		Title: MOBILE E-COMMERCE BUSINESS MODEL	
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Deliverable ID: D1			
Title:			
MOBILE E-0	COMMERCE BUSINE	SS MODEL	
Summary / Contents:			
Deliverable D1 – Mobile E-Commerce business model will describe a business model for wireless internet services. The mobile E-Commerce business model is based on Hamel's theory of modelling business and the value web analysis developed by Cartwright and Oliver.			
The Hamel's business model framework consists of four elements: customer interface, core strategy, strategic resources, and value network. This framework is used to analyse the business models of the actors. Cartwright's and Oliver's value web includes, among the analysed firm, also customers, suppliers, competitors, allies, complementors, neutral firms, regulatory agencies, etc.			
This document presents at its current state the basic ideas of the business modelling work. The final version will present and discuss the developed business model in details.			

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Change log

Vers.	Date	Author	Description
1.0	12.9.2003	Mikko Pynnönen	Initial version
2.0	15.10.2003	Mikko Pynnönen	Review version
2.3	17.12.2003	Mikko Pynnönen	Work in progress version



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1. Background

This is the second iteration of business model research work in the WISE project. The first iteration comprises the research work carried out by VTT and Sonera (Kallio, 2002). The result of the research concerning Pilot service 2 was framework of the business model shown in figure 1.

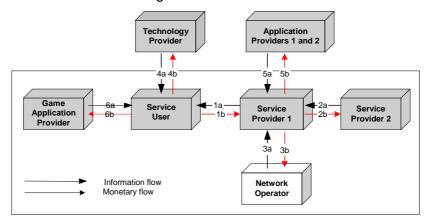
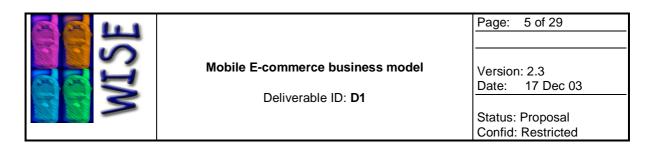


Figure 1. Business model framework of the pilot service 2. (Kallio, 2002)

In the project review on 23rd January 2003 in Turin, Italy, it was stated that the first iteration document D1 addresses rather business roles than business models. (Davies, 2003)

This research will focus on developing a mobile E-Commerce business model by using the value web analysis (Cartwright and Oliver, 2000) and business model analysis (Hamel, 2000).

Business 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 (Boggio et al., 2003).

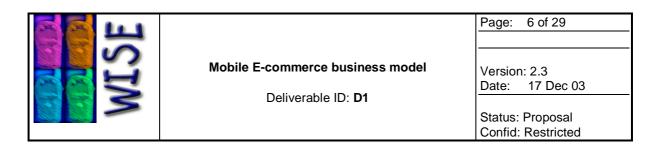
2. Introduction

The Internet has created new ways to do business through the opportunity of universal information distribution (Levy, 2000). The 3rd generation wireless networks provide new business opportunities and new market segments to the existing and traditional telecommunication market (UMTS- forum, 2000).

A mobile network value chain is still based on the network operator, which captures more than 90 per cent of market revenues. The revenues consist of mainly voice-based services. This situation is changing when advancing technology, growth of the Internet services and new end-user demands are challenging this traditional value chain. The new value chain will have new players and entities. (UMTS- forum, 2000)

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 business 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 analyse companies in electronic business. (Cartwright and Oliver, 2000)



3. Research problem

The wireless Internet provides new business opportunities and new market segments to the existing E-business. The value web will also have new actors. (UMTS- forum, 2000) The problem is to find an effective way to do business in the mobile E-commerce future.

There are two objectives for this research. The first objective is to frame a mobile E-Commerce business model. The second is to describe and analyse the roles of the actors in the mobile value web.

Main research question:

What are effective business models and suitable roles for firms in the value network of wireless Internet services?

Theoretical sub-problems:

- □ How to measure the effectiveness of a business model?
- □ How to define a value web?
- Description What is a definition of a mobile E-Commerce business model?

Empirical sub-problems:

- What are possible business concept innovations regarding wireless Internet game?
- □ How can the business concept innovations be formed to business models?
- □ How to analyse the suitability of a business model for a firm?
- What are the roles of actors in the value web?
- □ How can the mobile E-Commerce business model be applied?



