LAPPEENRANTA UNIVERSITY OF TECHNOLOGY
Department of Business Administration
Management & Organization

Master's Thesis

MOBILE E-COMMERCE BUSINESS MODEL - A VALUE WEB BASED APPROACH TO BUSINESS MODELS IN MOBILE GAMING INDUSTRY

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ABSTRACT

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The aim of this research was to explore the value web and business models of the wireless Internet services. The research was qualitative by nature. A constructive case study was used as strategy and a mobile multiplayer game, Treasure Hunters, as example service. The research was made up of a theoretical and an empirical part. In the theoretical part innovation, business models and value web were conceptually joined to each other, creating the basis for working out business models. In the empirical part business models were first created using the generated innovations. Finally the value web was defined for enabling the execution of services. Innovation session, interviews and questionnaires were used as research methods. On ground of acquired results several business concepts and a description of basic value web for mobile games were formed. As conclusion it was stated that, to come true, the wireless services require a value web of several actors.

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Tämän tutkimuksen tavoitteena oli tutkia langattomien internet palveluiden arvoverkkoa ja liiketoimintamalleja. Tutkimus oli luonteeltaan kvalitatiivinen ja siinä käytettiin strategiana konstruktiivista case-tutkimusta. Esimerkkipalveluna oli Treasure Hunters matkapuhelinpeli. Tutkimus muodostui teoreettisesta ja empiirisestä osasta. Teoriaosassa liitettiin innovaatio, liiketoimintamallit ja arvoverkko käsitteellisesti toisiinsa, sekä luotiin perusta liiketoimintamallien kehittämiselle. Empiirisessä osassa keskityttiin ensin liiketoimintamallien luomiseen kehitettyjen innovaatioiden pohjalta. Lopuksi pyrittiin määrittämään arvoverkko palvelun toteuttamiseksi. Tutkimusmenetelminä käytettiin innovaatiosessiota, haastatteluja ja lomakekyselyä. Tulosten pohjalta muodostettiin useita liiketoimintakonsepteja sekä kuvaus arvoverkon perusmallista langattomille peleille. Loppupäätelmänä todettiin että langattomat palvelut vaativat toteutuakseen useista toimijoista koostuvan arvoverkon.

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This thesis was made in cooperation with TeliaSonera and Telecom Business Research Center (TBRC) in Lappeenranta University of Technology (LUT). These organizations have made it possible for me to make this research.

The greatest acknowledgements belong to a man who has been successfully coaching me through my life and studies, my father, Major Aarne Pynnönen. From him I have learned a lot. Also I thank my dear wife Mari who has listened patiently my monologs about “models” and “webs” and encouraged me when my own faith has staggered.

Finally I want to thank my Professor Iiris Aaltio in LUT, Manager Petteri Laaksonen in TBRC, Principal Researcher Heimo Laamanen in TeliaSonera, and people in TBRC for guiding me through this process. Thank you all.

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1. INTRODUCTION

1.1. Background

The Internet has enabled new ways to do business through the opportunity of universal information distribution (Levy, 2000). The third generation wireless networks provide new business opportunities and new market segments to the existing and traditional telecommunication market (UMTS- forum, 2000).

Mobile Internet market is merging from the Internet and mobile communications market. The firms operating in this highly competitive global environment seek continuously new business opportunities. This is caused by the fast development of a relatively young industry and the convergence of industries. These reasons enable new opportunities and market for companies that are originally from different industry. (Pynnönen et al., 2004)

Game industry has been seen as one of the growth areas. The mobile gaming market that was only 0,5 billion USD in 2002 is expected to reach 41 billion USD by the year 2007 (The Research Room, 2003). In Asia and especially Japan, the mobile game industry has already been successful. Mobile games have become popular in the third generation networks and especially in i-mode. This same development is now believed to happen in Europe and in a global scale.

The value chain (Porter, 1985) has been a way to describe competitive advantages of a firm. Electronic commerce (E-commerce) services need several companies that all have their own role in delivering the services to customers. E-commerce firms often form for example alliances, coalitions or value webs, where every actor has competitive advantages that support each other. (Tapscott et al., 2000)

To better describe the competitive advantages of company network there has to be a different kind of approach than value chain. A new approach is value web (or value network (Hamel, 2000) or b-web (Tapscott et al., 2000)), which is a way to analyze companies in electronic business. (Cartwright and Oliver, 2000)

There are two objectives for this research. The first objective is to frame business concepts for mobile multiplayer game. The second is to describe and analyze the roles of the actors in the mobile services value web. Business models will be created using Gary Hamel's (2000) business model framework and value web analysis developed by Cartwright and Oliver (2000).

1.2. Project summary

Wireless Internet Service Engineering (WISE) project delivers methodology and technology to develop services on the wireless Internet. Experimenting methodology and technology in real life applications is a key both to validate and improve them. This is why the pilot services, tools and measures for evaluating them are developed. An iterative and incremental development style is used in the project. The project lasts 30 months and contains three iterations that last about 9 months each. (Wise, 2004)

The main deliverables of the project are:

- A high level architecture for mobile services. The architecture defines components, relationships among components and functions offered by components.
- Service management component.
- Data replication and synchronization component.
- Software agents to support negotiation functions.

- A method to use the technologies, including a business model, process and guidelines. (Wise, 2004)

WISE consortium consists of Politecnico di Torino, Fraunhofer IESE, Investnet, Motorola GSG Italy, Solid EMEA North, TeliaSonera, and VTT electronics. (Wise, 2004)

Application idea that is used as an example service, is WISE Pilot 2 real-time multiplayer game named “Treasure Hunters”. The game is an arcade game where multiple players move in a big labyrinth or dungeon carrying out a mission (Lago and Matinlassi, 2002).

1.3. Research problem

The overall research problem is to find an efficient way to do business in the mobile E-commerce future. There are two objectives for this research. The first objective is to frame several business concepts related to a mobile multiplayer game. The second is to describe and analyze the roles of the actors in the mobile value web.

Main research question:
How can business model and value web approaches be used in modeling the mobile game industry?

Theoretical sub-problems:

- How to define a mobile value web?
- What is a definition of a mobile E-Commerce business model?

Empirical sub-problems:

- What are possible business concept innovations regarding mobile Internet game?

- How can business concept innovations be formed to business concepts?
- What are the roles of actors in the value web?
- How can the mobile E-Commerce business model be described?

1.4. Literature overview

1.4.1. Innovation

“Innovation typically comes from looking at the world through a slightly different lens”. (Hamel, 2002)

Gary Hamel (2000) has linked the Innovation to the value creation of the firm. He uses the term business concept innovation. Revenue can’t be grown significantly without new products and services to customers. Radical innovation needs to meet at least one of three standards. It has to change customer expectations, and it has to change the basis for competition. It also has to change industry rules. (Hamel, 2002)

Mitchell and Coles (2003) have argued that business model innovation is the management practice that is most clearly associated with high growth. By business model innovation the authors mean “any successful change in any elements that enhances an on-going performance in delivering benefits”. (Mitchell and Coles, 2003)

According to Hamel, a good place to start innovating is to look for tradeoffs (Hamel, 2000). Michael E. Porter (1985) claims about tradeoffs that they are essential to strategy, because they create the need for choice and purposefully limit what a company offers (Porter, 1985 p. 69)

1.4.2. Strategy

Fjeldstad and Haanæs (2001) write about strategy tradeoffs in knowledge and network economy. They state that the fundamental aim of strategy should be going beyond the immediate activity incompatibility tradeoffs. The authors emphasize the “time tradeoffs” over the activity tradeoffs. By “time tradeoffs” they mean the balance between exploiting existing solutions and exploring ways of going beyond them. Activity tradeoffs involve choices between differentiation and cost. (Fjeldstad and Haanæs, 2001)

Henry Mintzberg (1996) offers five definitions of strategy called the five P’s of strategy. Strategy is a plan or it can be a ploy. Strategy is also a pattern, a position, and a perspective. (Mintzberg and Quinn, 1996)

In literature, there is a distinction between corporate strategy and business level strategy. Corporate strategy deals with issues concerning market and industry decisions of the firm. Business level strategy, sometimes called competitive strategy, focuses on how firm competes in its product market segments. (Grant, 1998 p. 19) Business models have a strong linkage not only to business level strategy but also to corporate strategy.

Michael E. Porter has suggested that the basis for succeeding in the long run is sustainable competitive advantage. There are two basic types of competitive advantages that firm can posses: low costs or differentiation. These basic types combined with the scope of activities that firm uses to achieve them leads to three generic strategies. They are cost leadership, differentiation, and focus. The focus strategy consists of cost focus and differentiation focus. (Porter, 1985 p. 11)

Miles and Snow (1978) have developed a widely used typology to categorize generic strategies of the firms. The strategies of firms are

different, but inside the industry the choices of products, services, markets and technologies are formed following similar patterns. The authors realized that the different firms inside same industry could be categorized by the similar behavioral patterns. Miles and Snow use the following typology to categorize different firms: defender, prospector, analyzer and reactor. The typology is described in more detail in Chapter 3.1.1. (Miles and Snow, 1978)

Ansoff uses terms portfolio strategy and competitive strategy to define the above-mentioned difference. Both corporate and portfolio strategy answer the same question; “what business are we in?” Ansoff’s portfolio strategy consists of four components: geographical growth vector, competitive advantage, synergies and strategic flexibility. (Ansoff, 1987 pp. 108-111)

1.4.3. Value web

Value chain, developed by Porter (1985), has been a generally used tool to describe the competitive advantages of a traditional firm.

Cartwright and Oliver (2000), among many others, argue that the existing tools, like Porter’s value chain analysis, are inadequate for analyzing the electronic business. According to Cartwright and Oliver, the true value is created when several organizations share common technologies or intellectual capital. They also see that understanding the network relations is the key to understand the value creation in E-commerce. They propose a new way to analyze E-business; it is called value web analysis. It includes customers, suppliers, competitors, allies, complementors, neutral firms, regulatory agencies, etc. (Cartwright and Oliver, 2000)

Tapscott et al. have defined a b-web. B-web is a web of E-commerce firms where the product or service is a result of cooperation of several firms. Every company concentrates on its own core competency and the value

creation takes place in the b-web, not in a single firm. (Tapscott et al., 2000 pp. 10-36)

1.4.4. Business model

Business model is quite recent term and it has many meanings. Toivo S. Äijö and Kirsi Saarinen (2001) have analyzed the concept of business model, and they have defined it with two dimensions, which are: focus of activity and perspective of activity. Their conceptual definition of business model -matrix has four fields: (1.) Internal business definition, (2.) internal value stream, (3.) extended value stream and (4.) extended business definition. (Äijö and Saarinen, 2001)

Business model, according to Cartwright and Oliver, 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, 2000)

Timmers (2000) defines the e-commerce business model as 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 various business actors; and a description of the sources of revenue. (Timmers, 2000)

According to Mahedevan (2000) business model consists of three components: value stream, revenue stream and logistical stream. E-commerce business models include two layers: Internet intermediary and commerce layers. Mahadevan’s analysis excludes the Internet infrastructure and applications layers. At the two layers analyzed there are three major roles: portals, market makers and product/ service providers. (Mahadevan, 2000)

Martinez (2000) has also written about how firms can find the right business model. Martinez categorizes E-business models into five categories: offline facilitator, context provider, commerce destination, online exchange and gateway. (Martinez, 2000)

Business model, described by Hamel (2000), has several elements that are based on business and corporate strategy planning process. Hamel's framework consists of four elements: customer interface, core strategy, strategic resources, and value network. The framework is introduced in the next chapter.

1.4.5. Approaches to strategy in different eras

In past few years there has been a discussion going on in strategy and economic research about the differences of traditional economy and E-commerce. Spokesmen of the E-commerce argue that there is a paradigm shift in nearly every area of strategy, while the "porterian school" claims that internet, mobility etc. are just technologies to deliver services and there is no such change in economy (See for example: Fjeldstad and Haanæs, 2001; Eisenhardt and Sull, 2001; Lorange et al., 2003; Porter, 2001; Venkatraman and Henderson, 1998). The next table summarizes and describes the differences and similarities between the traditional economy and E-commerce. The distinction is, however, unclear and some of the approaches of traditional economy are still relevant also in E-commerce.

The following table grounds the theoretical framework described in Chapter 1.5.

Organization's environment forming process	Strategy approaches in different eras	
	Traditional economy	**E-commerce**
1. Domain selection	Competitive strategies (e.g. Porter) Domain claim Strategic alliances Internationalization	Virtual organizing Networks – Relations – Trust Resource based view Cooperative strategies
2. Service delivery processes and technologies	Distribution chains Logistics	Service management Value networks Quality Internet
3. Organization structure and resources	Socio-technical school Human resources	Knowledge and learning Intellectual capital Knowledge management Temporary and virtual Organizations Dynamic capabilities Strategy as simple rules

Table 1. Approaches to strategy in different eras. Modified and adopted from (Eisenhardt and Sull, 2001; Fjeldstad and Haanæs, 2001; Hagel III, 1996; Lorange et al., 2003; Miles and Snow, 1978; Porter, 1985; Porter, 2001; Tapscott et al., 2000; Venkatraman and Henderson, 1998)

1.5. Theoretical framework

The theoretical framework in this research is based on basic strategy literature due to the origins of Hamel's framework, which is used as baseline for this research. Innovation is a key to improve existing business models or create new ones (Hamel, 2000; Kalakota et al., 1999; Kraemer et al., 2000; Magretta, 2002). Business model, on the other hand is a description of how a firm does business (Hamel, 2000; Magretta, 2002; Timmers, 2000). Business model describes the firm's internal business and external relationships with other firms and customers (Cartwright and Oliver, 2000; Hamel, 2000; Tapscott et al., 2000; Timmers, 2000).

Most of existing business model frameworks concentrate on one part of the value generation (for example the extended value stream). Hamel's

business model framework combines the internal and external analysis of the firm's value creation. It also includes the innovation aspect of the strategy formulation and it has the connection to the value web theory. (Hamel, 2000) Therefore Hamel's framework is chosen as a framework to explain the business model part of this research. Hamel's business model framework is shown in Figure 1.

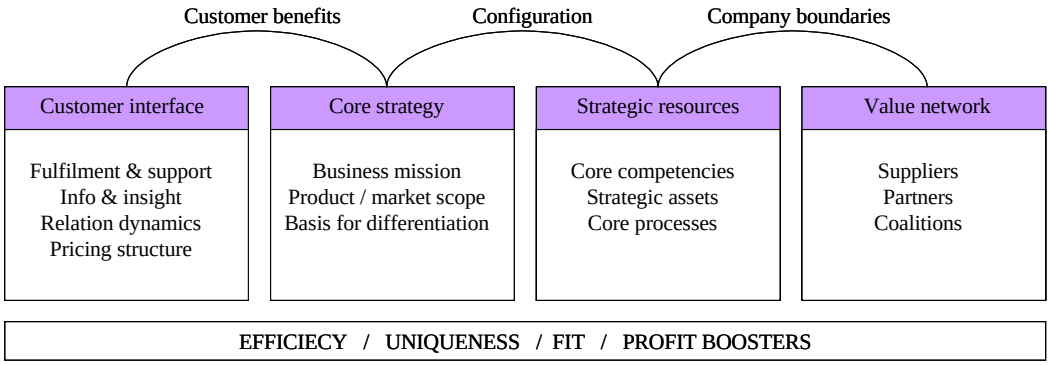

Figure 1. Business model. (Hamel, 2000 p. 92)

Porter's (1985) competitive strategies theory is a commonly used framework in analyzing core strategies of firms. It is based on the tradeoff between differentiation and cost i.e. the activity tradeoff (see Chapter 2.2). According to Porter, a successful company follows some of the following strategies: cost leadership, differentiation, cost leadership dominated focus strategy or differentiation dominated focus strategy. (Porter, 1985 pp. 24-31)

However, Porter's framework has faced some critic. For example for a small company it is difficult to be a cost leader because of the scale economics. This makes the framework unsuitable for analyzing small companies. Further on, Porter's framework does not allow long-term viable combination strategy like for example in Miles and Snow's framework (the analyzer strategy) (Parnell, 1997), though Cronshaw et al. (1994) argue that combination strategy is widely proven profitable. In many company performance researches Miles and Snow typology has been used as

theoretical framework and the implication has been that defender, prospector and analyzer have performed better than reactor (Bahaee, 1992; Parnell, 1997; Thomas and Ramaswamy, 1996; Veliyath and Shortell, 1993). Further on, the growth companies have followed either prospector or analyzer strategy (Gimenez, 2000; Parnell, 1997). Miles's and Snow's strategic orientation theory is chosen as theoretical framework because of it's better fit to the scope of this research.

