) differs between case study, experiments, surveys, histories, and analysis of archival information. The choice for a research strategy is based on certain conditions. These are the type of the research questions, the researcher's control over the events, and the degree of focus on contemporary as opposed to historical phenomena. In general, case studies are the preferred strategy when *how* and *why* questions are being posed, the researcher has little control over events, and when the focus is on contemporary phenomenon within some real-life context. Such a case study can be exploratory or descriptive. Yin (1986, 13)

Robson (1996, 40) claims that existing research strategies can be classified as experiments, surveys and case studies. Survey research is typified by collection of data from a relatively large sample and utilizes standardized questions. As opposed to survey a case study relies on the trustworthiness of the researcher rather than on data collection techniques. The purpose of the Study is to present an extended business model framework for software business and to evaluate its usefulness in practice. Due to the nature of this purpose an exploratory method is seen reasonable. According to the Robson (1996, 42) exploratory purposes are more appropriate for case studies, which are usually qualitative. It is obvious, that the researcher does not have control over the events that affect the business models and networks of any given software companies. The abovementioned research strategy classifications suggest the use of a case study for the purpose.

Case study is a strategy for doing a research, which involves an empirical investigation of a particular contemporary phenomenon within its real life context using multiple sources. (Robson 1996, 52) Data collected can be classified as primary and secondary data. Primary data is data that have to be collected for the first time, such as observations, experimentation, and questionnaires. (Chisnall 1997, 37) The methods and instruments of data collection for the Study are interview, documentation, observations and information about the research area gained by the researcher through previous working in the researched organization.

4.2 Selection of the case company

Appropriate case company for this Study was seen to be a Finnish software company, which has already existed several years and has complete software products. Additional criteria include comparable growth in the size of the company, possible internationalisation, and/or multiple locations. As the business model is seen to refer to a single company, it was reasonable for the Study to sustain with single case or according to Yin (1986, 42) the embedded study design. The variety in business models in software industry is too wide, and related to the fundamental existence of the product or service. As stated before, a business model encompasses to a single company and single product or product portfolio. However, it was presumed that a single company has several business models, especially when they have multiple products or services. These business models were expected to have variably effected by value nets.

BasWare Oyj was selected as the case company because it successfully meets the criteria presented. The company has existed already for several years, and with its 235 employees the size in the Finnish software industry is midsize or large. BasWare has several software products and services, and therefore is expected to have multiple business models for the comparison. The company has also multiple locations both nationally and internationally; BasWare has a global market area. The company is clearly an important actor in the industry.

4.3 Data collection and analysis

Because of the dynamics of the software industry, this Study requires a qualitative approach, and strict questionnaire cannot be used. Instead, open-ended questions were preferred. Interview was conducted as a theme interview, so that the respondent was informed only a main theme before interview. The interviewing process started by approaching respondent personally and later by telephone. In the beginning of the interview the respondent received a list of more specific questions, which aim to help the interview process by creating a main path to follow. This kind of focused interview approach enabled to gather information more structurally, and the freedom given to the respondents gave new information that was not initially planned. Additionally, the open-ended questions caused some overlapping, which complements the questions more in-depth.

The interview took place in 12.6.2002 and lasted about two hours. The respondent, Mr. Matti Rusi is in managing position in the company, and has been working there for many years. He has been responsible for channel management, so the quality of the data is highly appropriate. As Finnish is the mother tongue of both interviewer and respondent, the interview was conducted in Finnish in order to more detailed description about the topic. Interview was recorded and transcribed.

The interviewer and author of the Study has been working in BasWare for the prior Channel Services Unit earlier, and therefore the Study utilizes also the experience and knowledge gained during that time.

4.4 Quality of the data

Tests of validity and reliability are applied to judge the quality of academic research. Yin (1986, 36) has compiled a list of quality tests for case study research. For the purposes of this Study, the list includes important measures: construct validity, external validity, and reliability. These are defined and discussed next.

4.4.1 Validity and reliability

Validity deals with the question of whether or not the questions in the questionnaire measure what they are supposed to measure. (Cohen and Mannion, 1980) Construct validity is a measure of how successfully a study has established correct operational measures for the concepts being studied. It measures how accurately the variables reflect what they are intended to (Skager and Weinberg, 1971) The tactics include use of multiple sources of evidence, establishing chain of evidence, and having key informants review draft case study report. (Yin, 1986, 36) According to the Yin (1986,45) chain of evidence is found when an external observer can trace the steps from conclusions back to research questions and vice versa. The chain of evidence was established by storing the primary and secondary material, i.e. MD-disks and drawings gathered at the interviews, and company presentations, slideshows, news and reports from the company's homepage.

External validity refers to generalization of the study, i.e. establishing the domain to which a study's findings can be generalized. (Yin, 1986, 36) It is to the extent to which results can be generalized to populations and conditions (Cohen and Mannion, 1980) External validity is often seen to be a problem in single-case studies. However, according to Yin (1986, 39) case studies aim at making analytical generalizations instead of statistical. Case studies can be generalized analytically to a broader theory. The results of the Study may be able to generalize to a large amount of software companies, but the dynamics and rapid changes in the industry may affect the used framework in some points.

Reliability refers to the extent to which measurements are repeatable, i.e. demonstrates that the operations of a study – such as the data collection procedures – can be repeated with the same results. (Yin, 1986, 36) The goal of the reliability is to minimize the errors and biases that may influence a study. This means that if duplicated, the study should produce the same results. The case study protocol requires that the procedures followed in the study are documented. The reliability in the Study was maintained by documenting empirical evidence and the analysis in detail.

5 CASE STUDY

Chapter five starts with the description of the case company BasWare Oyj. The business models of each product are presented. Finally, suitability of the study propositions is evaluated, and a revised framework the case company is presented.