Mobile E-commerce business model

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4. Literature overview

4.1 Innovation

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

In the background of entrepreneurialism there are creativity and innovation. Vision is an important part of strategy, because without a conception of future it is not possible to prepare oneself to the possibilities and threats that the future may bring. (Hauta-aho, 1991, p. 9)

The picture explains, how the creativity is the basis for entrepreneurial activity. In the centre of the model is creativity. The vision develops from creativity. Commitment to the vision and the management decisions form the company. The outer ring connects the firm to its environment. (Hauta-aho, 1991, p. 9)



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Figure 2. Harbridge House's model of innovation (Hauta-aho, 1991, p. 6) Gary Hamel has linked the Innovation to the value creation of the firm. He uses the term business concept innovation (Hamel, 2000). Revenue can't be grown significantly without "jaw-dropping" new products and services to customers. Radical innovation needs to meet one or more 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)

Business model innovation is the management practice 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:

- 1. Find new uses for what you do.
- 2. Learn and share your lessons with customers.
- 3. Adjust prices to encourage more purchases.
- 4. Lover costs that hold back growth.

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

4.2 Strategy

Fjelldstad and Haanæs write about strategy tradeoffs in knowledge and network economy. They state that the fundamental aim of strategy should be to transcend

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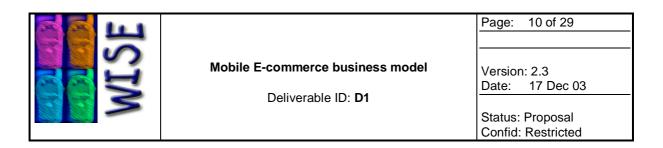
the immediate activity incompatibility tradeoffs. The authors emphasize the "time tradeoffs" over the activity tradeoffs. By "time tradeoffs" they mean the balance between exploiting existing solutions and exploring ways of transcending them. Activity tradeoffs involve choices between differentiation and cost. (Fjeldstad and Haanæs, 2001)

Henry Mintzberg offers five definitions of strategy, also 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 they often make 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), pp. 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)

R.E. Miles and C.C. Snow 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 categorised by the similar behavioural patterns. Miles and Snow



use the following typology to categorize different firms: defender, prospector, analyser and reactor. (Miles and Snow, 1978)

Igor 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)

As stated earlier the value web is an extension to the Porter's value chain. According to Fjeldstad and Haanæs 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)

Value creation of value networks lies in their mediation. In other words, the value network creates value by helping its customers exchange things, money and information, or by moving the customer physically or virtually between locations. The challenge for any value network is to build a "club" of members which is sufficiently large and in which the members complement each other. One new member of the network increases the value of the network for all members. All parties are customers of the mediator, as long as they transact across the network. (Fjeldstad and Haanæs, 2001)

The authors present new strategy tradeoffs that complement the traditional tradeoff between differentiation and cost. The new tradeoffs are:

- 1. Fundamental tradeoff: exploration versus exploitation.
- 2. Strategy tradeoffs that depend on the value creation model of the firm.
- 3. Business-level tradeoffs that have corporate implications.

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Manufacturing firms make tradeoffs between cost and differentiation. 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 depth of specification in particular areas and the breath of problems they can take on. (Fjeldstad and Haanæs, 2001)

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)

Networks fail when they do not achieve scale in terms of customers or nodes. Network must develop and diffuse 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)

4.3 Value web

Value chain, developed by Michael E. Porter, has been a generally used tool to describe the competitive advantages of a traditional firm. (Porter, 1985, p. 36)

Cartwright and Oliver, among many others, argue that the existing tools, like Porter's value chain analysis, are inadequate for analysing 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

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understanding the network relations is the key to understand the value creation in Ecommerce. (Cartwright and Oliver, 2000)

The authors propose a new way to understand the activities that are relevant in value creation of information-dominant firm. It is called Value Cluster Analysis (VAC). Extension to VAC is Value Web Analysis. It includes also customers, suppliers, competitors, allies, complementors, neutral firms, regulatory agencies, etc. (Cartwright and Oliver, 2000)

D. Bovet and J. Martha (Bovet and Martha, 2000) have analysed the differences between supply chain and value net. These differences are presented in figure 4.