In the external analysis the focus is in the value web and it's actors. As stated earlier the value chain (Porter, 1985) has been a way to analyze value creation of a firm. However Cartwright and Oliver claim that the network relations are the key to understand the value creation in E-commerce and that the true value is created when several organizations share common technologies or intellectual capital. (Cartwright and Oliver, 2000)

Durlacher research Ltd. and Eqvitec Partners Oy have described the mobile data value web, which defines different roles and the interrelationships of them. (Müller-Veerse et al., 2001) The structure of the web is shown in Figure 2 and the roles are described in Chapter 4.3.

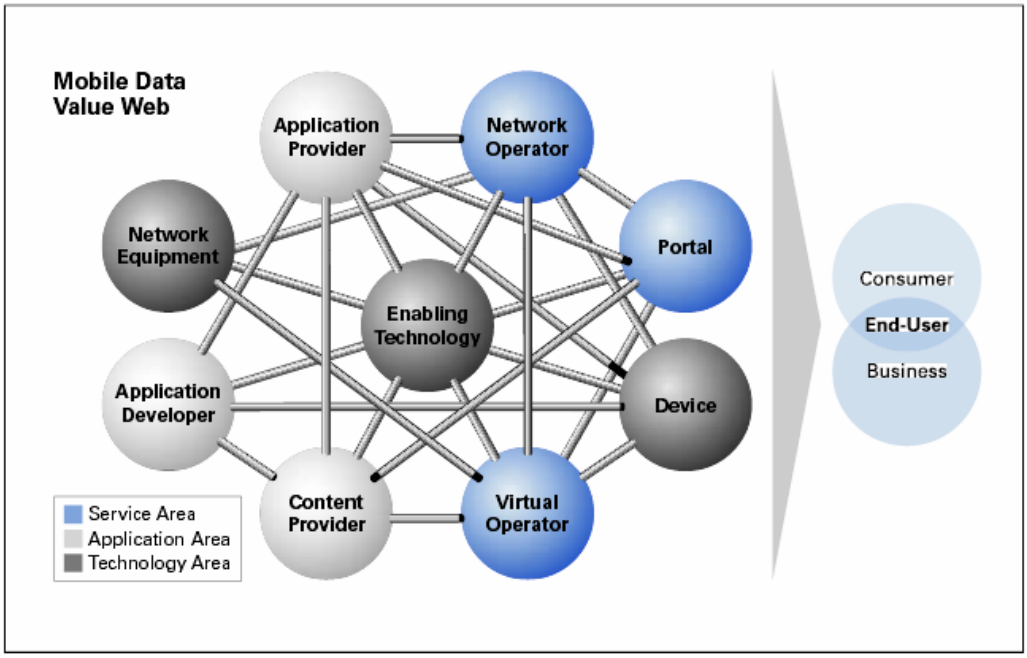

Figure 2. Mobile data value web. (Müller-Veerse et al., 2001)

1.6. Delimitations

The scope of this research is wide and this is why there are several delimitations to keep the work manageable. Firstly, every main chapter is worth being a topic of an independent research work. Regardless of this, all the aspects have been considered as important knowledge to make a clear picture of path from idea to the value web of firms. Secondly, resulting from the wideness of the scope, the analysis in places is limited only to the information extremely fundamental for the goal of the research.

This research is based on the open innovation paradigm, which is discussed in detail in Chapter 2. The closed innovation paradigm, instead, is only mentioned. Despite the fact that Garcia and Calantone (2002) have developed an innovation typology that includes many different kinds of innovations, only radical and incremental innovation types are used in this research.

As stated earlier business models have linkages to business and corporate strategy. Therefore the operative and functional strategies are not analyzed. The point of view in Chapter 3 is in business level strategy, while the corporate strategy is discussed in Chapter 4. Because of the aims of this research no single firm is analyzed. The internal value stream (in Chapter 3.) of a single firm is excluded from this research because of the chosen theoretical approach. Customer interface and value network of the business model are examined in Chapter 3 only briefly and the relations between the firms and end customer are dealt with in more detail in value web chapter.

Trust issue in partnerships is a subject of several researches and books (see for example: Blomqvist, 2002; Ståhle and Laento, 2000), but because of the wideness of the topic it is excluded from the discussion in this research.

The focus in this research is strictly in mobile services. Therefore the analysis is limited only to the service related concepts. Most of the concepts' suppliers are also excluded from the value web analysis. An exception is made with device manufacturer because it is a possible distributor of the game. The customer relations are examined only in general, not in the company level.

The case in this research is not a firm, but a mobile game service. Application idea which business models are built on is WISE Pilot 2 "The Treasure Hunters" game. Other WISE pilots are not analyzed. The game platforms are not analyzed deeply, only the basics of the wireless data transfer are introduced.

1.7. Definitions of key concepts

The essential concepts are first defined briefly and in the end of this chapter there is a concept map to clarify the relations of the defined concepts.

Application idea:

Application idea, in this research, means the product or service that is the basis for the business concept innovations and business models. In this research the application idea is “The Treasure Hunters” game.

Business concept innovation:

Business concept innovation leads to new customer value, new wealth generation and will change the rules of the industry. (Hamel, 2000) In this research business concept innovation can be understood as a way to create wealth with the existing business idea.

Business concept:

According to Hamel a business concept is a step prior to business model. Business concept is not yet put into practice. (Hamel, 2000) Business concept proposals, instead, are descriptions of different business functions that are created from business concept innovations by combining similar innovations.

Business model:

Business model describes the business of a firm (Hamel, 2000; Magretta, 2002; Timmers, 2000). According to Hamel business model is a business concept put to practice. Business model consists of four elements: customer interface, core strategy, strategic resources, and value network. (Hamel, 2000) In this research, especially in the empirical part, another important distinction between business concept and model is that a

business model can include several concepts. Concept is either part of some model or, if viable enough, a model itself.

Value web:

Cartwright and Oliver use the term value web and Tapscott et al. use the term b-web to describe the competitive system (Cartwright and Oliver, 2000; Tapscott et al., 2000) In Hamel's framework the term is value network (Hamel, 2000). Bovet and Martha (Bovet and Martha, 2000) use the term value net. In this study value web, b-web, value net and value network are used as synonyms. Value web defines the relationships and roles between the actors in the competitive system. (Cartwright and Oliver, 2000)

E-commerce:

E-commerce in this research means same as E-business or business in the electronic market space i.e. digital economy. E-commerce firms use the Internet in their business transactions or interaction. (Cartwright and Oliver, 2000; Levy, 2000)

Mobile E-commerce business model:

Mobile E-commerce Business model, in this research, describes the value web, roles, business-to-business relations and the business models of the actors, being so conceptually close to Timmers's definition (see Chapter 1.4.4) of business model. Mobile E-commerce business model can also be understood as a business model of value web.

Next figure describes the key concepts and their relations used in this research:

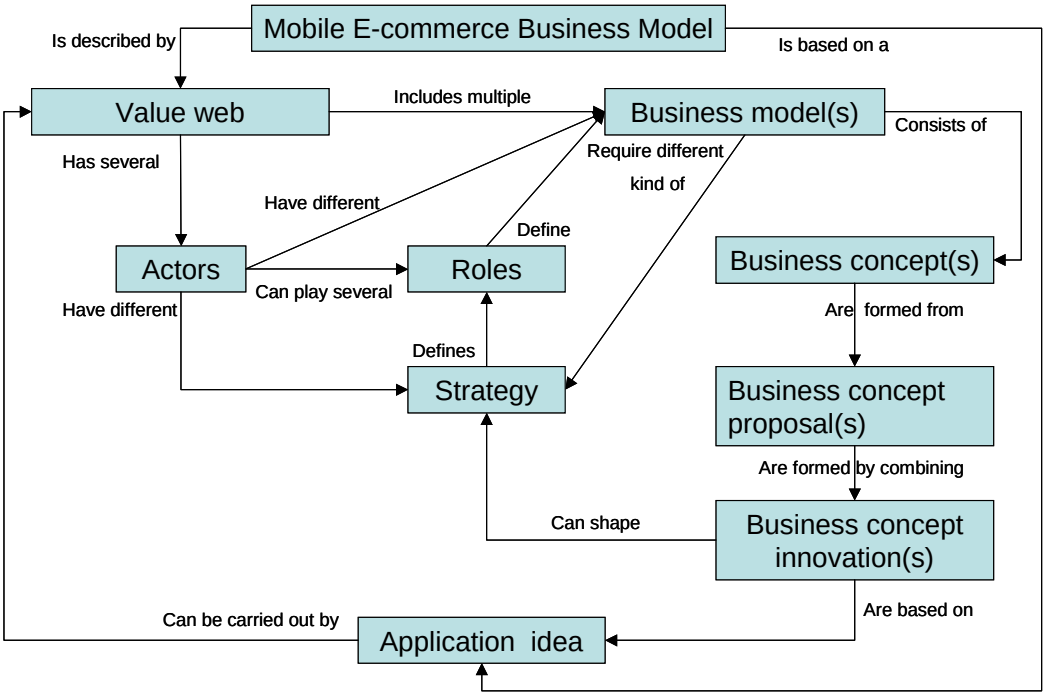

Figure 3. Concept map of the key concepts in the research.

1.8. Method of research

There are two basic research types: quantitative and qualitative. Quantitative research is numeric by nature and qualitative deals with meanings. In qualitative research the aim is to form a holistic view to the subject. Qualitative research type is inductive and is therefore commonly used to form new theories, models and concepts. Typical feature of qualitative research is that the research plan shapes as the research process goes ahead. (Hirsjärvi et al., 1997 pp.123-153) The research type of this study is qualitative.

Yin (1994) has categorized the research strategies in five groups: experiment, survey, archival analysis, history, and case research (Yin, 1994 p. 6). According to Yin, case studies are preferred strategy when questions like; who, how or why are being posed, when the investigator

has little control over events and when the focus is on a contemporary phenomenon within some real-life context. (Yin, 1994 p. 1)

Eisenhardt understands case study research as a research strategy, which focuses on understanding of the dynamics present inside a particular situation. Case studies typically combine several data collection methods such as archives, interviews, questionnaires, and observations. The evidence can be qualitative (e.g., words), quantitative (e.g., numbers), or both. Case studies can be used to achieve different aims. For example to provide description, test theory, or generate theory. Case study method relies on continuous comparison of data and theory. (Eisenhardt, 1989)

According to Lukka (2003) the constructive research approach is used when the problems of the real world need to be solved with an innovative construct and to make a contribution to the existing theory. A construction is something that differs profoundly form the existing; it is a new reality. (Lukka, 2003)

Constructive research method's one characteristic is that the researcher's empirical intervention is explicit and strong. This is why constructive research is experimental by nature. The new construction should be seen as a test instrument in testing, illustrating, or refining a theory or creating completely new. According to Eisenhardt (1989) preceding specification of constructs helps to shape the initial design of theory-building research. If these constructs prove important as the study progresses, then researchers have a firmer empirical grounding for the emergent theory (Eisenhardt, 1989). Ideal result of a constructive research is that the original problem is solved and both practical and theoretical contribution has developed. Shaping the hypotheses includes refining the definition of the construct and building evidence, which measures the construct in each case (Eisenhardt, 1989). Always the problem can't be solved or the research fails in practical level, there can still be major theoretical

contributions. The most expected theoretical result of this kind of research is theory refinement. (Lukka, 2003)

1.8.1. Data collection and analysis

This research adopts the case study research strategy, and constructive research approach within it. The research, in this case, can be described as process in which there are several phases (see Figure 4). The first phase of the research is to define the possible business concept innovations that are related to a mobile multiplayer game. This is implemented by a group innovation session. The second phase is the forming of the business concept proposals by combining the innovations. In this phase interviews of game developers and players are used to get deeper information about different aspects of online gaming and to get support to the business concept preparing work.

The third phase is to analyze every business concept proposal with the Hamel's framework. The formed concepts are evaluated by using a survey. The fourth phase is to form a value web to put the concepts into action. This is implemented also by a survey. The last phase is to analyze the gathered data to form a mobile E-commerce business model. The process is described in detail in Chapter 6.

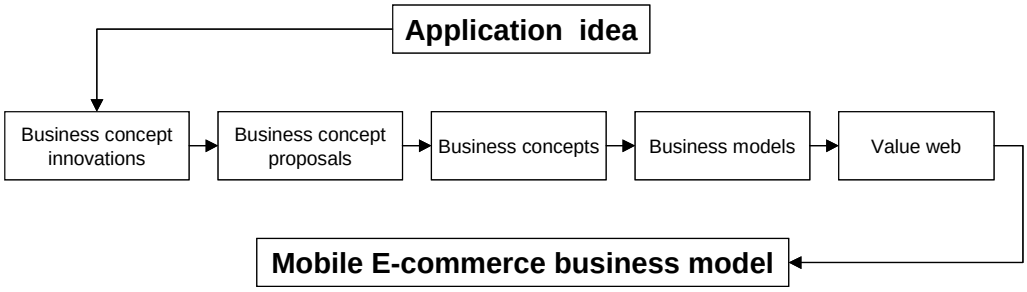

Figure 4. The research process. Adopted from: (Laaksonen et al., 2001a)

1.9. Structure of the research

The research is divided into theoretical and empirical parts. In the theoretical part the main objective is to discuss the connection between innovation, strategy, business model and value web. In the empirical part the aim is to create a construct of mobile gaming industry by applying the theory starting from innovations and business concepts and resulting to business models and value web. The approach is to move from the internal analysis of the organization to the analysis of its surrounding environment by using the mobile game as an example service.

The Chapter 1, Introduction, presents the background and the purpose of the work to the reader. The subject and structure will be introduced. The Chapter 2, Innovation and strategy, will concentrate on the linkage of innovation and strategy. The business concept innovation as a concept is introduced and the strategic importance of innovation is highlighted. Also the linkage to business model is defined. In Chapter 3, business model and strategy, Hamel's business model framework is used as the backbone. Components of the business model are analyzed in detail and other authors' points of views are also introduced.

Chapter 4, Value web, introduces the development of the value chain to value web of firms. Value creation is one main focus of this chapter. Also cooperation and roles are analyzed. The value web concept is viewed through the "lens" of the example service. Chapter 5, Gaming, introduces the history of electronic gaming and the existing online gaming markets. The main goal of this chapter is to frame the mobile future of online gaming. Also the game platforms and gaming market are analyzed briefly.

In Chapter 6, Forming the mobile E-commerce business model, the focus will be in presenting and analyzing the collected empiric data. The structure of this chapter will follow the structure of the theory part and the

data is reflected to the theory. This chapter will also have a summary in which the empiric findings are highlighted and the “mobile E-Commerce business model” is defined. Conclusion chapter summarizes the research and some conclusions will be drawn of the results.