5.1 BasWare Oyj

BasWare Oyj is an international software company, that develops, markets and sells packaged software applications for e-Business and financial management. BasWare was founded in 1985, and the management buy-out occurred in 1990. The corporation is listed on the Helsinki Stock Exchange HEX NM-list. The stock listing in the early 2000 caused a record high more than 50.000 new shareholders for the company, and is to be considered a sign of large interest towards the company. Headquarters is located in Espoo, and R&D unit also in Tampere. In 2002 BasWare has subsidiaries in Sweden, Germany, Great Britain, the Netherlands, and Denmark. Subsidiaries and partnership network cover also neighbouring market areas, e.g. Benelux countries and Scandinavia. The partnership network includes 15 value-added resellers (VAR's) and co-operation partners. BasWare's net sales in 2001 were 12,4 million euro, and in 2002 the number of employees exceeded 235. The company is rapidly growing; the aim of the market is global market area, and new operations will be started globally (basware.com 23.8.2002; digitoday.fi 10.10.2002)

BasWare produces software packages and solutions, which can be rapidly implemented and operate on many platforms. A profound feature of the solutions is the interoperability and compatibility with major financial administration and ERP solutions. Products are targeted mainly at large corporations. They are separated into distinctive software product lines, which complement each other. The e-Business product family (e-Flow and myeflow.com) includes solutions for electronic purchase management, invoice processing, document archiving, and business transactions. The Financial Management product family (Target) includes solutions for business planning, group consolidation, management consulting, and business models. (basware.com, 23.8.2002) Product lines are

constantly integrating; by the time of the interview they were divided in a slightly broader way. In addition, the business transactions solution was not fully commercialised package, but rather the company was exploring and testing the new emerged markets. The basic concept of software development is to produce complete solutions, with readiness for global distribution through the sales channels. Solutions are industry-free, and parameterization enables quick implementation and operability of the products. BasWare's products are used in more than one thousand organizations.

BasWare's organization is flat in order to accumulate to evolving dynamics of market, and to maintain quick response to meet customer's requirements. Organization is divided into divisions according to the product line or market area. The main product through international subsidiaries at the moment is their spearhead product, the e-Flow Invoice Processing, and increasingly other products in e-Flow family. The R&D division is responsible for the development of all product families.

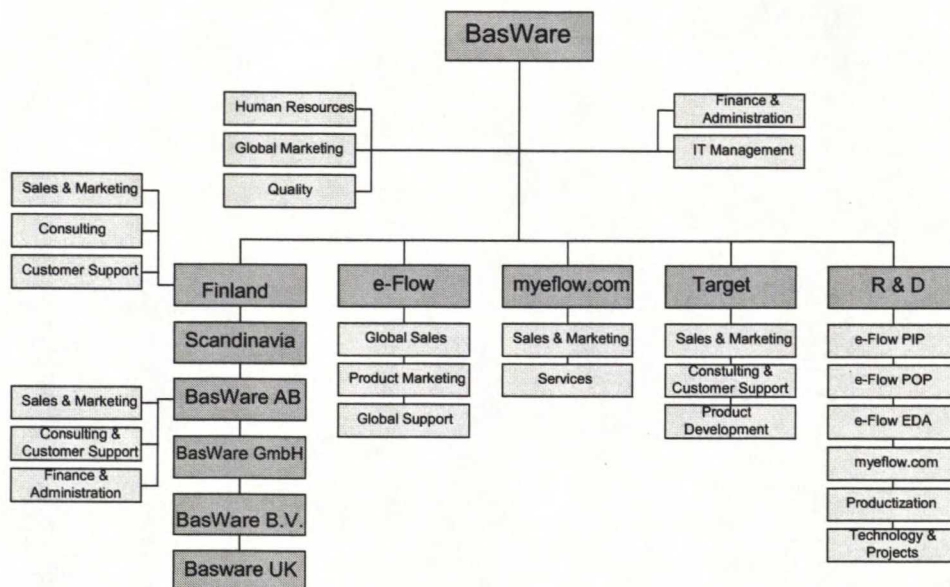


Figure 10 BasWare's organization chart

Source: BasWare organization chart slide, 12.6.2002

5.2 Products and their business models

BasWare is ultimately a very customer-centered company. BasWare's product development is customer oriented and develops general-purpose products that meet customer needs. Widely used general-purpose software is a benefit to all customers. The company makes close co-operation with its customers to develop new business ideas and applications, which make customers' processes more effective and provide cost savings. To best meet the customers' need, the company uses pilots for new products.

BasWare is a hub in a very profound network. It's distribution channel has 15 value added resellers and co-operation partners, of which more than half offer a complete solution package, and the rest are marketing and sales partners. These partners are foreign based, as BasWare's headquarters serves Finnish customers and utilises VAR's and SMP's only in global markets in order to enter a new country or market area. The efforts of value added resellers and sales and marketing partners are supported by BasWare's country or market area specific subsidiaries.

Table 3 BasWare's subsidiaries and channel partners (VAR's and SMPs)

BasWare Oyj (Finland)					
	Basware B.V. (Netherlands)	BasWare UK Ltd. (United Kingdom)	BasWare AB (Sweden)	BasWare GmbH (Germany)	BasWare A/S (Denmark)
TAG Services Pty Ltd (Australia)	Canon Nederland N.V	LANKind UK Ltd.	WM-Data eApplications AB (Sweden)	Inform. Consult GmbH (Germany)	WM-Data A/S
	Momentum B.V	Accounting House Ltd			
	Swets Farrington B.V.	Ascenti Ltd.			
		Lexington Systems Limited	Iocore AS (Norway)	InfoDesign GmbH (Austria)	
		Sentient Limited			

Note: Iocore Western Europe (Netherlands & Belgium) is not included in the table, but can be classified as a channel partner

Additionally, the company has complementary product or service partners, subcontractors, component suppliers, application development tool providers, localization partners, and cooperation in consulting, operator services, R&D, and quality control. It is worth to notice that same actors may have different roles and responsibilities in network, according to the product or product family. For example, in addition to sales and marketing, Value Added Resellers are expected to offer implementation and support services.