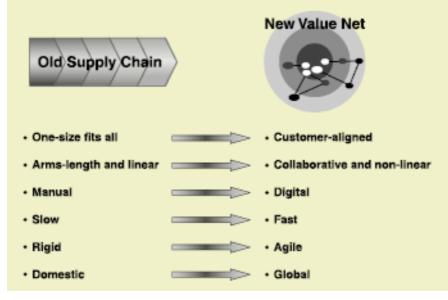


Figure 3. Supply chain vs. value net, (Bovet and Martha, 2000)

Tapscott et al. have defined a b-web. B-web is an Internetworked web 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)

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According to Kallio, every company may play more than one role in the value web, and it is a strategic choice which role a firm should play. The decision can be based on firm's core competencies or synergies. (Kallio, 2002)

4.4 Business model

Business model is quite recent term and it has many meanings. Toivo S. Äijö and Kirsi Saarinen have analysed 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." These activities they call the Value Cluster. (Cartwright and Oliver, 2000)

Timmers 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 the various business actors; and a description of the sources of revenue. (Timmers, 2000)

According to Mahedevan business model consists of three components: value stream, revenue stream and logistical stream. Mahadevan analyses the E-commerce business models in two layers: Internet intermediary and commerce layers. Mahadevan's analysis excludes the Internet infrastructure and applications

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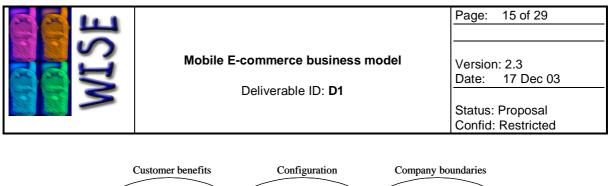
layers. At the two layers analysed there are three major roles: portals, market makers and product/ service providers. (Mahadevan, 2000) Martinez has also written about how firms can find the right business model. Martinez categorizes E-business models into five categories: offline facilitator, context provider, commerce destination, online exchange and gateway. (Martinez, 2000)

Also Grant (Grant, 1998), Gary Hamel (Hamel, 2000; Hamel, 2002) and Rajala et al. (Rajala et al., 2001) have written about business models. Hamel has formed a framework for analysing business model of a firm. The framework is introduced in the next chapter.

5. Theoretical framework

The theoretical framework in this research is based on general strategy literature. There are several theories and frameworks to examine core strategies and strategic resources of a firm, for example Porter (Porter, 1985) and Miles and Snow (Miles and Snow, 1978). In the external analysis the focus is in the value web and it's actors.

Business model, described by Gary Hamel (Hamel, 2000), has several elements that are based on business and corporate strategy planning process. Hamel's business model framework is used to analyse the business models of the actors. Hamel's framework consists of four elements: customer interface, core strategy, strategic resources and value network. Core strategy and strategic resources elements are parts of firm's internal analysis and customer interface and value network are external parts of the analysis. (Hamel, 2000)



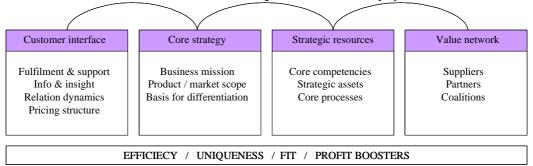


Figure 4. Business model (Hamel, 2000, p. 92)

As stated earlier the value chain (Porter, 1985) has been a way to analyse 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. The Value Web Analysis includes customers, suppliers, competitors, allies, complementors, neutral firms, regulatory agencies, etc. (Cartwright and Oliver, 2000)

Kallio has described the actors of mobile value web. They are: network operator, solution builder, mobile middleware provider, application provider, application developer, technology provider, system integrator, wireless access provider and service provider. (Kallio, 2002)

6. Delimitations

The focus in this research is in business models of the firms in mobile value web. As stated earlier business models have linkages to business and corporate strategy. Therefore the operative and functional strategies will not be analysed.

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The research concentrates on the case companies of the mobile b-web and other companies are not analysed. Business idea on what mobile E-Commerce business model is built on is WISE Pilot 2 "The Treasure Hunters" game. Other Pilots are not analysed.

7. Definitions

Business idea:

Business idea, in this research, means the product or service that is the basis for the business concept innovation and business model. In this research the business idea is "The Treasure Hunters" game.