2. INNOVATION AND STRATEGY

The definition of innovation includes technological development, market introduction and iterative nature of the process. However, the notion of innovation is not unambiguous. Also terms used to describe the innovation types also vary a lot. Garcia, Calantone and Roger (2002) have examined innovation literature and created a typology to define the types of innovations. According to them there are two important aspects in innovation. Firstly innovation process includes both technological development and market introduction aspects. Secondly the process is iterative, and therefore it includes an introduction of new innovation and reintroduction of improved innovation. The iterative nature of innovation process leads to different types of innovations. (Garcia et al., 2002) Typically these types are called radical innovation and incremental innovation. (Garcia et al., 2002; Hamel, 2000)

Henry Chesbrough (2003) argues that there is a paradigm shift going on in innovation management. The old closed innovation paradigm is shifting to a new open innovation paradigm. In the closed innovation paradigm the innovations come from inside the organization, and they are carried out in existing markets with existing business model. The open innovation paradigm grounds to the idea that innovations form when information is shared between organizations. In open innovation the internal and external ideas are combined into new innovations to reach new markets and they are implemented with completely new business models. (Chesbrough, 2003)

Business concept is a construct to describe the innovations. Gary Hamel has developed a useful framework to analyze the business concept (Hamel, 2000). This framework is described briefly in Chapter 1.5., and in detail in Chapter 3. Business concept also links the innovation to the

strategy formulation of a firm. To reshape strategy a firm has to innovate new business concepts i.e. generate business concept innovations (Hamel, 2000)

2.1. Innovation paradigm

The key argument in closed innovation is, according to Chesbrough (2003), that “successful innovation requires control”. The innovations come from inside the firm and this requires major investments in research and development (Chesbrough, 2003). Also the quality and number of the innovations can be limited because of this internal point of view. Following the closed innovation paradigm leads easily to a situation where the firm produces only incremental innovations and implements them via the existing business model (Chesbrough, 2003).

The competition between firms takes place between the business models of firms (Hamel, 2000) and incremental innovations do not usually form new markets like radical innovations (Garcia et al., 2002). Therefore there is a strong possibility that some other firms will come up with some radical innovation and entirely new business model, which will replace the existing business model in market. To avoid this, a firm has to improve its existing strategy by continuously monitoring and challenging it by innovative new business concepts. (Laaksonen et al., 2004)

The main idea in open innovation paradigm is that the value is created not only inside a single firm but also between several firms. As well the innovation can end to the market from inside or outside the firm. (Chesbrough, 2003). This is the main idea also behind the value web theories (Bovet and Martha, 2000; Cartwright and Oliver, 2000; Fjeldstad and Haanæs, 2001; Tapscott et al., 2000).

2.2. Real option point of view to strategy formulation

Technology in itself does not create profits to companies; it is the technology that consumers adopt which matters. It is impossible to predict which innovations make the breakthrough, but to manage the adoption and to make the innovation successful, a business model is definitely an important tool. (Brown, 2003) To succeed in fast changing technology environment firm has to be ready to make correct choices between alternative resource allocation decisions, which contain uncertainty. These decisions have to be made still maintaining maximum flexibility. (Copeland and Keenan, 1998)

Chesbrough points out that the more effective existing business model has been, the more the firm is tied into it (Chesbrough, 2003). This creates a risk to a firm, if it does not recognize the opportunity to renew its strategy (Hamel and Välikangas, 2003). In strategy formulation it is important to generate flexibility for the company by creating competing business concepts from which the firm can choose, especially in times of uncertainty. The new business concepts can be understood as strategic options for a firm. Innovation represents the recognition of the shadow options from the unlimited pool of undetected opportunities. Technology enables the shadow options to become real. (See Figure 5.) (Laaksonen et al., 2004)

New business concepts (or options) include uncertainty (Hamel, 2000), which in business environment is regularly understood as risk. (Copeland and Keenan, 1998; Kyläheiko et al., 2002; McGrath, 1997; Trigeorgis, 1993) However, options contain also opportunity (Amram and Kulatilaka, 1999; Copeland and Keenan, 1998; McGrath, 1997; Trigeorgis, 1997).

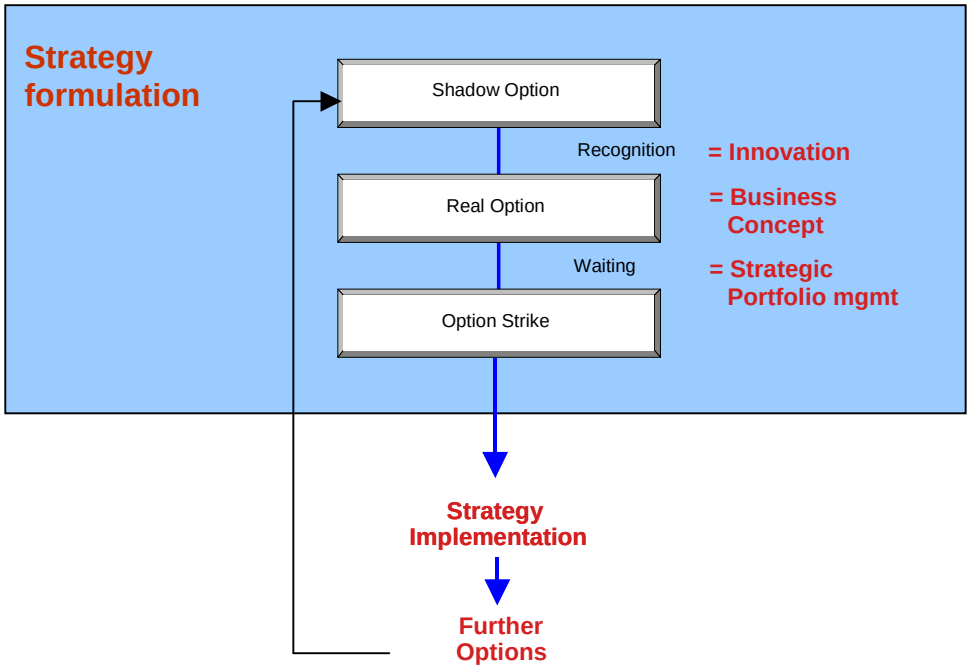

Figure 5. Strategy formulation based on the business concepts innovation. Modified from (Modified from:Bowman and Hurry, 1993) by (Laaksonen et al., 2003; Laaksonen et al., 2004)

A good place to start innovating is to look for tradeoffs (2000). Porter claims about tradeoffs that they are essential to strategy, because they create the need for choice and purposefully limit what a company offer (Porter, 1985 p. 69). Fjeldstad & Haanæs on the other hand argue that the strategy tradeoffs in knowledge and network economy should be going beyond the immediate activity tradeoffs. The authors emphasize the time tradeoffs over the activity tradeoffs. By time tradeoffs they mean the balance between exploiting existing solutions (incremental innovations) and exploring ways of going beyond them (radical innovations). Activity tradeoffs involve choices between differentiation and cost. (Fjeldstad and Haanæs, 2001)

2.3. Innovation types

Innovativeness is a measure to describe the “newness” of the innovation i.e. how new the innovation is. This depends on the point of view. Some innovations are new to the world some to the firm. Garcia, Calantone and Roger (2002) use macro and micro perspective to define the newness of innovation. Macro perspective of the newness is that an innovation has the capacity to create a paradigm shift in the science and technology and/or in the market structure. Micro perspective of the innovativeness on the other hand is the capability of innovation to influence the firm’s marketing and technological resources, skills, knowledge, capabilities or strategy. (Garcia et al., 2002)

According to Hamel there are two kinds of innovations: incremental and radical, as stated before. Incremental innovations are products that provide new features, benefits or improvements to the existing technology in the existing market. These innovations do not cause macro level discontinuations. Radical innovations are innovations that lead to new technology resulting in a new market infrastructure. Radical innovations do not answer existing needs; they create demand. (Garcia et al., 2002) Hamel has divided the micro perspective of the innovations to business level and product/process. Industry level represents the macro perspective. (Hamel, 2000) The innovation horizon is shown in next figure.

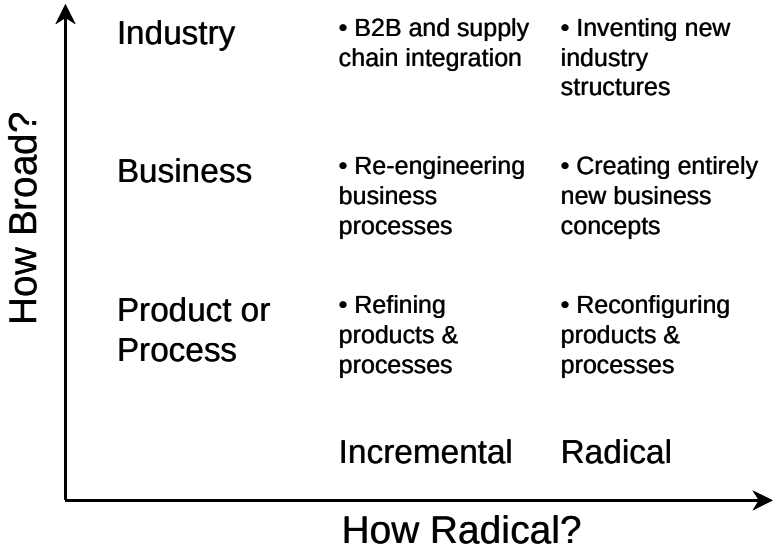

Figure 6. The innovation horizon. (Hamel, 2000 p. 64)

2.4. Business concept innovation

Capabilities to react to changing environmental conditions define the success of a firm (Hamel and Prahalad, 1994; Teece et al., 1997) Competition between firms takes place between the business models of firms (Hamel, 2000). The firm's success depends on the efficiency of its business concept against the competition. The efficiency battle between the concepts is continuous and requires the firm to renew its strategy continuously. Business concept innovation creates internally competing alternatives to the existing business concept, which enables the success of the company also in the long run. The firm creates internally substitutes and new entrants to compete with its existing business model. This helps the firm not only in a new product development, but also in its ability to react fast and in time to the product development of competitors and radical innovations or product substitutes outside its own industry. (Laaksonen et al., 2004)

Mitchell & Coles (2003) argue that business model innovation is the management practice that is most clearly associated with high growth. By

business model innovation the authors mean “any successful change in any elements that enhances an on-going performance in delivering benefits”. (Mitchell and Coles, 2003)

They present four rules to improve business models:

- Find new uses for what you do.
- Learn and share your lessons with customers.
- Adjust prices to encourage more purchases.
- Lower costs that hold back growth. (Mitchell and Coles, 2003)

The future success of a firm depends on its ability to innovate new alternative business configurations i.e. business concepts. These combine customer needs and opportunities enabled by technologies in a new, innovative and effective ways, and balance the implementation of the concepts with the external competition and internal learning capability. (Hamel, 2000)

2.5. Innovation process

The innovation process theory is adapted and modified from the lead-user method developed by von Hippel (von Hippel, 1986; von Hippel, 1988; von Hippel et al., 1999) and business concept thinking (Chesbrough, 2003; Hamel, 2000) The process in practice is adapted from Laaksonen et al. (see Figure 7.) (Laaksonen et al., 2001b; Laaksonen et al., 2001a)

According to von Hippel (1986) lead users are people who “…face needs that will be general in a marketplace, but they face them months or years before the bulk of that marketplace encounters them, and … are positioned to benefit significantly by obtaining a solution to those needs”. Laaksonen et al. (2004) point out that lead users are not same as “early adopters”. Lead users have needs for products or services that do not

exist whereas early adopters buy existing products or services among the first. (Laaksonen et al., 2004)

There are different methods to recognize the shadow options and to generate business concept innovations. The innovation process applied in this research has been used in Lappeenranta University of Technology earlier to create new business concepts (Laaksonen et al., 2001a; Suikki, 2001). The aim in the previous innovation sessions has been to form wireless application opportunities or business concept ideas for forest industry. (Laaksonen et al., 2001b; Laaksonen et al., 2001a)

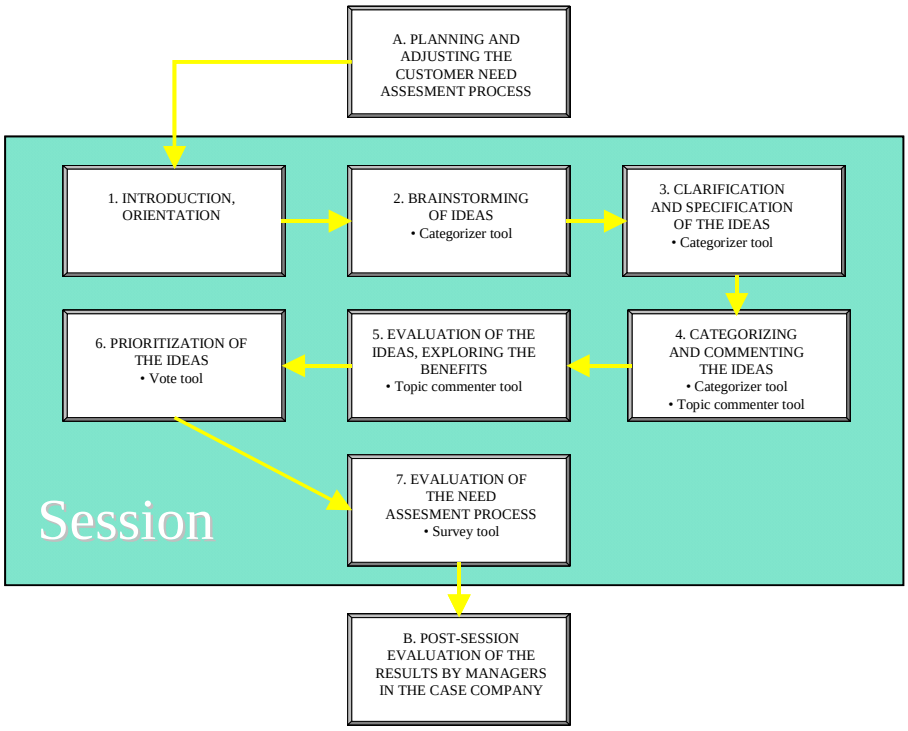

Figure 7. Group Decision Support System (GDSS) process to innovate Wireless E-business applications. (Laaksonen et al., 2001a)

3. BUSINESS MODEL AND STRATEGY

Magretta (2002) describes business model as a story that explain how enterprise works. To categorize these different “stories” Äijö and Saarinen (Äijö and Saarinen, 2001) have created a conceptual definition of business model. The definition has two dimensions: perspective of activity and focus of activity (see Figure 8).

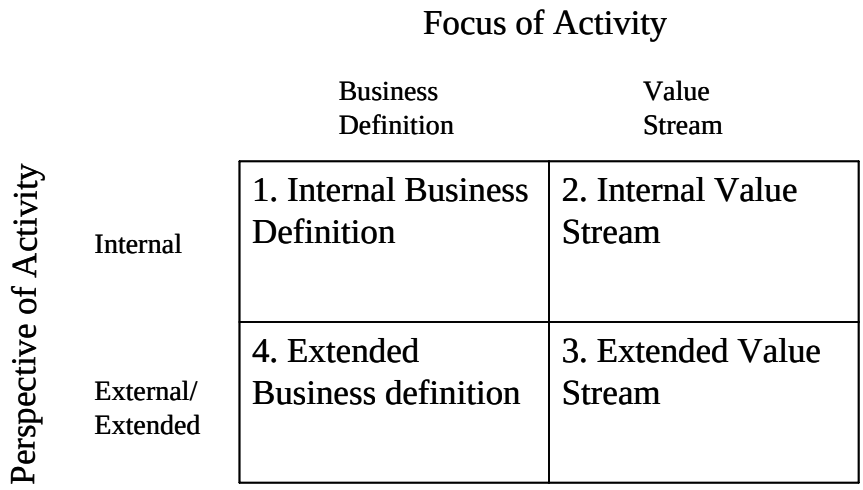

Figure 8. Conceptual definition of business model. (Äijö and Saarinen, 2001)

Hamel’s business model combines the internal business definition and extended value stream. In this chapter the focus is mainly in the internal business definition following the themes of Hamel’s business model. Some linkages to the external analysis are drawn to ground Chapter 4, where the extended value stream is described by using the theory of value web.