BasWare's network relations are highly dependable of products or product lines. The e-Business solution line e-Flow is the main product line for Finnish and global markets, and has highly packaged software solutions that support the aim. The e-Flow product family includes solutions for electronic procurement, purchase invoice processing, and archiving; they are namely Purchase Management (POP), Invoice Processing (PIP), and Document Archiving (EDA).

BasWare utilizes both direct and indirect product and service sales for the e-Flow products.

External factors in the area related to the emergence of e-Flow products include the legalizing of paperless bookkeeping and electronic archival of critical financial documents. Technological environment includes better information systems networks and the common use of email as a communication tool between employees, especially in large corporations, which are BasWare's main customers in all products. Other major technological factors include the increased use of browser-based technology in software solutions markets.

The spearhead product at the moment is Invoice Processing software, and it has remarkably influenced the emergence of the international relations. The Marketing model of e-Flow product family includes 15 channel partners; nine offer comprehensive solutions and services as Value Added Resellers (VARs), and six are active marketing partners. In contrast to the Sales and Marketing Partners (SMPs), the (full) VARs are incorporating also implementation and support functions. Therefore, Value Added Resellers also regard to the Servicing and Implementation model.

Servicing and Implementation model of e-Flow product family, in turn, includes a set of actors. Application Service Providers (ASPs) are companies that offer software as service hosting basis. They are in fact between the Marketing and Sales model and Servicing and Implementation models. They can also clearly sell products and services. EmCe Solution Partner Oy is an example of a service provider, that in addition to service hosting offers more traditional e-Flow software products to customers. Service hosting has also opened market possibilities for BasWare in the SME sector, through EmCe's strong market position in that sector. Consulting and training are generally accomplished by BasWare, and their Consulting Partners, e.g. Ixos Software Nordic offer consulting about e-business. In addition, the parties practice marketing co-operation and technical integration of their systems. Therefore it reaches also to the Sales and Marketing and Product Development models. The company is also

listed in Complementary Technology Partners (CTPs) as it offers the solutions as a complementary extension to the solution offering.

Product concept defines the core product in terms of customer's needs. The BasWare e-Flow product family comprises a complete line of products from electronic procurement to the electronic archiving of the documents. Products fill the need from fast, systematic and paperless order process through scanning and/or circulating of the purchase invoices. Finally, all related documents can be archived electronically in compressed format, and thus saving much time, money and space. All e-Flow software products are final products with parameterizable options. As to the technology concept, the aim has been to use compatible and widely accepted technology. Competition is more fierce in electronic archiving, especially in global markets, but the company has had some competitive edge and uniqueness in electronic circulation of purchase invoices. Products are developed internally but also some compatible outsourced components are utilized, such as scanning module.

Product Development model includes a set of companies, which act as subcontractors and localisation partners, application tool providers (such as Microsoft) and component suppliers. According to Rusi these seem to be somewhat dynamically changing, in order to find best and most compatible solutions and to lessen the dependability on the suppliers. BasWare has own quality assurance unit, but sometimes incorporates external actors, as technical universities for the purpose.

Sales revenues are achieved mainly through licensing, to some degree also by software leasing. Support selling takes place in the form of consulting and training services. Own sales units and subsidiaries take care of customers in their market areas in the form of sales and marketing actions, and support provision. Internal intercourse is active between the units, in order to offer the solution effectively. Especially in Finland BasWare has dedicated unit for consulting and implementation services with in-house consultants.

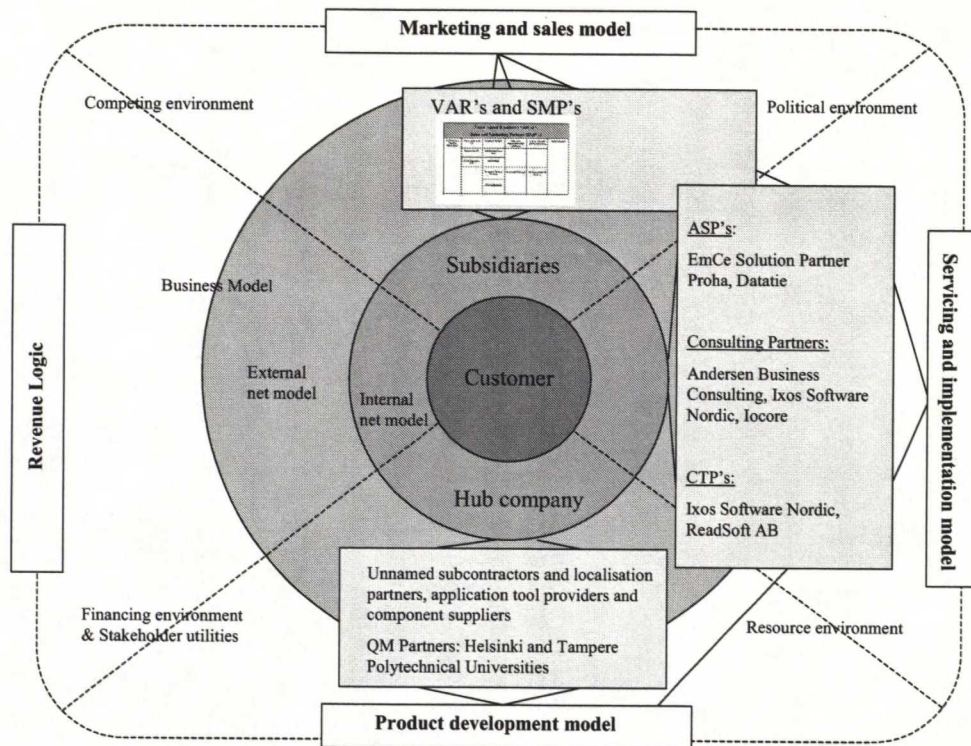


Figure 11 Business model for e-Flow product family

Note: Marketing and Sales model includes company's international Value Added Resellers and Sales and Marketing partners presented earlier in the Table 3

Implementation of the financial management control product line Target, in turn, requires more service, support and consulting, and has so far been aimed mostly to Finnish markets. It is more a service concept than pure software product, although in addition to productized services it includes also productized software solutions. The Target concept includes Group Consolidation, Business Planning, and Business Models solutions. Target service concept is accomplished by Management Consulting, which is aimed to offer proficiency and know-how in specialized sectors of business administration. Products are aimed at real-time business administration of a business unit and comprehensive administration of a business group. External factors related to Target product area are mainly technological similarly to the factors related to e-Flow products.

The Sales and Marketing, as well as Implementation and Support of Target product family is mainly direct and accomplished by BasWare. High degree of

consulting makes it more difficult to deliver the solution through partners. BasWare has dedicated consultants for offering consultancy services, and they take care of also training and after-sales services. However, Proha is offering Target solutions as service hosting basis. Target products are also parameterizable software products, with high degree of finalization. Technology used is compatible and competitive. Products are designed and developed internally, but may use some outsourced components. Quality assurance is accomplished in-house. Product Development model of Target product family includes also a set of actors similar to the model of e-Flow product family. As to the Revenue Logic model, sales revenues are collected from the final customers. The main options are licensing and support selling, and software leasing to a minor extent.

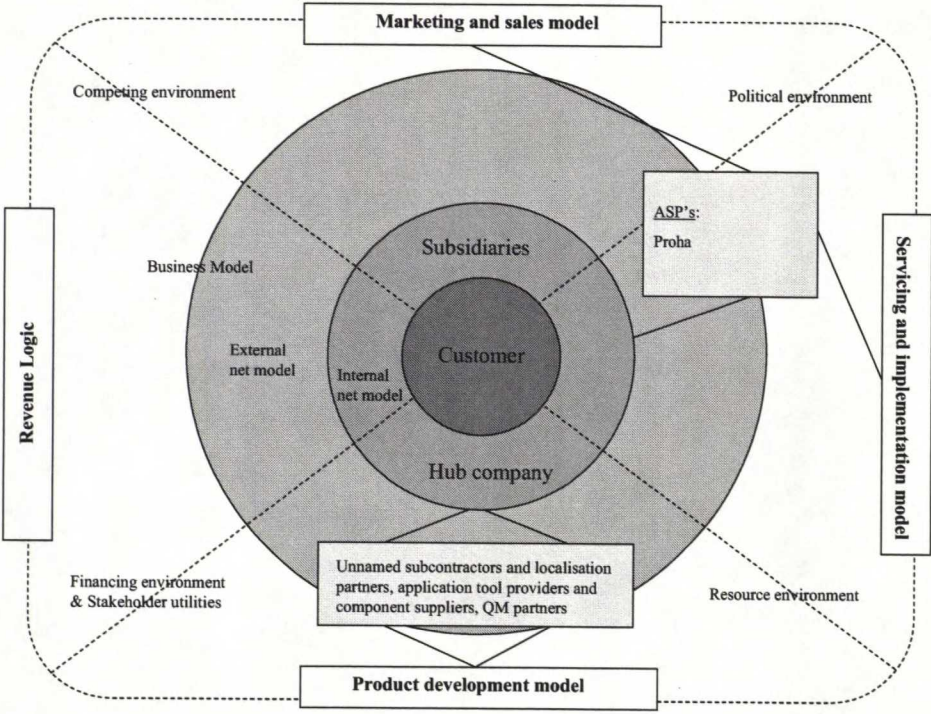


Figure 12 Business model for Target product family

As an extension to e-Flow solutions, myelow.com is a concept of electronic transactions and invoicing in an emerging business area. This concept is new to the markets and BasWare, and offers the possibility of Application Service Provisioning (ASP), which is in the interest of the company also. Naturally, due to the nature of emerging new business the myeflow.com solution is tested in and

aimed at Finnish market area. Major external reasons for that are the advanced level of electronic business-to-business networking in Finland, and changes in the legal practices that enable creating and archiving of most of the accounting material in electronic format. Development and utilizing of internet-based technologies have boosted the emerging electronic invoicing systems market. It was the XML-standard (eXtensible Markup Language), developed to meet the requirements of Internet network which made it possible to realize the net invoicing. (Elma 1999)

Myeflow.com enables completely paperless service and electronic transactions. The invoice remains in electronic format since the moment of creation to the payment and archiving of the invoice. The myeflow.com concept aims to be a finalized total product, with parameterizable options. Products are developed both in internal teams and external co-operation partners. Revenue model is mainly categorized by software leasing

Products are sold both directly and indirectly. The myeflow.com concept incorporates a multiple network relations, especially in the context of Servicing and Implementation model. The model includes various Service Providers, and Application Service Providers. Service Providers make provision for transactions, whilst Application Service Providers offers software as a service. Interesting enough, partly they are taken care of the same companies. Complementary Software Providers include also some same companies, and they have research and development co-operation with BasWare. Therefore, they are included also in the Product Development model.

BasWare has also co-operation with some other actors, which are actually competitors at least to some degree. This co-operation takes place especially in technological development, and is due to the emerging nature of the new business area, where there are not defined or stabilized solutions and practices. Technological co-operation is somewhat difficult as practices and technologies mature, and competition becomes more obvious. Co-operation with Posti eKirje service, in turn, comply BasWares offered service complex, as it makes a more traditional paper format available for the customers who are not yet ready to begin

the electronic invoicing service. Similar to the abovementioned product families, Product Development model of myeflow.com concept includes various actors providing tools and components.