3.1. Internal business definition

Following Hamel (2000), the internal business definition contains the core strategy and strategic resources of the firm. The aim in this chapter is to form a picture of components of business level strategy, which supports the innovative organization.

Tradeoffs limit the offerings of the firms (Porter, 1985) and this is why they are good starting points for innovation. According Fjeldstad & Haanæs (2001), manufacturing firms make tradeoffs mostly between cost and differentiation. The authors present new strategy tradeoffs that complement the traditional tradeoff between differentiation and cost i.e. the activity tradeoff (see Chapter 2.2). Networks make tradeoffs between size of the community served and the range of exchange services that can be offered to that community. Knowledge firms make tradeoffs between the depths of specification in particular areas and the breadth of problems they can take on. Membership is the source of tradeoffs in networks. The conflict is not in the scale of operations, but in the scale of the network versus the range of services that can be provided. (Fjeldstad and Haanæs, 2001)

3.1.1. Core strategy

Business mission of the firm is the foundation of the strategic actions of the firm. Strategy is the tool to guide these actions to the right direction and to keep the business mission up to date.

In Miles and Snow typology it is assumed that organizations form their own environment by making several decisions concerning markets, products, technologies etc. Organizations form relatively permanent

patterns while attaching to its environment. This environment forming process includes three fields of strategic problems:

- Forming of the product/market scope,
- Choosing the production and delivering technologies and
- Choosing the organization structures and procedures. (Miles and Snow, 1978)

The strategic orientations of Miles and Snow typology are as follows:

Defender

Defender organization has narrow product/market scope and technological base. Company builds niche with limited set of products or services. It doesn't seek opportunities outside its own industry and it is highly dependent on its niche. Because of its dependence of the niche, it defends it by lower prices and better quality etc. Organization structure of defender firms is typically a carefully planned formal hierarchy with high degree of concentration. (Miles and Snow, 1978)

Prospector

Prospector organization seeks constantly new possibilities. It has wide and flexible product/market scope and technological base. Organization causes usually change and uncertainty in its environment. Low formality, low routinity, low concentration, and lateral and vertical communication are typical traits of prospector's organization. Company reacts fast in early signals of opportunities and is usually the first to step in new markets. Company doesn't necessarily succeed in every action, and it may not be very efficient, because of its concentration in new product/market innovations (business concept innovations). The performance of prospectors is based on the capability to react on the future demand

(Miles and Snow, 1978) i.e. to create radical business concept innovations (see Chapter 2.4).

Analyzer

Analyzer organization has traits from both of the preceding types. This kind of company has stabile and restricted product/ market domain and it tries constantly but carefully to move to new markets, which functionality have been proved by prospectors. Analyzers copy the viable ideas of prospectors and form them as business models of their own. They seek concurrently both flexibility and stability. This is why they adopt such organization structures that support both stable and changing industries. (Miles and Snow, 1978)

Reactor

The reactor company does not have long-term goals or defined strategies and because of this it has also no logical behavioral pattern. The company neither tries to uphold any defined product/market domain nor exploit the opportunities of its environment. (Miles and Snow, 1978)

3.1.2. Strategic resources

As stated earlier the value web is an extension to the Porter's value chain. According to Fjeldstad and Haanæs (2001) there are two types of value creation that are more prevalent in new economy firms, than Porter's value chain. The new types are: value based on networks and value based on knowledge. (Fjeldstad and Haanæs, 2001)

Eisenhardt and Sull (2001) argue that in e-business, strategy should be just simple rules. Traditional strategy thinking assumes that advantage comes from exploiting resources or stable market positions. In new, fast changing markets strategy must be simple and as flexible as the environment in order to exploit the emerging opportunities. Confusion and

change is the greatest source of competitive advantage in turbulent markets. (Eisenhardt and Sull, 2001). Already prospector-strategy of Miles and Snow (1978) typology presents this kind of opportunity seeking approach.

3.1.2.1. Core processes

In simple rules approach, strategy consists of the key strategic processes and a few simple rules created to guide them. The simple rules are grouped into five categories: how to rules, boundary rules, priority rules, timing rules and exit rules. The strategic processes should be chosen so that the firm faces plenty of new opportunities. Firms following simple rules strategy should seek confusion and opportunities and move constantly to new markets while still strong. (Eisenhardt and Sull, 2001)

The choosing of key processes in simple rules approach leads to the fact that some of the processes must be sourced. It has been seen that also information intensive processes, like accounting etc., can be carried out by external specialists without loss of control (Venkatraman and Henderson, 1998).

There is a move from vertical integration towards relying on external component markets. Trend in e-business is also to create intellectual and intangible assets and source tangible, physical assets from a value web. (Lorange et al., 2003; Venkatraman and Henderson, 1998)

3.1.2.2. Dynamic capabilities

The Dynamic capability view is originated from the core competence thinking by Prahalad & Hamel (1994). Dynamic capability according to Teece et al. (Teece et al., 1997) is ability to sense and grab new

opportunities and to reform company assets, competencies, and technologies to achieve sustainable competitive advantage. Dynamic capability approach is suitable view in situations where the environment is changing rapidly. In this view the firm can be seen as a generator of dynamic capabilities (Teece et al., 1997).

According to Blomqvist (2002), knowledge is the key to create competitive advantage. Resources can be bought from the market and that is why they can't secure the distinctive competitive advantage to a firm. Every firm has different knowledge, which has developed during the firm's history. This different and unique knowledge generates different possibilities to every firm to innovate and to compete. Firms have also different abilities to renew and adopt the dynamic capabilities. Dynamic capabilities differentiate the firms from each other and make the core capabilities of a firm work. They also are in significant role in the knowledge creation of a firm. (Blomqvist, 2002) Knowledge capital consists of codified knowledge assets and tacit knowledge. Codified knowledge is for example patents, IPRs (Intellectual Property Rights), documents trademarks etc. Tacit knowledge is for example know-how customer and partner networks, information, intuition and experiences. (Ståhle and Laento, 2000)

In network economy the sharing of knowledge is essential to success as mentioned earlier (see 2.1 innovation paradigm). This requires trusting to partners in the value web (Blomqvist, 2002; Ståhle and Laento, 2000).

3.2. Wealth potential of business model

The aim of business models is to create wealth. Hamel (2000) has defined four areas of wealth potential of a business model. First area is the efficiency of a business model in delivering customer benefits. The business model must deliver value to customers, but also to the company. Negative margins will not last long. Second area is the uniqueness of the

business model. Unique business model gives a possibility to profits above average, because there is no direct competition. Third area business model needs to be fit. Business model has to be internally consistent. Elements of the model must support each other and the goal of elements must be same. Fourth area is profit boosters. Profit boosters can be grouped into four groups: increasing returns, competitor lockout, strategic economies and strategic flexibility. All groups have three elements. (Hamel, 2000) The profit boosters and the elements are summarized in Table 2.

Profit boosters	Increasing Returns	Competitor Lockout	Strategic Flexibility	Strategic Economies
Elements of profit boosters	Network Effects	Preemption	Portfolio Breath	Scale
	Positive Feedback Effects	Choke Points	Operating Agility	Focus
	Learning Effects	Customer Lock-in	Lower Breakeven	Scope

Table 2. Profit boosters. (Hamel, 2000)

The goal of business concept innovation is to search for temporary monopolies. The increasing returns and competitor lockout aim to a monopolistic situation (Hamel, 2000). The other two areas, strategic flexibility and strategic economy refer to the market position of the business.

4. VALUE WEB

In the term business model there is a conceptual distinction compared to the term business concept. Business concept defines the product market scope i.e. what products it is going to sell and to what kind of customers (Äijö and Saarinen, 2001). A business model contains also the organization aspect and the cooperation between firms (Hamel, 2000; Äijö and Saarinen, 2001). While the previous chapter dealt mostly with business level strategy, this chapter deals with corporate strategy issues (See: Äijö and Saarinen, 2001 p. 23) and the cooperation part of them. A tool to analyze the cooperation in dynamic E-commerce markets is value web theory (Cartwright and Oliver, 2000). Value web brings new perspectives to strategy, risk, technological uncertainty and innovation. (Hagel III, 1996)

Value web could be compared to a firm that has a number of different strategic processes. Only that in value web there are several companies to take care of certain processes based on their dynamic capabilities. As well as there can be several firms in the same industry, there can also be several value webs and they can compete with each other like firms (Hagel III, 1996). Bovet and Martha (2000) have analyzed the differences between supply chain and value net. These differences are presented in Figure 9.

Supply chain		Value Web
One size fits all	→	Customer aligned
Arms length and linear	→	Collaborative and non-linear
Manual	→	Digital
Slow	→	Fast
Rigid	→	Agile
Domestic	→	Global

Figure 9. Supply chain vs. value net, (Bovet and Martha, 2000)

Bovet and Martha (2000) state that value web companies share six characteristics. Firstly value web is customer-aligned. Customer choice is the key force that activates the forming of the value web. Secondly they are collaborative. Companies engage suppliers and customers in networks of value-creating relationships. Each activity is assigned to the partner best able to perform it. Thirdly value web firms are agile and scalable. Responsiveness to change is assured through flexible production, distribution, and information flows. The fourth characteristic is fast flow. Order-to-delivery cycles are compressed and inventories are small. Value webs are also digital. Information systems form the neural backbone of the net, connecting customers, suppliers, and value-adding activities. Finally Value web is global. (Bovet and Martha, 2000)

4.1. Cooperation and group dynamics in the web

Value web is not an alliance. Participants in value web have no formal relationships and every company is independent. (Hagel III, 1996) According to Fjeldstad and Haanæs (2001) Value creation of value webs

lies in their mediation. In other words, the value web creates value by helping its customers exchange things, money and information. Value is created only to the members of the web (Hagel III, 1996). The challenge for any value web is to build a “club” of members which is sufficiently large and in which the members complement each other. One new member of the web increases the value of the network for all members. (Fjeldstad and Haanæs, 2001) Webs also reduce investment requirements of a single firm and allow it to concentrate investments on a certain area. Also entry barriers are lower in value web. (Hagel III, 1996)

Networks fail when they do not achieve scale in terms of customers or nodes. Network must develop and spread a feasible range of services to their customers. In the early stages of a specific network industry all firms have strong incentives to grow fast. This is because network services are usually “experience goods” that need to be tried in order to judge their quality and value creation depends on network effects. Nobody wants to join a club without members. (Fjeldstad and Haanæs, 2001)

Positioning a firm in a network and orchestrate its position in it is the challenge of the strategic leadership (Venkatraman and Henderson, 1998). According to Hagel III, (1996) there are two different strategic approaches to value web for a company: adoption and shaping. The differences of these approaches are described in the Figure 10.

	Web formation	Web mobilization	Web evolution
	Get into the flow →	Build momentum →	Encourage lock-in
Shaper	Pick the right technology as platform Enter market quickly Accelerate adoption	Manage perceptions actively Create economic incentives for others Evangelize opportunity	Enhance platform technology frequently Promote standardization Link and leverage
Adapter	Identify winning web early Focus on near-term profit opportunities Establish dense information links with other web participants	Compete aggressively for we share Link up with web shaper's strategy	Exploit customer lock-in Undermine supplier/shaper lock-in or diversify into new webs

Figure 10. Winning strategies for major web players. (Hagel III, 1996)

There are four success factors for shapers:

- Ownership of a key technology, that provides basis for long term customer lock-in,
- Unbundling of the business, to share profits with other web members,
- Reliance on economic incentives, not on alliances or contracts
- And active management of increasing returns dynamics to accelerate the growth of the web and to improve customer and participant lock-in. (Hagel III, 1996)

The more participants shaper can get to join the web the faster is the adoption of core technologies and the bigger are returns of every company of the web. This also makes it harder to competing shapers to form new and better webs and to participants to switch to another web. (Hagel III, 1996)

For adapters there are three success factors:

- Early participation in winning value webs,
- Aggressive competition for share within the value web and

- Linking and leveraging (or diversifying) position. (Hagel III, 1996)

4.2. Customers

Customer interaction in industrial age happened through a distribution channel, which had many stages. Interaction was indirect and information flow was from firm to customer. The qualities of value web however allow direct two-way interaction with customer. (Venkatraman and Henderson, 1998)

According to Allee (2000), there are three layers of value exchange. In network economy, knowledge and intangible assets are in important roles, among the traditional “goods, services and revenue” approach. The layers of value are:

- Goods services and revenue,
- Knowledge and
- Intangible benefits. (Allee, 2000)

Allee (2000) uses interactive online discussion group as an example of value exchange between a firm and a customer. To the customer, value consists of services, which are moderated discussions and responses to questions. From these services firm gets revenue in form of subscription fee. Knowledge to customer is personally targeted news. To the firm knowledge comes in form of feedback and customer usage data. Intangible benefit to the customer is a sense of community and to the firm customer loyalty. (Allee, 2000) In customer interaction the deepest stage is electronic customer communities (Venkatraman and Henderson, 1998). Figure 11 clarifies the value exchange of customer and service provider.

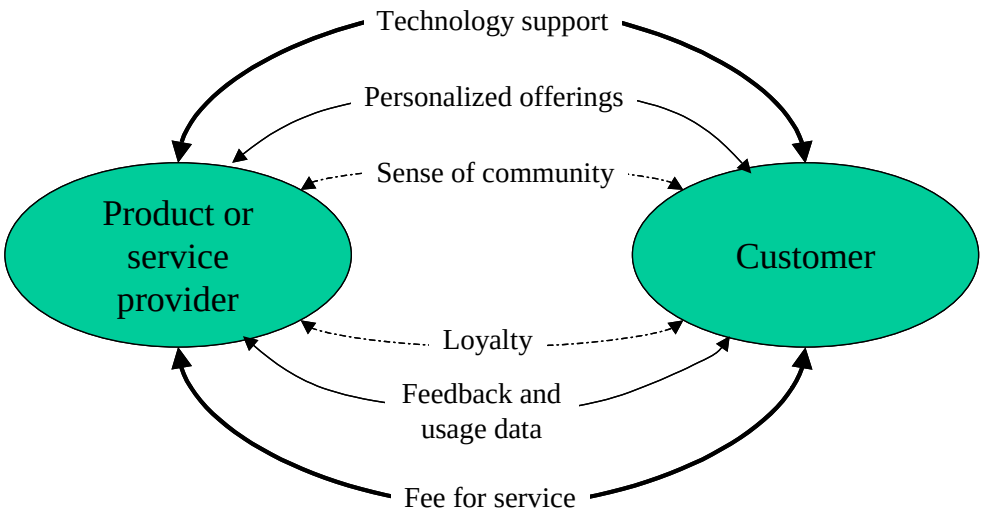

Figure 11. Value exchange between product or service provider and customer. (Allee, 2000)

4.3. Roles

In value web there are several participants, which all have their own roles in the web based on their core competencies (Cartwright and Oliver, 2000; Hagel III, 1996; Müller-Veerse et al., 2001; Tapscott et al., 2000).

According to Müller-Veerse et al. (2001) there are different players in each of the market areas of mobile data value web. The market areas are:

- Services, that include mobile network operators, service operators and portals,
- Technology, that includes network equipment vendors, enabling technology companies, and handset manufacturers,
- Applications, which include application providers, content providers and application developers. (Müller-Veerse et al., 2001)

The service related roles (players) are described in following.

Mobile network operators

The mobile network operator's core competence is to build and manage mobile networks. Network operators provide mobile voice and mobile Internet access services to consumers. Vodafone Group (Vodafone, 2004) and TeliaSonera (TeliaSonera, 2004) are examples of leading European network operators. There has been a trend in Europe for operators to open up their networks also to service operators. (Müller-Veerse et al., 2001)

Service operators

Service operators (virtual operators) buy capacity form network operator and offer services to customers using that network. Network capacity and operation services are usually bought at wholesale rates and sold under the brand name of the service operator. Common types of service operators are mobile service providers such as Debitel (Debitel, 2004) or Mobilcom (Mobilcom, 2004) and in Finland for example Saunalahti (Saunalahti, 2004) and DNA (DNA, 2004). They are intermediaries, which provide end customers with mobile access services. These entities typically maintain the contract and billing relationships with customers. (Müller-Veerse et al., 2001)

Mobile portals

Portals provide end consumers with relevant and personalized content, commerce and community functions in one single place. Mobile portals are for example Zed (Zed, 2004) and AOL MyMobile (AOL, 2004). It is predicted that successful mobile portals will be based on existing brands. (Müller-Veerse et al., 2001)

Enabling technology providers

Providers of enabling technologies deliver the basic operating environments, which the application platforms and applications are based

on. Enabling technologies are the key element for all market functions, providing for example:

- Operating environments to device manufacturers and application developers,
- Charging and billing platforms to mobile network operators and service operators,
- Multi-access interfaces and personalization platforms to portals and
- Hosting infrastructure to applications and content providers. (Müller-Veerse et al., 2001)

Mobile device manufacturers

This segment is composed of manufacturers that market mobile-enabled devices, ranging from smart phones (e.g. Nokia (Nokia, 2004b), SonyEricsson (SonyEricsson, 2004), Siemens (Siemens, 2004b), etc.) to PDAs (Personal Digital Assistant) (e.g. Compaq (Compaq, 2004), Palm (Palm, 2004) etc.). They offer the terminal devices that allow the end-users to use mobile applications. Challenges in this market place include:

- New functionalities: Besides voice, devices will need to integrate new functionalities such as GPS (to increase the accuracy of location sensing systems), music and video.
- Sales channels: Mobile network operators and service operators are the primary sales channels in Europe - usually they are offered as a part of the service bundle. (Müller-Veerse et al., 2001)

Application developers

Application developers provide platform middleware or purely provide applications. The first category includes developers of commerce, payment, media, location and presentation platforms – these include, for example, Argo Group (Argo Group, 2004). The second category includes companies such as MrGoodliving (Mr.Goodliving, 2004) and Sumea (Sumea, 2004), which both are game application developers from Finland. (Müller-Veerse et al., 2001)

Application providers

Popular model in distributing applications to customers is wireless application service provider. They provide remote hosting, services, maintenance and upgrades of wireless applications. There is a trend especially in North America to provide services on any network on any device directly through portals. Example company is for example Aspective (Aspective, 2004). There are also an increasing number of wireless application service providers that deliver applications to mobile network operators and service operators. It is much easier for operators to integrate applications into their business processes if these applications have been developed from the very beginning with the operator in mind. (Müller-Veerse et al., 2001)

Content providers

Several distinctive types of companies represent content providers. The first type is pure content aggregator, such as YelolowBrix (YellowBrix, 2004). It packages and structures content from different sources for delivery over mobile networks. Another type of company develops original content for various distribution channels. Companies such as Bandai (Bandai, 2004), which is a mobile entertainment provider, have the capability to offer their content either directly or through a content aggregator. Such companies may choose to deliver their content to application providers and portals, or directly to mobile network operators and service operators.

5. MOBILE GAMING

In Japan the downloadable wireless entertainment is become extremely popular. It has changed the way people wait for transportation or just kill time. This development has begun also in western world. (Thuresson, 2003) There have also been new demographic trends that have caused this growth. The age distribution of the game consumer has widened. The growth of teen population and female player market has affected the game industry growth. (Fattah and Paul, 2002; Zamaria, 2003) The growth rate of video game market is estimated to be 19% over the period 2003-2005 and by the end of the year 2004 the interactive software sales is estimated to be half of the movie rentals and sales. The estimate of multiplayer online game players by the year 2006 is 19 million worldwide. (Zamaria, 2003)

5.1. The game business

There are two major methods to make games. The first is that the developer approaches the publisher with an idea. The second one is that publisher owns the brand and developer makes the game. Typically the development of console or PC games varies between 18-24 months. (Zamaria, 2003) Games developers, for example, generate mobile game applications, which are published in-house or by a larger entity. (James, 2001) Mulligan claims that 90% of the work will be done after initial development is finished and the game is deployed, because managing a multiplayer game correctly after the launch is the key to customer satisfaction and continued growth. Players expect added value for added costs, and that means proper game management (Mulligan, 1998)

According to Frost & Sullivan's report (Frost & Sullivan, 2003), there are three possible scenarios in the distribution channel of mobile games:

In the first scenario, the mobile network operators or service operators dominate the channel, and take an increased share of revenue, at the expense of all other participants in the value network. Publishers, however, maintain their share. In the second scenario, portals dominate the channel, and therefore, portals, and device manufacturers gain the most, and operators gain less profit. Publishers also gain less profit to some degree. In the third scenario in which other channels i.e. interactive TV, retail and published media dominate, those and publishers gain the most while the device manufacturers and operators lose the most. In all the scenarios publishers have a strong position. (Frost & Sullivan, 2003)

A basic mechanism of the value web is that the subscriber orders a game through the operator portal. The operator then charges for the game, and sends it to the device. The revenue is then shared between a publisher and the operator. The operator may not have a game infrastructure of its own, and so it has to rely on a service provider or aggregator, which then supplies the game and also takes a cut of the revenues. (Müller-Veerse et al., 2001)

Device manufacturers are also involved in the value web. They act as publishers and aggregators, ensuring that there are plenty of games for their devices. They work with developers to make content for their devices as well. Device manufacturers can be also independent portals, such as Nokia's Club Nokia (Nokia, 2004a) or Siemen's, my-siemens (Siemens, 2004a) web-sites. (Müller-Veerse et al., 2001)

Operators provide product visibility, as well by marketing gaming services to existing and potential subscribers. Playing generates significant revenue for both the network operator and gaming company (depending

on the revenue split) despite low prices per transaction. The network operator can also implement reverse charging for game screens requested by the user. (James, 2001) NTT DoCoMo, for example, has created its game market by subsidizing the new devices and sharing the revenues with game developers. In this model the developer gets 91% of the revenue and the operator 9%. In for example US, the operators get about 20% of the revenues. (Thuresson, 2003)

5.2. Game culture

The convergence of entertainment, Internet and telecommunication industries has taken steps towards creating completely new ways to spend time (Kennerdale, 2001). Digital games are revolutionizing entertainment. The games are interactive in nature and this allows players to experience virtual worlds far more exciting than everyday life. James (2001) has defined the elements of effective games, which are concept, challenge, usability and presentation. (James, 2001)

Online game communities and chats are new ways to interact with people. Nationality, gender, age, and looks do not matter in the Internet; anonymity is the key factor. Switching gender or hiding it is common in the Internet communities. Characters are shields to protect the real identity and they are often formed to accomplish some goals, for example to get treated better or to explore relationships. (Ahuna, 2001)

Character of a game is critical to the success of the game story. Players easily identify with characters and this is important in narrative evolution of the game. People want to know what happens to the character. (Sakey, 2003)

It is common that players form alliances or “clans”, in which the players have same goals for the game. These alliances create sometimes so tight

social bonds that they exist also outside the game and the anonymity is broken. Online gaming also teaches solving problems, sharing knowledge, team working, cooperating, planning and forming relationships. (Ahuna, 2001)

Young adults use different kinds of media about six and a half hours per a typical day. They watch television, listen to music, read, work with computer and surf in the Internet. (Willhelm, 2002) Many companies have realized this and provide devices that have the qualities and technologies for accessing all kinds of media. For example Sony has developed the Play Station 2 to a lifestyle machine, which allows the user to watch movies, listen to music, play games (stand alone or in Internet) and surf in the Internet (Kennerdale, 2001).

5.3. Platforms

Platforms refer to technology engines integrated into devices, which can run applications written in a particular format. Different platforms generally involve different models. Platform providers need to attract the device vendors, and thus increase the amount of devices with this platform installed. This in turn attracts operators to favor this platform. Platforms are for example: Java, Symbian, Microsoft's PocketPC, Palm's Palm OS, Linux and i-mode. (Frost & Sullivan, 2003)

Java 2 Micro Edition (J2ME) has emerged as alternative download platform with broad device, developer and operator support. One of the main reasons for its popularity is that it is an open standard with no company controlling its development, taking a slice from each transaction or dictating game development. (Frost & Sullivan, 2003) The Treasure Hunters game is also implemented by using J2ME as platform (Lago and Matinlassi, 2002).

5.4. Game devices

Mobile consoles, for example Nintendo's Gameboy (Nintendo, 2004), N-Gage (Nokia, 2004b), follow a sales model where the games are not delivered through operator networks but on physical media distributed through retail channels. This model, is however, as yet unproven. Alternatives could include bluetooth portals where content can be bought from retailer and delivered to the phone through bluetooth technology. This would appear to be cheaper than distributing physical media such as multimedia cards. Another alternative is delivery to the phone by downloading to the PC through infrared. (Frost & Sullivan, 2003)

Mobile console sales model follows that of the traditional console market. Game media, such as cartridges, are distributed through retail channels. Gameboy media are sold through video gaming outlets, while N-Gage will target both phone retailers and gaming outlets. Typically the console is subsidized and profits are made on games sales with the revenues shared between the retail channels, publishers and the console owner. (Frost & Sullivan, 2003)

6. FORMING THE MOBILE E-COMMERCE BUSINESS MODEL

The forming of the mobile e-commerce business model started with an idea session to invent business concept innovations related to the Treasure Hunters game. The aim was to find ways to create wealth with mobile multiplayer game. The scope of ideas covered all the companies in the e-commerce business model. Because it is essential that the knowledge level of innovators is appropriate and fits to the situation, the group was build up from researchers having a good experience in wireless E-business, business models, business concept innovations and computer gaming.

6.1. Idea generation session

As argued in Chapter 2.5 the GDSS process developed by Laaksonen et al. (Laaksonen et al., 2001a) is appropriate when forming application ideas. In this case the application idea was given, and the target of the process was, not to form application ideas but to innovate how to make money with one. Idea generation session was arranged on October the 17th 2003 at Lappeenranta University of Technology in cooperation with TeliaSonera and Telecom Business Research Center (TBRC). Instead of applying the process in GDSS laboratory, the session was carried out in normal meeting room facility and the process was made simpler. The simplified process is described in the Figure 2. The main differences in these processes are that in the simplified innovation process the prioritization was done after the session and that the session is similar to normal brainstorming session where there is no computer assistance.

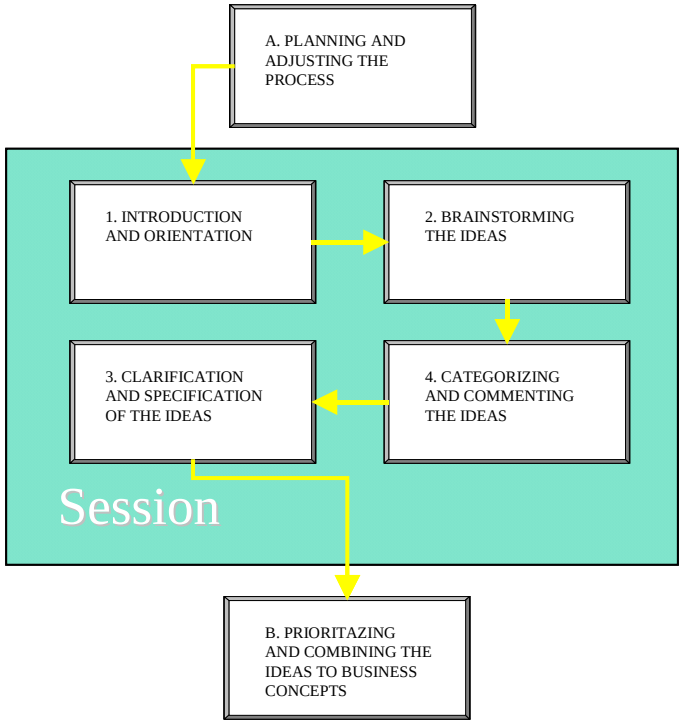

Figure 12. Simplified group decision process. (Modified from: Laaksonen et al., 2001a)

First the participants introduced themselves and told about their background to clarify their competencies. Then the WISE- project and the game pilot were introduced. The objects of the session were also discussed at the beginning. The aim was to create ten ideas per participant and time was limited to about a half an hour.

The ideas were presented one by one in turns. The aim of presentation was to clarify and categorize the ideas to innovations. The session lasted about two hours altogether.

The formed innovations were grouped as follows: game/producing, sales, distribution and marketing, telecommunications, billing/paying, game characteristics/ customizing, and support and side services.

6.2. The business concept development process

Business concepts were developed from the innovations by using interviews (see appendixes 1-2 for frameworks of the interviews) and evaluation questionnaire (see Appendix 4) as supporting material. The purpose for interviews was to confirm some assumptions and choices that were made in the innovation session and in the forming process of the concepts. Questionnaire was used for evaluating different qualities of the concepts. The idea of the business concepts is to make a clear picture of the essential issues related to a certain business. Business concepts are formed so that they can be adopted by any firm in the value web that has the core competencies needed could implement them.

6.2.1. Interviews as supporting material

The idea of the interviews was to get players' and game specialists' opinions to certain issues concerning the game and the game industry. Five persons were interviewed altogether (see Appendix 3). All interviewees have experience of playing computer games and three of them have experience on producing games.

6.2.2. Forming of business concepts

The process started with transforming innovations to business concept proposals, where similar ideas were combined to products or services of a business concept. Short descriptions of proposals were made before deeper analyze. In this forming process two business concept proposals that were not based on the innovations were formed. These were game engine development and distribution. This was done because of the project's objectives and to clarify the distribution channel in the following phase of the research.

Business concept proposals were formed to business concepts by analyzing them with Hamel's framework. At this point some real-life examples of the proposals were gathered and some interviews were made to get a clear picture of the game industry. Before analyzing the value web section, a survey was used to define the actors in the value web. The aim was to define the allocation of concepts to the actors in the value web. Third phase was the wealth potential of the business concept. Only the uniqueness and profit boosters were analyzed. Efficiency and fit turned out to be impossible to evaluate, because the concepts were not yet put into practice. Formed concepts were evaluated with a survey.

6.2.3. Evaluation of the business concepts

The evaluation form was based on a questionnaire (see Appendix 4) that had been made in TBRC for similar purposes in another project. The goal for the evaluation was to get some guiding answers to the economical possibilities of the formed concepts. Questionnaire was sent to representatives of firms in WISE consortium, participants of the innovation session and to a few researchers in TBRC. There are five themes in the business concept evaluation questionnaire: market, customers, strategic resources, investments and fit to the company strategy of the answerer. Means of the given answers were counted and gathered into diagrams (see figures 13. and 14.).