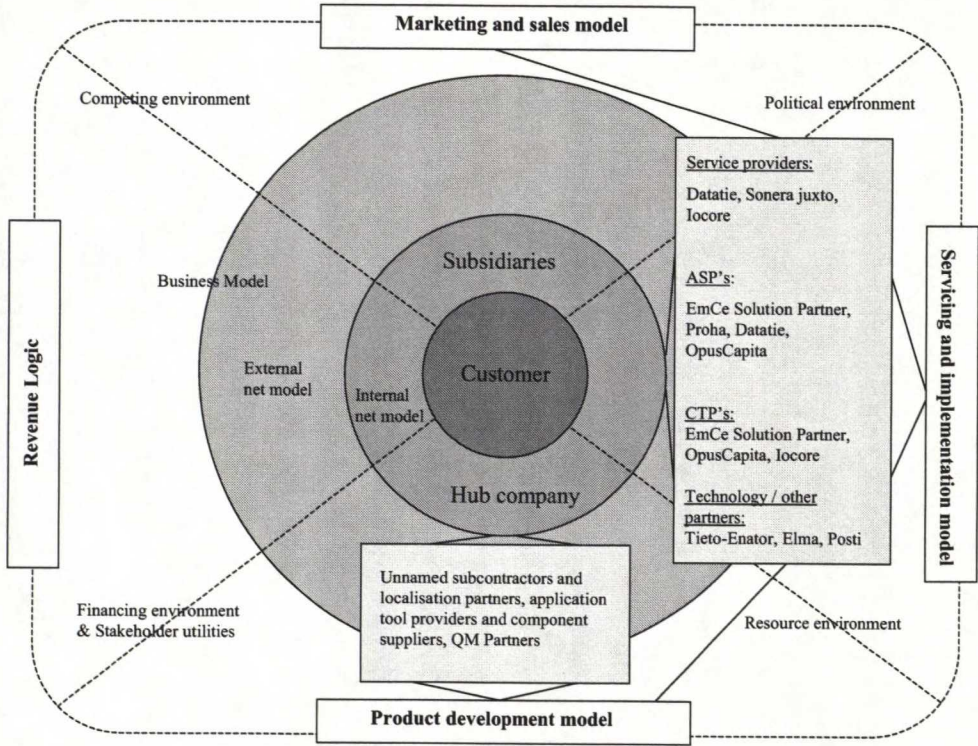


Figure 13 Business model for myeflow.com

5.3 Testing propositions and presenting the revised framework

The evolvement of the network has been highly effected by internationalization. Number of the partners has been growing rapidly especially due to the internationalization of packaged e-Flow solutions. In addition to establishing subsidiaries, the number of VAR's, Sales and Marketing Partners (SMP's), Complementary Vendors and Consulting Partners has increased. On the other hand, the emerging electronic transactions and invoicing market has offered new possibilities for cooperation, and thus brought Consolidators (Service Providers) into the network. These Consolidators offer complete set of solutions by BasWare or complementary solutions as service or application provisioning, or transaction

services. The solutions can be integrated into a larger solution package, the functionality and connectivity of the different actors' solutions are developed to support each other.

Complementary Vendors of the company include also obvious horizontal networking, as some companies, e.g. Ixos (electronic archiving) and ReadSoft (Eyes & Hands scanning software) offer not only BasWare's modules, but their own competing solutions. It is also important to notice, that in addition being a CTP, Ixos, for example, is actually a consulting partner and a SMP. By definition, in regard to software business model framework, Consulting Partners are part of a Servicing and Implementation model. Complementary Technology Partners, instead, should be classified as a part of marketing and sales model. The position of an actor in network, and thus in business model framework is blurred by this duality. On the other hand, it can be seen as an evidence of an ongoing change from software products to services.

The same problem of duality in regard to business model applies also to Consolidators, which are in fact Service Providers enabled by the emergence of electronic transactions services and service provisioning. There are also remarkable horizontal networking, as BasWare has an operator agreement with Tieto-Enator, and co-operates with Elma, one of the major players in electronic billing and transactions markets. Naturally, not all actors, such as operators, are competitors or described by horizontal networking. Rather they can be important partners in relation to vertical value addition, such as Iocore. In addition to operators, the increasing application service provisioning has enabled the emergence of integrators, such as Datatie. Integrators aim to make partners' systems and solutions interoperate, or make interfaces into the systems, such as in the case of OpusCapita. Common aspects of these actors are the blurred or multiple roles in the network and business model framework, and their importance especially in new business models, such as service provisioning. Therefore, it makes sense to classify them as Strategic Partners. An example of infrastructure provision, in turn, can be the Posti eKirje service, which delivers the electronic transaction in a more traditional way to the receiver. This is an additional service, likely to belong to the servicing and implementation model.

As discussed with the context of integrators, BasWare co-operates in R&D with multiple actors in order to create interoperability between vendors' solutions and to comply them into larger solution packages. However, integrators are part of strategic partners in Sales and Marketing and Servicing and Implementation models. Generally, research and development belongs to the product development model, and includes various actors. BasWare has application development tool providers, e.g. Microsoft, in order to acquire suitable development tools for solutions planning and producing. Component suppliers provide approved high-quality components to BasWare in order to generate new solutions quickly. Subcontractors, in contrast to component suppliers, provide required components or subsolutions on the outsourcing basis. Quality management is mainly organized inside of the company, but some functions, like usability research is occasionally carried out by a QM partner, for example, University of Technology in Helsinki or Tampere. The company has few localisation partners, but mainly relies on one for language translation services. Other localisation services are carried out by the R&D department.

Some types of actors are incorporated only with some products. The myeFlow.com sets opportunities for service provisioning and transactions delivery companies, which are not existent in the context of more traditional eFlow or Target product families. In generally, large proportion of strategic partners is related to the new business area, electronic transactions market. The majority of these partners are related to hosting services. There is also considerable horizontal networking in this new unstructured market area, as there are not stabilized operations models.

It is important to notice the role of product or service for actors in business model framework. Due to the nature of software business model framework, an attempt to describe business models of a single company having multiple products simultaneously is ultimately difficult, and is applicable only to few products and services. In the case of BasWare, the electronic transactions market is important, as the partners operating in that field are increasing. They belong, at least mostly, to the blurred zone between servicing and implementation model and sales and

marketing model, and are thus strategic in nature. A partner may have different roles and position in network. Depending on the product they may have very different and important role in the framework.

According to the definition presented in theoretical part, a business model encompasses only to a single product/product portfolio, and refers to a single company. If a company has multiple products or product portfolios, the amount of business models increases respectively. It would be reasonable to create a single unified business model for a company, despite of differences in products and their business models. This unified model could be used to present and categorize different business models of a company that has a large amount of products. Another reason would be finding the common actors of the business models. It is assumed that in case the products or product portfolios are not remarkably different, it is possible to join the separate business models into a single unified model, with critical actors presented. Figure 14 summarizes the types of partners and reflects their roles and positions in the software business model framework.

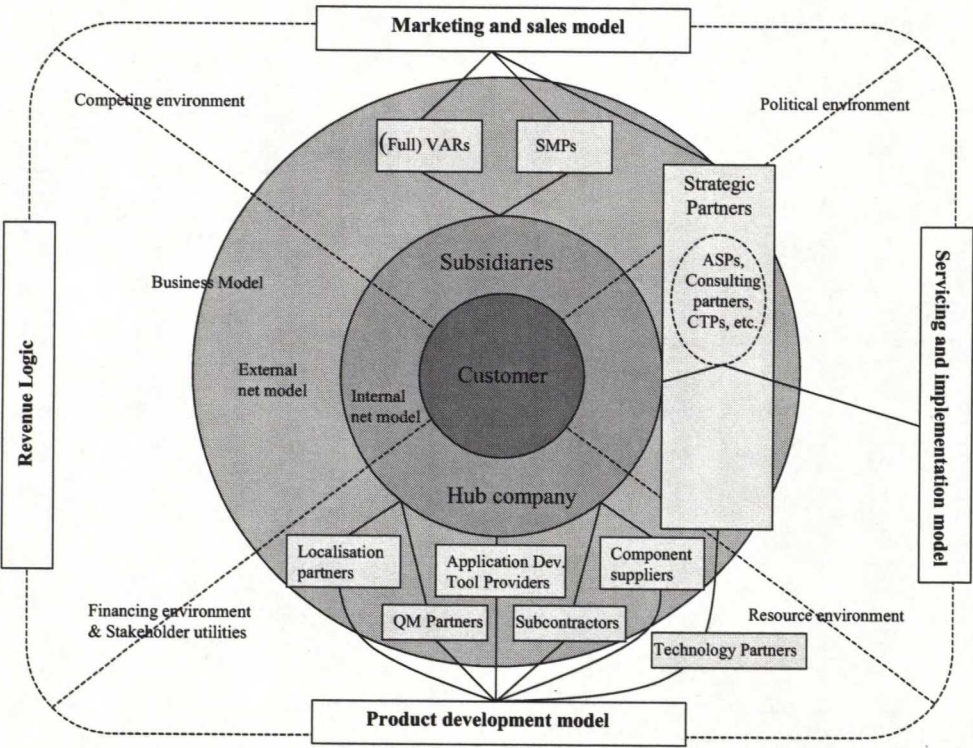


Figure 14 The unified software business model framework for BasWare

A company to be found in all three business models, and therefore in the Strategic Partners of the revised model is, for example Proha. Therefore it could be assumed that this company would be of critical importance. However, the model does not consider how critical an actor is to the network or the volume distributed. Therefore, it is not reasonable to assume that the model provides information of how critical that actor is to the company or the network.

Partners may also have co-operation or interconnectedness between each others outside the visibility of BasWare or the value net arousing it. For example, a major competitor, but also a technology partner Elma (2002) identifies OpusCapita and WM-Data as partners in their solutions, regardless of the BasWare. However, as the viewpoint of this Study is focal in favour of BasWare, research and evaluation of these invisible relationships is beyond the scope of this Study.

5.4 Results

The case study presents BasWare, which is a software company with three distinctive product families that support and complement each other. The revised software business model framework was evaluated against these software products. According to the theory a business model in software industry refers to the decisions of a single company and encompasses only to a single product or product portfolio. Evaluation resulted in three different kinds of business models that describe the core value creating logic and actors in the company's surrounding network. The recognized business models include relevant external factors in the area, and the main elements of the business model for software industry. As business model was shown to be a kind of a story, the business models are required to have extensive explanation about the content of each element.

There is a considerable difference in the amount of value network actors in the business models of the products. The Electronic Invoice Processing solution e-

Flow PIP was identified as the spearhead product, and the internationalisation and building of BasWare's indirect distribution channels are largely related to it. Therefore, the e-Flow product family's business model was discovered to include most actors in the Marketing and Sales model element, i.e. distribution channel of the products. Generally, the current international Value Added Resellers and Sales and Marketing Partners are mainly offering the e-Flow solutions. The importance of e-Flow product family was also seen in the form of Servicing and Implementation model. Various actors were identified as Application Service Providers, Consulting Partners, and Complementary Technology Partners. Duties and activities of the actors in Marketing and Sales model and Servicing and Implementation model were seen to interlace with each others. The Product Development model was seen somewhat dynamically changing as related to the actors.

The business model of Target product family was discovered to be less rich in regard to the actors and activities by partners. However, similarly to the e-Flow products, also Target business model has lately included application hosting partner. However, myeflow.com product was discovered to have an interesting business model. As this business area is still emerging and does not have structured and well-established practices, in regard to the business models and value networks it is still dynamically changing. As myeflow.com is more likely a service concept, it has numerous hosting partners and CTPs. In addition to these, it was found to have technology partners, which in fact are often direct competitors. The reason for this horizontal networking is clearly the investment of all parties in creation of new markets, standards, and practices.