6.3. Shaping the value web

The idea of analyzing the value web is to clarify the roles of the actors in the mobile gaming industry. The aim was to get a clear answer to the question: how are the concepts divided between actors i.e. what kinds of business models would form from the concepts?

The shaping process of value web started with a questionnaire (see Appendix 5.), which was sent simultaneously with the concept evaluation survey to the same group of answerers.

In the questionnaire the formed concepts and defined roles in Chapter 4.3 were placed into a matrix. Answerers were instructed to evaluate how concepts would fit different actors. Scale was from one to three. Since some answerers had misunderstood the instructions by using only the value three and totally ignored some combinations, certain exceptions in analyzing the answers had to be made. For these reasons all combinations marked with value three, were comparable and taken into account and frequencies were gathered into a table (see Table 7.).

6.4. Results

6.4.1. Business concept innovations

Altogether, fifty ideas were generated. This results 100% of the targeted ten ideas per participant. Two of the ideas were found during the presentation phase. Another of these new ideas was taken straight as a business concept innovation. 32 business concept innovations were developed from the ideas. Next table shows how the single ideas were divided into the groups and how they were grouped into business concept innovations. The business concept innovations are shown in Table 3.

Groups	**Ideas for innovations**	**Business concept innovations**	
		Amount	**Innovations**
1. Game/producing	8	4	Visual planning. Producing the game. Manufacturing the game device. Hosting the game server.
2. Sales, distribution and marketing	9	3	Rewarding of certain achievements in the game. Selling and marketing the game. Launching the game with TV.

3. Telecommunications	2	2	Providing the connection. Selling the network time.
4. Billing/paying	4	2	Providing different billing possibilities for the game. Connection to a national bonus program (eg. Plussa).
5. Game characteristics/ customizing	12	11	Selling features to game figures (eg. more intelligence). Game figure saving (several game figures in "figure bank"). Selling tips (for finding the treasure or disturbing competitors). Selling competitor information. Wider view by paying more. Selling weapons and tools to game figures. Bonus fields and sequels. Computer version (used still by phone). Trading weapons, tools or skills with other players (commission). Selling game figures. Game figure customization service.
6. Support and side services	15	10	Counseling Treasure Hunters world championship competition. Betting between the game figures. Supplementary material (e.g. plastic game figures or collecting cards). Advertisements integrated in the game (e.g. brands and links). Game statistics ("hall of fame"). Forums (web site, chat and magazine). Gaming evenings. Game in TV. Offers through game (e.g. advertisements to phone).
Total	**50**	**32**	

Table 3. Ideas and business concept innovations divided in groups.

According to Hamel, radical innovations at industry level are those that form new industry structures. Mirroring these innovations towards this statement, they all look radical as a group. This is because the industry is just forming and there are just a few, if any, examples of functioning value webs in mobile multiplayer game industry. On the other hand, looking them individually at the product or process level most of them appear to be incremental innovations i.e. just improvements to existing offerings. Some of the offerings, in fact, exist already.

When the game itself is considered as an innovation, it could be either incremental or radical. Incremental, because computer games are already existing products and the multiplayer quality is implemented already via the Internet. Mobility would then be only an improvement to the existing product. It could be radical because it has every possibility to change entertainment industry structures. There have already been signs that gaming industry can challenge the movie industry in the terms of customers and money. If the game becomes extremely popular and

attracts the marketers, such scenario where, for example, the “Treasure Hunters” game achieves the popularity of resent success movie “Lord of the Rings” would turn out to be true. This would definitely change the structures of entertainment market. This possibility is the idea behind most of the innovations. For example ideas betting between the game figures (26) and game in TV (32) are examples of concepts that require large market and volumes to succeed, because they require rather massive investments.

The level of innovativeness can also depend on the industry they are created for. An innovation can be radical in one industry and incremental in another. For example some of the innovations are radical in the gaming environment, although they can be found from other industries Supplementary material sales (27), for example, is familiar from movie industry.

6.4.2. Business concepts

6.4.2.1. Interviews

The interviewees represented different age groups but they were all male. This limits the generalization of the results. The lack of female gamers and specialists is, however, a reality in gaming industry, though the situation is slowly changing. Also the smallness of the sample limits the generalization of the results.

Interviews gave the needed support to the open questions of the game qualities, player behavior and game industry. First of all the storyline of the game was important especially in the persistent games. Also the possibility to save the game and continue it later on was important. Multiplayer feature in a game seemed to be an important issue.

Multiplayer quality makes the game more challenging, encourages to competition, cooperation and team forming and increases the life cycle of the game. Addicting elements of the game were variety, heat of the game, sense of control, feeling of being inside the game, challenge, easiness to adopt, progress and opportunity to improve the performance. The importance of the real-time quality of the game depends on the game. It concerns also multimedia qualities of the game. Huttunen (2003) points out that there are numbers of multiplayer role playing games in the Internet based on text and turns, which are fairly popular within a certain group of players.

The optimal pricing structure of the game depends on the point of view of the answerer. For the player fixed fee, for example per month, is the best. From game producers point of view, fee that is based on the usage of the game is better. According to Lindqvist (2004), game device manufacturer is currently collecting the profits. In the future game developers will probably make the biggest profits (Järvenpää, 2004; Lindqvist, 2004).

Interviewees felt that commercials and game related rewards (e.g. free game time or essentials for the character) are positive as such. Real life rewards (for example when someone wins a certain contest in the game, he or she wins a real car) divided opinions. As Mäkelä (2004) pointed out, real life rewards increase aggressiveness of the players, which decreases the enjoyment of the game.

At the moment there is no superior mobile platform for games, but as Laaksonen (2004) argues in the past many game consoles have increased their sales with extremely popular game (e.g. Super Mario Bross and Nintendo, Final Fantasy and Sony Playstation) that has been available only for the particular console. According to Järvenpää (2004) there is intention to create games for only one platform.

At the moment game houses are mostly small and operators take care of distribution, customer support and billing. The game developer or provider hosts server. According to Järvenpää (2004) the publisher can have a portal that is connected to multiple operators' billing infrastructures and the games are distributed through them. Lindqvist (2004) on the other hand argues that there can be two models in the distribution of games. First is operator-based model where the games are cheaper and they can be downloaded over air. The other model is device manufacturer based model, where the games can be bought from the same place than the devices. In the second model there is no place for operator except as game data transferor. (Lindqvist, 2004)

6.4.2.2. Formed business concepts

Fourteen business concept proposals were developed from the innovations (see tables 4-6 for descriptions of the proposals). These proposals were analyzed with Hamel's framework to form business concepts (see appendixes 6-19 for the final business concepts). In this phase only the customer interface part of the value web was analyzed. The proper analyze of the value web will be introduced in Chapter 6.3. Business concept proposals and consequently also business concepts were categorized into three groups based on their importance in delivering the service to end user and the possibility to be actors independently in the value web.

First group, necessary concepts are most likely to be independent business models i.e. actors in the value web. These concepts are also essential for the service to succeed. With customer these actors can also form a basic value web for mobile multiplayer game if they adopt the rest of the concepts. (The results of the value web survey support also this. See Chapter 6.3.). This is because they all can be web shapers.

Application development concept owns originally the rights to the game. Service operator concept owns the customers and device manufacturer the rights to the device technology.

Necessary concepts	
1. Game development	Product of this concept is mobile multiplayer game (Treasure Hunters). Markets of the game are global, but to reach the end customer markets, a global distribution channel is needed. This concept is most likely an independent model. Same kind of concept can be found for example in Mr. Goodliving (Mr.Goodliving, 2004)
2. Game device manufacturer	This concept provides the terminal device needed for using the application. Same kind of concept is found for example from Motorola (Motorola, 2004) and Nokia (N-gage) (Nokia, 2004b). The product is designed especially for playing mobile games and it has a wireless data connection. It can also be used as a phone. Markets are global and game players are customers. This is most likely an independent model.
3. Service operator	The product of this concept is wireless data transfer and services that add value to customer Same kind of concept is for example Tele Finland. This operator does not own the rights to the wireless network, but it buys the network capacity and operation services from Mobile network operator. This is most likely an independent model.

Table 4. Necessary concepts.

In the second group, complementary concepts, there are concepts that are in important role, but are not necessarily independent business models. The distribution concept was build that the distribution channel of the game can be analyzed. It is the only concept in this group, which does not meet the requirements of independent business model. The other concepts have a possibility to be independent, but most likely are only parts of some business model.

Complementary concepts	
4. Game engine development	The product of this concept is the game engine. Same kind of concept is, for example, Eclipse Entertainment (Eclipse Entertainment, 2004). Same game engine can be used in several games and this saves game developer's resources. Customers are game developers globally. This concept can be an independent actor or a part of some other model.

5. Distribution	This concept provides the distribution of the game to the end customer. Actor that applies this concept must have a distribution channel to deliver the game to the end customer. This concept is part of some other model.
6. Billing services	This concept provides a billing service and software to integrate the billing of different services. Same kind of concept is for example Comptel (Comptel Corporation, 2004). Customers are B2B type. This concept can be an independent actor or a part of some other model.
7. Server	This concept introduces a game data hosting service. The game server maintains the game data and provides the support services and system operators for the game. The game players are the customers, but the money comes from the clients who are outsourced the data hosting. This can be also a part of some other business model.
8. Publishing	The service in this concept is publishing the game. Same kind of concept can be found for example in Electronic Arts (Electronic Arts, 2004). This includes marketing and selling the game to the customers (distributors). This concept also owns the copyrights of the game. This concept can be an independent actor or a part of some other model.

Table 5. Complementary concepts

The third group consists of concepts that are in supporting role in the value delivering process. They add value to the game service and are probably parts of some business models.

Supporting concepts	
9. Advertisement sales	The purpose of this concept is to sell advertisement space in the game or in the game site to the potential advertisers. Same kind of concept can be found for example in Google (Google, 2004). Advertisement space can be text links, pictures with links or virtual products. This concept can be an independent actor or a part of some other model.
10. Supplementary material sales	Products of this concept are for example plastic figures, magazines, cards etc. Same kind of concept is for example Mattel (Mattel, 2004). The purpose is to market the game to the end customers (players, fans and potential players). This concept can be an independent actor or a part of some other model.
11. Fan site	Services of this concept are fan site and forums for game players. The fan site offers background information of the game and chats where players are able to discuss with each other. Same kind of concept is for example Planet Diablo (Planet Diablo, 2004). This concept can be an independent actor or a part of some other model. Could be used also as an game development forum.

12. Gaming events	This concept describes a service where advanced players with their characters can challenge other players to game. The participant number is limited and the winner gets a price. Same kind of concept is found for example in Ladbrokes' services (Ladbrokes, 2004). The game can be shown and played in TV, but at least it can be followed in the Internet. This concept is probably part of some other model.
13. Betting	Service in this concept is an opportunity to place bets between characters. Betting is closely related to the Gaming events concept. Same kinds of models exist in the Internet for example Ladbrokes. This concept is probably in independent model.
14. Character custom shop	From the shop players can buy essentials, traits or information for his or her own character or characters developed by players or the firm. Same kind of concept can be found for example in Habbo Hotel (Habbo Hotel, 2004). They can also sell their characters through the shop. Products in this concept are whole characters, character features (e.g. intelligence), weapons and tools for features, tips for finding the treasure or disturbing the competitors, competitor information, wider view and essential or character trading service. This concept is probably part of some other model.

Table 6. Supporting concepts.

6.4.2.3. Evaluation questionnaire

Questionnaire was sent to eleven persons and seven answers were returned. This means an answer rate of 64%, which is fairly good. The sample is small and the results are therefore only indicative. Many of the answerers represented a university or research organization and the question of strategic fit was therefore inappropriate for them. Themes of strategic resources and investments turned out to be difficult, since only in two answers these sections were filled. Because of these reasons only the market and customer themes were taken into analysis.

Analysis of the potential of a concept would have been more profound if the strategic resources and investment views could have been included to analysis. Given the fact that the mobile multiplayer gaming markets are just forming and example data of needed investments and resources is hard to get, the analysis of the market size and growth and customer benefits and readiness meet the case.

The market size and market growth of concepts are shown in Figure 13. Concepts that have greatest growth opportunities compared to the present situation are (1) game development, (2) game device manufacturing, (5), distribution and (7) server. This survey indicates that (3) service operator concept has reached the limits of its market. Also in (9) advertisement sales and (10) supplementary material sales the market growth is estimated to be small and it is less than half of the market size.

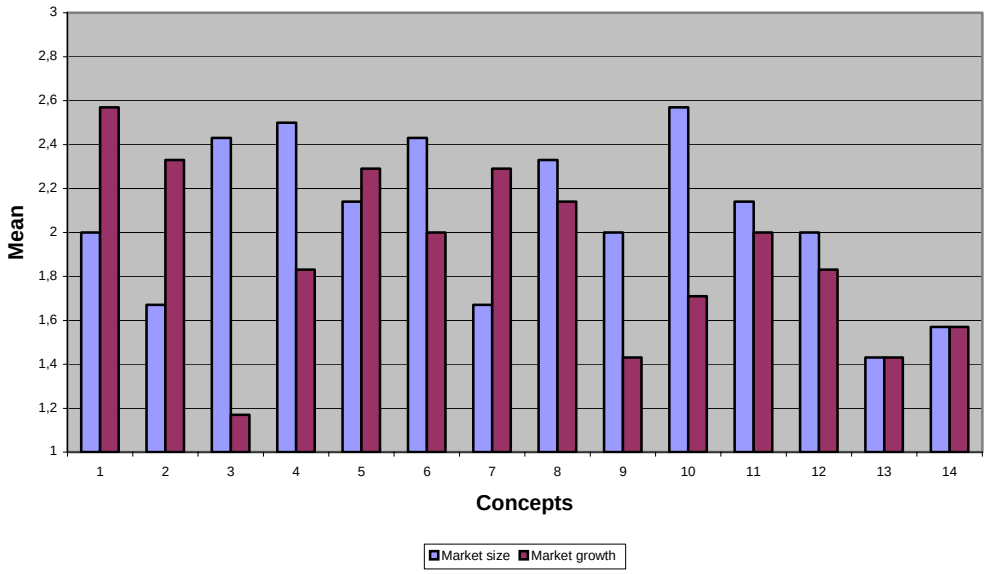

Figure 13. Market analysis.

Customer benefits compared to present offering are generally estimated to be below average. This can imply that the innovativeness of the concepts is not at very high level. Also readiness to accept offering is estimated to be near average. These findings can be explained with the newness of the industry. As argued earlier, nobody wants to join a club without members and therefore it is estimated that customers are not ready to accept the offerings of the concepts.

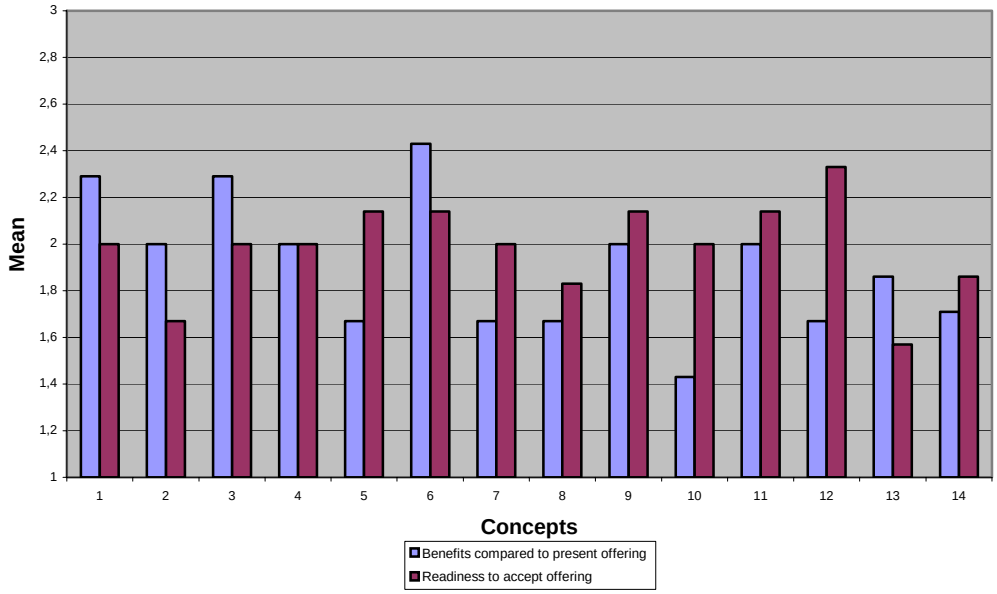

Figure 14. Customer analysis.