Finally, it was assumed that despite of the differences in product lines, they were seen close enough for an attempt to combine their business models in a single model. This unified business model for BasWare was created and presented. However, there may be difficulties regarding to some options, especially in Revenue Logic model. Common to all three presented business models was the increasing emergence of hosting services. The critical sector is Strategic Partners, which has various partners who may participate also in the other models.

Technology partners, such as competitors who co-operate in creating standards for the business, are brought up as own group in Product Development model.

The case study supports the created framework, and suggests its use in presenting business models of a given software company. Technology partners were found to be relevant actors to the Product Development model, and are to be included in there. The revised business model of BasWare suggests that in certain conditions a unified business model can be created for a software company possessing many products.

6 CONCLUSIONS

This chapter summarizes the content of the Study and presents the derived implications. First, major findings are presented. Implications include both managerial and theoretical implications. Limitations of the Study and finally suggestions to future research are presented.

6.1 Summary and major findings

The purpose of the Study was to research the role of value networks in business models for software business. First the Study introduced the network approach discussed in the academic literature. The prevailing research about networks is largely based on the results by the IMP-group. In this context the ARA-model (actors, resources and activities) was presented as the basic elements of the network. Next the Study introduces the value concept and the evolution from value chain to the value networks. The value network concept was utilized later in the Study in creating the framework.

The next chapter introduced the business model concept, and pointed out that business models have lately been started to research more thoroughly. The result of this has been the division of business models into elements, that contain description about the core logic of company's value creation and the external actors related to it. Business models were seen to be architectural level planning tools, and include internal elements and environmental factors influencing the model.

Software business models were found to have four internal elements, which are categorized as Product Development model, Revenue Logic model, Marketing and Sales Model and Servicing and Implementation model. Each of these elements includes a set of descriptions, which characterizes the given business model. However, customers and networks were seen to have important roles in the business model concept. In order to create a new extended business model for the software industry, they were included in the business model framework.

The initial research problem was how strategic nets, specifically the value net, effect on the development of business models. Specifically the study aimed to find out and describe what kind of effects the actors and activities of the surrounding nets have on the business model design. The role of value nets is obvious in business models. Actors and activities are an integral part of the business model, as they attend to the creation and distribution of value to the customer. Their role and relevance to the network, and creation of the value can be classified in regard to the business model elements.

The created framework was evaluated in a case study. The case study was conducted as qualitative research, and presented a software company with three different product families, and their respective business models. By definition, the business model refers to a single company and encompasses to one product/product portfolio. However, it was assumed that despite of the differences in company's business models, it could be possible to present a unified business model for the case company. The overlapping sections and actors of the unified business model could be critical to the company.

6.2 Implications and limitations of the study

The extended business model framework for software business seemed fairly usable and reasonable in order to illustrate business models of a company. It proved to be a useful tool for describing the company's core value creation logic in a business network. In addition, it is very flexible and can easily be developed and extended for different situations, which is important in researching high-paced and dynamic industries. A business model, by definition, is kind of a story, and the created framework acts as a guideline for creating and describing new models.

The theoretical implications of the Study suggest that business behaviour can be modelled. Business model should be divided into the internal components with some extensive options and decisions to make. Networks are, indeed, seen as of great importance for the value creation. Value is currently created increasingly in

strategic networks of companies. These networks are customer-centric, and the actors possess distinctive resources and activities. In knowledge-rich industries knowledge is becoming one of the critical resources.

A well-structured, defined business model is a major competitive advantage. Use of the extended business model framework for software business helps innovating new winning business models, and to evaluate and develop the existing ones. Business models are also strongly related to communication. They are ways to distribute the value proposition among the organizations.

The Study does not consider how critical an actor is to the hub's or network's business model. Despite of an actor, e.g. Proha in the case study exists in the business models of all products, and therefore seems critical in nature, the revised business model framework does not consider the distribution volume or importance of that company. The model does not provide information if that actor is really critical to the company or the network.

6.3 Suggestions for future research

The academic literature and business articles are increasingly recognizing that value is created in networks. Amit and Zott (2000) also suggest, that a further research is needed on the dynamics and design of business models in inter-firm networks; how they emerge, and how do they evolve. The Study supports this suggestion. A further research is also needed in order to create a conceptual tool, which considers the importance of actors and activities for the business model in a sense, that how critical a selected actor is for the network. More thorough insight should be focused on measurement of the effect on distribution volume for the relationship. According to the literature a business model encompasses to a single product/product portfolio and refers to a single company. However, it would be tempting to research the possibility of categorizing different business models into a larger set of macro groups.

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APPENDIX:

Interview 12.6.2002

BasWare Oyj, Espoo

Interviewee: Matti Rusi

Interviewer: Mika Westerlund

1. Toimialan yleisiä ja erityispiirteitä

General and special features of the Software Industry

- a. Mitkä ovat ohjelmistotoimialan pääpiirteet sektorillanne?
What are the main features in your sector of the Software Business
 - Tärkeimmät toimijat tällä hetkellä
Major actors at the present
 - Toimijat tulevaisuudessa
Major actors in the future
- b. Mitkä tekijät mielestänne muokkaavat toimialanne markkinoita?
Which factors form the markets in your sector of the Software industry
- c. Missä vaiheessa toimialanne sektori on elinkaartaan (kehityskasvu-huippu-kypsyys-taantuma)
What is the phase of the life-cycle for your sector of the business (emergence-growth-mature-decline)
- d. Onko sektorillanne toimivilla yrityksillä mielestänne verkostoituneita liiketoimintamalleja?
Do companies in your sector of the business utilize network relations in their business (in your opinion)?
- e. Mitä toimialallanne tulee mielestänne tapahtumaan lähivuosien aikana?
What will be the major changes in your industry during the next years?
 - Kuinka markkinat tulevat muuttumaan?
How will markets change?
 - Mitkä tekijät vaikuttavat muutokseen?
Which factors will effect the change?
 - Mitä tekijöitä (mahdollisuudet ja uhkat) joudutte kohtaamaan?
Which kind of possibilities and threats you are likely to face?