6.4.3. Value web

Only the best combinations, i.e. those that had been estimated to be the best fit (value 3) for a certain actor were catered. After this the answers were gathered into same table.

	Business concepts													
Actors of value web	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**11**	**12**	**13**	**14**
1. Application developer	7			6	2	1	1	2	2	1	2	1	2	2
2. Device manufacturer		6	1	2	1	1	1	1	1	2	1	2	1	1
3. Operator	1	1	6	1	4	4	4		2	1	2	2	3	1
4. Application provider					5	2	3	3	1	2	1	2	2	3
5. Content provider	2	1		1	4	1	1	3	3	3	2	4	2	2
6. Portal					4	3	4	2	4	3	5	3	3	3
7. Other, Publisher What?	1	1					1	2			1			

Table 7. Allocation of concepts to the actors of the value web.

The spread of answers was wide. The opinions of the good fit of concepts to a certain actor varied so that nearly every possibility was good according to at least one answerer. This makes it hard to define the actors and their roles exactly. Concepts game development (1), device manufacturing (2), service operator (3) and game engine development (4) were quite unambiguously estimated to belong to certain actor. Almost any actor of the value web could implement rest concepts. Two answerers suggested one new actor, Publisher, to mobile value web. This role is familiar from other entertainment industries like computer games or movie industry.

This survey indicates that the assumption of basic value web, where at least Game developer, Game device manufacturer, and Service operator are involved. There will probably be also other actors to implement some of the most viable concepts.

6.5. Summary

The innovations represent different business functions and therefore they require different kind of business knowledge from the implementing parties. These innovations are a good example of the capability of innovation to reshape strategy. The innovative shaper firm has an opportunity to choose what concepts to produce itself and what to outsource. To obtain the needed capabilities shaper firm can either buy another firm, found a start up company to take care of the concept or sell the concept to some other firm. The shaper's choice between implementing a certain concept itself or not originates the birth of value web.

As argued in Chapter 6.2.2 the application developer, device manufacturer and service operator are the potential web shapers. They form the basis of the value web (Figure 15). The results support this assumption, since the

concepts 1-3 are estimated to belong to these actors. Concept four, Game engine manufacturing is on Application developer's responsibility. About concepts from five to fourteen it is hard to tell at this point how they would be divided among the actors.

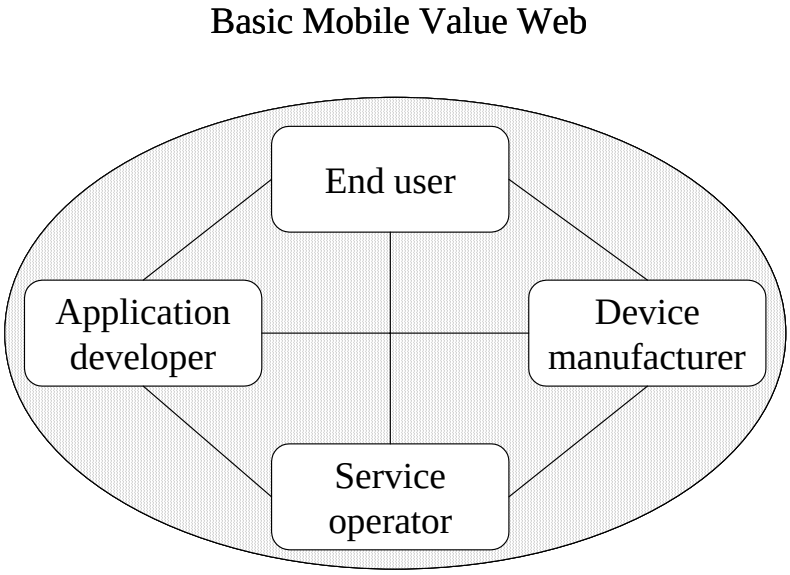

Figure 15. Basic value web for mobile multiplayer game.

The potential web shapers with the end user form the basic value web. In this web construction actors adopt the concepts from five to fourteen. It is also possible, even very likely that there will also be other actors that have their own role in delivering value to the customer.

The mobile gaming industry in general is still forming itself. Technologically there are many ways to deliver mobile game services. Therefore also several companies are fighting over to be the first ones to take hold on delivering these concepts to the markets. That is why also the roles of the actors in this value web are not clear yet. At the moment it is a good time and possibility to influence the development of the industry and how it will form in the future. Another aspect to the forming of the value web can be seen on the legislative side. Since national laws differ from each other, it is also probable that the value web gets differently formed in different countries.

7. CONCLUSIONS

The research project had originally two goals. First one was to form a “generic” business model. Already in the early stage of the research this turned out to be a difficult task. Business model construct has a built-in assumption of certain amount of uniqueness and therefore a single business model can’t be “generic”. The focus of the research then was readjusted so that generality to the topic was aspired through a roadmap view, which can be understood as a sort of generic method to form business concepts first to business models and eventually to value web.

Second goal was to clarify the roles in the value web i.e. the business models of the actors. This was partly done and the basic roles could be defined. However, the implementer of most concepts remained unclear. In this research an important distinction was made between business model of a single firm and a business model of whole industry. This research indicates that there could be a generic industry level business model, at least inside the industry. The basic business model in the industry level would be closest to the generic business model construct. It, however, holds only in one industry and can’t therefore be generic.

Validity of the research could not be measured. Due to the iterative nature of the research method there is a possibility that delimitations and exceptions made in some previous research phase may have reduced further validity. Smallness of samples reduces the reliability and on this account the possibilities of generalization.

To deliver the services to end-customers several actors in the value web are needed. The mobile E-commerce business model is the basic business model of the mobile gaming industry. Forming a pattern, however, requires an existing industry and several different cases. This could be a possible approach in further research of this area.

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FRAMEWORK FOR SPECIALIST INTERVIEWS

Background information:

- Name?
- Education?
- Profession?
- Game experience?
    - How many years?
    - What kinds of games?
    - What platform?

Business sectors concerning the mobile Internet game:

- Game producing
    - How games are normally produced?
        - Phases? Process?
        - Is there difference between Mobile, PC and Console?
    - How is the game platform chosen?
    - What kinds of game producers there are?
- Billing/ paying
    - Pricing structure
        - What the game should cost?
            - Per/ min
            - Per/ transferred bytes
            - The game itself
            - Why?
    - Revenue models?
        - What is the most expensive function?
        - Where does the money come from?
    - How is billing arranged?
        - How could it be arranged?
    - Who takes care of it?
- Sales and marketing
    - Who are the customers?
        - B2B or end-users?
    - What is the market potential?
        - Europe, global?
    - How to organize marketing?
        - E.g. Game house or operator?
- Telecommunications
    - How to get the game to global distribution?
- Support and side services
    - Who is responsible for support?
    - How is the game hosting arranged?

- Game characteristics / customizing
    - Who takes care of this function?

Game qualities:

- Arcade
    - How does it differ from other games?
        - Different marketing e.g.?
    - How does the arcade game players differ from other game players?
- Multiplayer
    - What is the point of multiplayer quality in a game?
    - Do games sell without this quality?
- Addicting elements
    - Concept
        - How is the concept planned?
    - Usability
        - How the games are tested?
    - Presentation
        - Do game houses use artists or visual planning?
- How will the behavior of the players change in the future?
    - Why?
- Anything else?

Appendix II

FRAMEWORK FOR PLAYER INTERVIEWS

Background information:

- Name?
- Age?
- Marital status?
- Education?
- Profession?
- Game experience?
    - What platform? (e.g. PC, console) Why?
    - How many years (PC, console)?
    - What kinds of games (PC, console)?

Game qualities:

- Arcade
    - What means arcade?
    - How does the playing differ from other games?
- Multiplayer / online
    - What is the point of multiplayer quality in a game?
    - Why online games?
- Real time
    - What is the point of real time quality in a game?
- Mobile
    - Why mobile games?
- What would be the best platform for the game?
    - E.g. palm computer with GPRS or UMTS data connection or N-Gage?
        - Why?
    - Should the game support multiple platforms?
        - Why?
    - What kind should the game device be like?
        - Why?
- Pricing structure
    - What the game should cost?
        - Per/ min?
        - Per/ transferred bytes?
        - The game itself?
    - More expensive game and cheaper playing or the opposite?
    - Why?
- Addicting elements
    - What are the elements that make the game addictive?
        - Why?
    - How do you see that your gaming behavior will change in the future?
- Anything else?

Appendix III

PERSONAL DATA OF THE INTERVIEWEES

Huttunen Antti (Huttunen Antti, 2003)

- Antti Huttunen is 24 years old student of economics and business administration. He has 15 years experience of games mostly from PC platform. He is game player but has also experience of producing them.

Järvenpää Marko (Järvenpää, 2004)

- Marko Järvenpää is R&D engineer at TeliaSonera Finland. His responsibilities are communication services and applications.

Laaksonen Antti (Laaksonen, 2004)

- Antti Laaksonen is 15 years old upper secondary school student. He has 9 years experience of playing computer games, mostly with PC but also with Sony PlayStation.

Lindqvist Vesa (Lindqvist, 2004)

- Vesa Lindqvist is R&D engineer at TeliaSonera Finland and a post-graduate student. His responsibilities in TeliaSonera are communication services and applications.

Mäkelä Jouko (Mäkelä, 2004)

- Jouko Mäkelä is 38 years old game player. He has played with Sony PlayStation and PC.

EVALUATION OF THE BUSINESS CONCEPTS

How would you estimate the opportunities of business concepts 1-14, compared to current market situation, using scale from 1 to 3?
1=small 2=average 3=big

	Business concepts													
Variables	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**11**	**12**	**13**	**14**
Market														
Market size														
Market growth														
Customers														
Benefits compared to present offering														
Readiness to accept offering														
Strategic resources														
Competencies, skills *(1=low level)*														
Assets														
Processes														
Investments														
Entry *(1=high, 3=low)*														
Production *(1=high, 3=low)*														
Marketing/Brand *(1=high, 3=low)*														
Strategy														
How would each concept fit in your company's strategy?														

List of concepts:

1. Game development
2. Game device manufacturer
3. Service operator
4. Game engine development
5. Distribution
6. Billing services
7. Server
8. Publishing
9. Advertisement sales
10. Supplementary material sales
11. Fan site
12. Gaming events
13. Betting
14. Character custom shop

EVALUATION OF THE VALUE WEB

Estimate how would the concepts fit for different actors, using scale from 1 to 3?
1=weakly 2=average 3=well

	Business concepts													
Actors of value web	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**11**	**12**	**13**	**14**
1. Application developer														
2. Device manufacturer														
3. Operator														
4. Application provider														
5. Content provider														
6. Portal														
7. Other, What?														
What is/are the role(s) of your company? Please pick role(s) from the list above in order of importance.														

List of concepts:

1. Game development
2. Game device manufacturer
3. Service operator
4. Game engine development
5. Distribution
6. Billing services
7. Server
8. Publishing
9. Advertisement sales
10. Supplementary material sales
11. Fan site
12. Gaming events
13. Betting
14. Character custom shop

Appendix V

Game development				
Customer interface	**Fulfillment & support:**	**Information & insight:**	**Relation dynamics:**	**Pricing structure:**
	End user markets are too big for this concept to serve alone. Publishing, game engine development and distribution are related concepts.	Players give feedback and it's used to improve games.	Interaction with the end customers is direct.	If same actor applies this and publishing concept, the revenue comes from license sales to the distributors. If not then the revenue comes from the selling the copyrights of the game to the publisher.
Customer benefits:	Entertainment and fun for the end customers. Value adding services for the distributors.			
Core strategy	**Business mission:**	**Product/ market scope:**	**Basis for differentiation:**	
	To produce games that are planned carefully and which take players inside the game world.	The game players are end customers and markets are global.	Storyline of the game, graphics, customization and usage.	
Strategic resources	**Core competencies:**	**Strategic assets:**	**Core processes:**	
	Game developing: design, programming, and testing.	Game brands, game infrastructures, game engines and personnel.	Software development including graphic design, software design, programming, testing.	
Wealth potential:				
Uniqueness:	A mobile real-time multiplayer game is so far a unique product.			
Profit boosters:	Bigger market area and possibility to concentrate to core competencies are positive network effects that the value web brings. The end customer feedback and development work done by customers bring positive feedback effects. Learning effects are result of the feedback and concentration mentioned above. Focus strategy normally brings bigger margins. Lower breakeven is a result of concentration to core competencies.			

Appendix VII

Game device manufacturer				
Customer interface	**Fulfillment & support:**	**Information & insight:**	**Relation dynamics:**	**Pricing structure:**
	Support is outsourced to dealers and operators. Also device repair and service are outsourced to dealers' repair firms. The support site is named after the firm, but hosted by someone else.	Dealers give sales figures monthly and dealers and operators collect every problem with the devices. This information is the basis for support site.	Interaction between customers and manufacturer happens through dealers and operators.	The devices are sold to dealers at wholesale price and dealers sell them to customer with profit.
Customer benefits:	Customer gets a high quality game device.			
Core strategy	**Business mission:**	**Product/ market scope:**	**Basis for differentiation:**	
	To manufacture game devices, which include mobile data connection.	Customers are gamers in global markets.	Usability, better displays and sound systems, design, memory and versatility.	
Strategic resources	**Core competencies:**	**Strategic assets:**	**Core processes:**	
	Device design and manufacturing.	Factories, production machines, device stores and patents to technologies.	R&D, manufacturing, testing and feedback processing.	
Wealth potential:				
Uniqueness:	Mobile game device with high-speed data connection is still a unique product.			
Profit boosters:	Bigger market area and possibility to concentrate to core competencies are positive network effects that the value web brings. Positive feedback effects come from the customer data analyzing. Learning effects come from the early penetration to markets and from customer feedback. Game device manufacturing is volume business and the scale economies are in main role.			