- Mitkä ovat tarvittavia tekijöitä sektorillanne menestymiseen?
Which are the important factors in order to success in your sector?
- Mikä on kansainvälisten markkinoiden tärkeys?
What is the importance of global markets?

2. Liiketoimintamallit ja verkostoituminen
Business models and networks

- a. Osaatteko kuvata liiketoimintamallianne? Onko mielestänne teillä yksi vai useita liiketoimintamalleja?
Can you describe your business model? Do you have one or many business models?
- b. Onko liiketoimintamallinne dokumentoitu?
Do you have a documented business model?
- c. Onko mahdolliset useat liiketoimintamallit rakentuneet yksiköittäin, tuoteperheittäin vai tuotteittain? Tukevatko ne toinen toisiaan?
If you have many business models are they categorized by units, by product families or by products?
- d. Muokkaatteko jatkuvasti liiketoimintamallianne tai kehitättekö uusia malleja?
Do you constantly reconstruct your existing business models or create new ones?
- e. Ottaako liiketoimintamallinne huomioon verkostosuhteita osana arvon tuottamisessa? (partnerit, asiakkaat, korkeakoulut ja tutkimusyksiköt, jne.)?
Does your business model consider network relations in regard to value creation? (partners, customers, universities, etc.)?
- f. Tunnistatteko toimivanne verkostossa, jossa yhteistyössä erilaisten toimijoiden avulla tuotetaan lisäarvoa?
Do you recognize that you are a part of a network, with co-operation between many actors in order to create value added?
- g. Keitä toimijoita verkostoonne kuuluu? (piirrä kuva)
What kind of actors there are in the network you are in? (please draw an example)
- h. Ketkä ovat tärkeimmät yhteistyökumppaninne?
Who are your most important partners?
- i. Millaiset roolit ja tehtävät näillä on verkostossa?

What kind of roles and activities they have in the network?

- j. Mitä lisäarvoa he luovat ja millaiset resurssit heillä on?
What kind of value added they create and what kind of resources they have?
- k. Miten tärkeäksi näette nämä yhteistyökumppaninne? Olisiko mahdollista vaihtaa kumppaneita?
How important do you see these partners are? Is it possible to change these partners?
- l. Ovatko suhteet näihin toimijoihin uusia vai vakiintuneita? Entä tuleeko olemaan kestoltaan lyhyitä (projekti tms.) vai pitkäaikaisia?
Are the relationships with these actors new or stabilized? Will they be short-term (project etc.) or long-term relationships?
- m. Onko teillä yhteistyötä myös kilpailijoiden kanssa?
Do you have co-operation also with competitors?
- n. Näettekö asiakkaat osana verkostoa?
Do you see customers as a part of the network?
- o. Muita tärkeitä toimijoita verkossa (tärkeitä asiakkaita, muita tahoja)?
Other important actors in the network? (Important customers, etc.)
- p. Millainen asema ja rooli teillä on mielestänne verkostossa?
What is your role and position in the network?
- q. Onko verkostolla tavoite?
Is there a special goal or purpose for the existence of the network?
- r. Kuinka riippuvainen olette tärkeimmistä partnereistanne? Onko joku verkostonne toimijoista riippuvainen teistä?
How dependable are you of your most important partners? Are some of your partners highly dependable on you?
- s. Miten kansainvälistyminen vaikuttaa verkostonne muotoutumiseen?
What are the effects of internationalisation into your network?
- t. Oletteko tyytyväinen verkoston toimintaan? Ovatko verkoston toimijat täyttäneet odotukset?
Are you satisfied with the actions of your network? Have the actors achieved the goals?
- u. Mitä ongelmia verkostossa olette joutuneet kohtaamaan? Miten ne on ratkaistu?

What kind of problems you have faced in the network? How have you resolved them?

- v. Onko verkostossanne esiintynyt myös yhteistyösuhteiden loppumista? Miksi?

Has there also been dissolution of relationships in your network? Why?

- w. Muuntuuko verkosto mielestänne parhaillaan? Miten?

Is the network changing at the moment? How?

3. Tuotteet ja palvelut

Products and services

- a. Mikä/mitkä ovat tuotteenne?

What are your products?

- Millaisiin asiakkaan tarpeisiin ne on tehty? Mitä niillä tehdään? Keitä ovat asiakkaat?
For what kind of needs they planned to fill? What are they used for? Who are the customers?
- Mikä on räätälöintiaste-/tuotteistusaste?
What is the customization level / finalization level of your products?
- Teknologinen yhteensopivuus markkinoilla? Samaa teknologiaa käyttävien kilpailijoiden määrä?
Technological compatibility? How many competitors use similar technology?
- Tuotekehitys sisäisesti vai yhteistyössä jonkun kanssa?
Do you develop the products in house or in co-operation with an external actor?
- Käytättekö alihankintana hankittuja komponentteja ja teknologioita vai kehitettäkö kaiken itse?
Do you utilize outsourced components and technologies, or develop all by yourself?
- Onko laadunvalvontanne sisäinen vai ulkoinen?
Do you have internal or external quality assurance?
- Suoritetaanko lokalisointi sisäisesti vai ulkoisesti?
Does localization of the products take place in house or by an external actor?

- b. Ketä ovat loppuasiakkaat tuotteille? Meneekö tuotteitanne myös asiakkaan asiakkaille (poislukien jälleenmyyjän asiakkaat)

Who are the end-customers for the products? Is there also customer's customers who achieve your products (excl. reseller's customers)

- c. Mistä asiakkaat maksavat? Miten tuote hinnoitellaan?
What are the customers paying for? How is the product priced?
- d. Mihin hinnoittelu perustuu (lisenssit, ohjelmiston käyttöoikeuden vuokraus, palvelun vuokraus ASP, tuen myyminen jne.)?
What is the basis for the pricing (licenses, rental, hosting services ASP, support selling, etc.)?