<table>
<tr><th colspan="5">Operator</th></tr>
<tr><td rowspan="2">Customer interface</td><td>Fulfillment & support:</td><td>Information & insight:</td><td>Relation dynamics:</td><td>Pricing structure:</td></tr>
<tr><td>Support site and phone service are providing the support. The site has a frequently asked questions section (FAQs).</td><td>Customer feedback is stored and analyzed and then used to create new services and to improve the existing ones.</td><td>Customers communicate with help center and the relationship is person to person.</td><td>Per min
Per byte
Per month (flat rate)</td></tr>
<tr><td>Customer benefits:</td><td colspan="4">Customer gets a connection to the network and the diverse services they need through the network.</td></tr>
<tr><td rowspan="2">Core strategy</td><td>Business mission:</td><td colspan="2">Product/ market scope:</td><td>Basis for differentiation:</td></tr>
<tr><td>Owning customers by providing a global, high quality of service network to customers.</td><td colspan="2">The firm offers services to customers through network. The customers are end users globally.</td><td>Global, high quality of service network including; speed, security, reliability, price and services.</td></tr>
<tr><td rowspan="2">Strategic resources</td><td>Core competencies:</td><td colspan="2">Strategic assets:</td><td>Core processes:</td></tr>
<tr><td>Customer knowledge, service producing and feedback processing.</td><td colspan="2">Customer database and software.</td><td>Customer service, marketing, connection sales, support and billing.</td></tr>
<tr><td colspan="5">Wealth potential:</td></tr>
<tr><td>Uniqueness:</td><td colspan="4">The operator business is far from unique and the competition in this area is hard.</td></tr>
<tr><td>Profit boosters:</td><td colspan="4">Bigger market area and possibility to concentrate to core competencies are positive network effects that the value web brings.
The end customer feedback brings positive feedback effects.
Learning effects are result of the feedback and concentration.
Price can be used to lock customers in or competitors out.
Service operator business benefits from scale economics.
Contracts with network owners around the world bring operation agility.</td></tr>
</table>

Appendix IX

Game engine development				
Customer interface	**Fulfillment & support:**	**Information & insight:**	**Relation dynamics:**	**Pricing structure:**
	Site contains FAQs, resources, downloads and a forum.	Information sharing is open. All information needed is in net site.	Relation is direct through the net site.	When the engine is used in commercial purposes, the license fee is €s per title. Otherwise the engine is free
Customer benefits:	Customers get a tested game engine and support for it and they save time.			
Core strategy	**Business mission:**	**Product/ market scope:**	**Basis for differentiation:**	
	To produce game engines that can be applied to several games.	Game developers globally.	Functionality and usage of the engine.	
Strategic resources	**Core competencies:**	**Strategic assets:**	**Core processes:**	
	Game engine developing: design, programming, and testing.	Game infrastructures, game engines and personnel.	Software development including software design, programming, testing.	
Wealth potential:				
Uniqueness:	A mobile real-time multiplayer game engine is so far a unique product.			
Profit boosters:	Bigger market area and possibility to concentrate to core competencies are positive network effects that the value web brings. The end customer feedback and development work done by customers bring positive feedback effects. Learning effects are result of the feedback and concentration mentioned above. Focus strategy normally brings bigger margins. Lower breakeven is a result of concentration to core competencies			

Appendix X

Distribution				
Customer interface	**Fulfillment & support:**	**Information & insight:**	**Relation dynamics:**	**Pricing structure:**
	The game is delivered to the customer through the distribution channel of the actor applying this concept.	The basic information about the game is shared with the customers. Download rates are monitored and analyzed.	Interaction is direct through net site.	€s per game.
Customer benefits:	Players get the game conveniently and easily.			
Core strategy	**Business mission:**	**Product/ market scope:**	**Basis for differentiation:**	
	To deliver the game to the end customers.	Customers are end users in global markets.	Efficiency and price.	
Strategic resources	**Core competencies:**	**Strategic assets:**	**Core processes:**	
	Service providing, application delivering and customer knowledge.	Contracts with game's copyrights owner, personnel and distribution channel.	Transfer, management and billing of game.	
Wealth potential:				
Uniqueness:	Not unique at all.			
Profit boosters:	Bigger market area and possibility to concentrate to core competencies are positive network effects that the value web brings. Price can be used to lock customers in or competitors out. Distribution business benefits from scale economics. Lower breakeven is a result of concentration to core competencies.			

Billing services				
Customer interface	**Fulfillment & support:**	**Information & insight:**	**Relation dynamics:**	**Pricing structure:**
	Product and services are sold to a customer based on a contract. Support is part of the contract.	Information sharing with customer is open.	Interaction with customers is intensive and direct.	Licenses include the support service and they are sold for certain amount of time.
Customer benefits:	Customer can concentrate on it's core competencies and improve the efficiency of the billing.			
Core strategy	**Business mission:**	**Product/ market scope:**	**Basis for differentiation:**	
	To provide billing software solutions and services.	Customers are B2B type and mostly operators.	Efficient billing services for services in technological environments.	
Strategic resources	**Core competencies:**	**Strategic assets:**	**Core processes:**	
	Billing management, software design and support.	Licenses, personnel and contracts.	Software design, marketing and support.	
Wealth potential:				
Uniqueness:	Not very unique concept.			
Profit boosters:	Bigger market area and possibility to concentrate to core competencies are positive network effects that the value web brings. The end customer feedback and development work done by customers bring positive feedback effects. Learning effects are result of the feedback and concentration mentioned above. Focus strategy normally brings bigger margins. Lower breakeven is a result of concentration to core competencies			

Server				
Customer interface	**Fulfillment & support:**	**Information & insight:**	**Relation dynamics:**	**Pricing structure:**
	Support site contains FAQs and a feedback form in the Internet can be used to give direct feedback. The game itself has “sysops” which give instructions and advice in the game related questions.	Players and “sysops” give feedback, which is used to improve the server. Also visitor rates are monitored. This information is shared with clients and partners etc.	Though the money comes from industry customers, the end customers communicate directly with the server.	B2B customer pays for game server hosting. For example contract for two years.
Customer benefits:	Customer is able to play the game with other players. They also get smooth playing experience and wide support and information service. Clients on the other hand can concentrate on their own core competencies.			
Core strategy	**Business mission:**	**Product/ market scope:**	**Basis for differentiation:**	
	To maintain the game server and to arrange support for the game.	B2B clients. Game players are end customers. Markets are global.	Space, support, reliability and game titles.	
Strategic resources	**Core competencies:**	**Strategic assets:**	**Core processes:**	
	Data management, hardware knowledge and feedback systems.	Server hardware, server programs and contracts with partners.	Server management, hardware and software maintenance, customer support, feedback processing and business customer billing.	
Wealth potential:				
Uniqueness:	Every service in the Internet has to have some kind of server, so the model is not very unique.			
Profit boosters:	Bigger market area and possibility to concentrate to core competencies are positive network effects that the value web brings. The end customer feedback and development work done by customers bring positive feedback effects. Learning effects are result of the feedback and concentration. If the server hosts several games or other services, then it can benefit from scale economics and operating agility.			

Appendix XIII

Publishing				
Customer interface	**Fulfillment & support:**	**Information & insight:**	**Relation dynamics:**	**Pricing structure:**
	The game is marketed to the possible distributors.	Necessary information to customers comes with the game license.	The “title building” is important in generating end customer loyalty.	Licenses for certain time, e.g. for a year.
Customer benefits:	Customers can add value to their products or services.			
Core strategy	**Business mission:**	**Product/ market scope:**	**Basis for differentiation:**	
	To build, market and sell the brand of the game.	Potential distributors in global markets are the customers.	The qualities, title and copyrights of the game.	
Strategic resources	**Core competencies:**	**Strategic assets:**	**Core processes:**	
	Customer and marketing channel knowledge.	Copyrights, personnel and the contracts with the distributors.	Marketing management, customer analysis.	
Wealth potential:				
Uniqueness:	Publishing is not very unique concept.			
Profit boosters:	Bigger market area and possibility to concentrate to core competencies are positive network effects that the value web brings. Learning and preemption effects are result of the market research and concentration. Sales and marketing is scope business and because the firm can have several product groups and brands to market. This also brings width to the portfolio and operating agility.			

Advertisement sales				
Customer interface	**Fulfillment & support:**	**Information & insight:**	**Relation dynamics:**	**Pricing structure:**
	Advertisers are reached by sending offers of marketing space. Support is person to person. Server, publisher and game developer are closely related concepts.	Game info comes from the owner of game copyrights and technical information from the server and game developer.	Relations to the copyrights owner and to advertisers are B2B type.	€s per link €s per month €s per size Virtual products are priced case-specifically.
Customer benefits:	Advertisers can get reception to their products within the game.			
Core strategy	**Business mission:**	**Product/ market scope:**	**Basis for differentiation:**	
	To sell advertisement space to companies that want to advertise their products or services through the game.	Products are different advertisement spaces, links or virtual products in the game. Markets are global.	Licenses to the advertisement sales in the game.	
Strategic resources	**Core competencies:**	**Strategic assets:**	**Core processes:**	
	Customer and marketing knowledge.	Personnel and contracts.	Customer and market survey, marketing management and advertisement sales.	
Wealth potential:				
Uniqueness:	The concept is not very unique, but it has unique products. As an independent model this would be quite unique.			
Profit boosters:	Bigger market area and possibility to concentrate to core competencies are positive network effects that the value web brings. Learning and preemption effects are result of the market research and concentration. Commercial sales is scope business and because the firm can sell advertisements for several product groups and brands. This also brings width to the portfolio and operating agility.			

Appendix XV

Supplementary material sales				
Customer interface	**Fulfillment & support:**	**Information & insight:**	**Relation dynamics:**	**Pricing structure:**
	Products are sold through dealers e.g. malls, bookstores and the Internet. Concept has own website.	Customer surveys and demographic data collection is done by dealers who sell it to the actor.	Relations are indirect through a third party.	Website needs registration but is free. Products cost €s per unit and they are sold to dealers at wholesale price. Magazine can be ordered and it is priced €s per month.
Customer benefits:	Customers get knowledge of the game and character backgrounds. For example the plastic figures can become very popular and create markets that are apart from original game. In this situation the customers might be children who benefit from new toys and exiting background tales.			
Core strategy	**Business mission:**	**Product/ market scope:**	**Basis for differentiation:**	
	To provide game supporting and marketing products and services.	Game players and fans globally.	Licenses to the game brands.	
Strategic resources	**Core competencies:**	**Strategic assets:**	**Core processes:**	
	Customer and marketing channel knowledge.	Stocks, licenses and contracts with dealers.	Supplier management, storage, logistics and marketing.	
Wealth potential:				
Uniqueness:	Many films and TV series have created supplementary material markets that can be bigger than the original products markets.			
Profit boosters:	Bigger market area and possibility to concentrate to core competencies are positive network effects that the value web brings. Learning and preemption effects are result of the concentration. Supplementary material sales is scope business and because the firm can sell material of several brands. This also brings width to the portfolio and operating agility.			

<table>
<tr><th colspan="5">Fan site</th></tr>
<tr><td rowspan="2">Customer interface</td><td>Fulfillment & support:</td><td>Information & insight:</td><td>Relation dynamics:</td><td>Pricing structure:</td></tr>
<tr><td>Site has email support, FAQs and feedback form. Server concept takes care of the site hosting.</td><td>Information from the game, players and characters comes from the game server.</td><td>Customers are in direct contact to the net site and participate in the service development with giving feedback and ideas.</td><td>Fan site’s basic section is free. The private side needs registration and costs €s per moth. Advertisement space is priced like in advertisement concept.</td></tr>
<tr><td>Customer benefits:</td><td colspan="4">Customers get more information of the game and character backgrounds. Chats give a possibility to discuss about the game related issues out side the game.</td></tr>
<tr><td rowspan="2">Core strategy</td><td>Business mission:</td><td colspan="2">Product/ market scope:</td><td>Basis for differentiation:</td></tr>
<tr><td>To provide background information, character information and chat forums to the players.</td><td colspan="2">Game players and fans globally.</td><td>The official fan site.</td></tr>
<tr><td rowspan="2">Strategic resources</td><td>Core competencies:</td><td colspan="2">Strategic assets:</td><td>Core processes:</td></tr>
<tr><td>Data management and feedback systems.</td><td colspan="2">Copyrights, programs, licenses and contracts.</td><td>Site management including; updating, customer support, feedback processing and producing contents.</td></tr>
<tr><td colspan="5">Wealth potential:</td></tr>
<tr><td>Uniqueness:</td><td colspan="4">Almost every game has fan sites and forums. So the concept is not very unique.</td></tr>
<tr><td>Profit boosters:</td><td colspan="4">Bigger market area and possibility to concentrate to core competencies are positive network effects that the value web brings.
The end customer feedback and development work done by customers bring positive feedback effects.
Learning effects are result of the feedback and concentration.</td></tr>
</table>

Gaming events				
Customer interface	**Fulfillment & support:**	**Information & insight:**	**Relation dynamics:**	**Pricing structure:**
	Site contains FAQs and a feedback form. The gaming event has “sysops”, which give instructions and advise. Server concept hosts the site.	Playing needs registration and the collected data can be used in customer research.	Customers are in direct contact to the net site and participate in the service development with giving feedback and ideas.	Participating costs €s per game.
Customer benefits:	Players can participate in different events that have different goals. Prices and “honor” are also benefits.			
Core strategy	**Business mission:**	**Product/ market scope:**	**Basis for differentiation:**	
	To arrange events where players can compete with each other.	Game players and fans globally.	A license to the game brands e.g. “the official event arranger”.	
Strategic resources	**Core competencies:**	**Strategic assets:**	**Core processes:**	
	Data management, game dynamics and feedback systems.	Contracts and licenses.	Event management and billing.	
Wealth potential:				
Uniqueness:	The concept is not completely unique. For example Ladbrokes has games where player can win a price.			
Profit boosters:	Bigger market area and possibility to concentrate to core competencies are positive network effects that the value web brings. The end customer feedback and development work done by customers bring positive feedback effects. Learning effects are result of the feedback and concentration.			

Appendix XVIII

Betting				
Customer interface	**Fulfillment & support:**	**Information & insight:**	**Relation dynamics:**	**Pricing structure:**
	Bets can be placed in the Internet site, which also has adequate support. Server concept takes care of the site hosting.	Betting needs registration and the collected data can be used in customer research.	Customers are in direct contact to the net site and participate in the service development with giving feedback and ideas.	One bet can be for example 1-500€ and the profit share comes from the odds.
Customer benefits:	Opportunity to gamble online.			
Core strategy	**Business mission:**	**Product/ market scope:**	**Basis for differentiation:**	
	To provide an opportunity for betting between the game characters.	Customers are fans and gamblers globally.	The official betting service of the Treasure Hunters game.	
Strategic resources	**Core competencies:**	**Strategic assets:**	**Core processes:**	
	Gambling knowledge, site management and game dynamics.	Personnel, net service and copy rights.	Bet dealing, betting object research, billing and marketing.	
Wealth potential:				
Uniqueness:	This kind of models exists in the Internet so the concept is not very unique.			
Profit boosters:	Bigger market area and possibility to concentrate to core competencies are positive network effects that the value web brings. The end customer feedback and development work done by customers bring positive feedback effects. Learning effects are result of the feedback and concentration.			

Character custom shop				
Customer interface	**Fulfillment & support:**	**Information & insight:**	**Relation dynamics:**	**Pricing structure:**
	Customers are reached through magazines, fan site etc. The game zone has a link to the shop. Server handles the support.	Information is collected or bought from server site's data bank and by playing and following the game.	Customers get very customized service, but it is done through the Internet.	€s per character, trait, essential and information. Commission is collected from the character dealing. Billed in the game bill.
Customer benefits:	Customers can buy a different character for different purposes. This brigs variety to the gaming.			
Core strategy	**Business mission:**	**Product/ market scope:**	**Basis for differentiation:**	
	To provide an opportunity to improve character qualities.	Players who want to get better or different character for e.g. events.	Character qualities, victories and found treasures, different essentials, experience.	
Strategic resources	**Core competencies:**	**Strategic assets:**	**Core processes:**	
	Game dynamics, character qualities and gaming experience.	Personnel	Character creation and development, data management, following the game and marketing.	
Wealth potential:				
Uniqueness:	Not completely unique. Character sales is happening in small scale with some games in the Internet and essential selling and trading concept can be found for example from "Habbo Hotel".			
Profit boosters:	Bigger market area and possibility to concentrate to core competencies are positive network effects that the value web brings. Learning effects are result of the feedback and concentration.			