Business model- / concept innovation:

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

Business model:

According to Hamel business model is a business concept innovation put to practice. Business model consists of four elements: customer interface, core strategy, strategic resources and value network. (Hamel, 2000) Business model in this research means the business model of the actor in b-web.

Value web:

Cartwright and Oliver use the term value web and Tapscott et al. use the term b-web to describe the competitive system (Tapscott et al., 2000). In Hamel's framework the

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term is value network (Hamel, 2000). Bovet and Martha (Bovet and Martha, 2000) use term value net. In this study value web, b-web, value net and value network are used as synonyms. Value web defines the relationships between the actors in the competitive system. Competitive system includes customers, suppliers, competitors, allies, complementors, neutral firms, regulatory agencies, etc. (Cartwright and Oliver, 2000)

E-commerce:

E-commerce means same as E-business or business in the electronic market space. 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 of business model. Mobile E-Commerce Business model can also be understood as a business model of b-web.

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. (Hirsjärvi et al., 1997, pp.123, 153). The research type of this study is qualitative.

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Typical feature of qualitative research is that the research plan shapes as the research process goes ahead (Hirsjärvi et al., 1997, p.155). That is why the methods and the phases of research, described especially in this chapter, are only introductory.

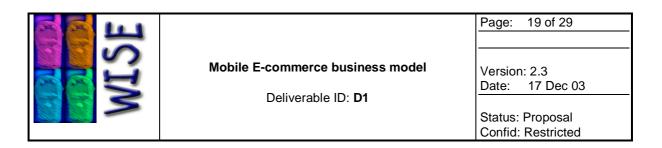
The research, in this case, can be described as process in which there are several phases.

The first phase of the research is to define the possible business concept innovations that are related to a mobile multiplayer game. This part is already implemented by an innovation session (the results are shown in appendix 1.) in cooperation with TBRC (Telecom Business Research Center) in Lappeenranta. A conference paper will be published later on, dealing with this innovation session.

The second phase is to interview game developers and players to get deeper information about different aspects of online gaming (see appendix II. and III. for the frameworks of the interviews). Method is themed interview. The interviews will be taped and then lettered afterward.

The third phase is to analyse every business concept innovation developed in the innovation session with the Hamel's framework. The aim of this analysis is to outline several business models (example business model is in appendix IV). The value network –parts in every business model will define the actors of mobile value web. The developed business models are evaluated in a new group session with same group than in phase one.

The fourth phase is to analyse how the different business models suit different actors. The business models and actors are placed to a matrix and each possibility is evaluated and scored. The evaluation will be implemented by sending a survey to



the representatives of case companies and the GDSS- group. The questionnaire has a scale for scoring the different options.

The final phase is to use the gathered information and the existing concepts and models to develop a mobile E-Commerce business model.

9. Structure of the final document

The research will be divided into theoretical and empirical parts. In the theoretical part the main objective is to clarify the connection between innovation, strategy, business model and value web. In the empirical part the aim is first to analyse the data of interviews and compare it with existing knowledge of mobile games. One purpose of the interviews was earlier mentioned support for the innovations. Also this will be analysed in this part. Other goal is to describe the formation of the 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.

Introductory contents of the final document:

1. INTRODUCTION

The introduction section of the final document will follow the structure of this document. It will present the background and the purpose of the work to the reader. The subject and structure will be introduced. As well a brief State-of-Art will be presented.



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2. INNOVATION AND STRATEGY

This chapter will concentrate on the linkage of innovation and strategy. The business concept innovation as a concept will be introduced and the strategic importance of innovation will be highlighted. Also the linkage to business model will be defined.

3. BUSINESS MODEL

Hamel's business model framework is the backbone of this chapter. Components of the business model are analysed in detail and other authors' points of views are also introduced. Value cluster analysis is introduced as a tool that defines the internal and external functions of the firm. It is the linkage between internal and external analysis. Wealth potential of the business model is examined in great detail.

4. VALUE WEB

This chapter will introduce the development of the Porter's value chain to value web of firms. Value creation is one main focus of this chapter. Also cooperation and roles are analysed. The value web concept will be viewed through the "lens" of the example service.

5. GAMING

This chapter will introduce 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 analysed.

6. "EMPIRIC PART"

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In this section the focus will be in presenting and analysing 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.

7. SUMMARY AND CONCLUSIONS

This chapter will summarise the research and some conclusions will be drawn of the results.



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INNOVATION SESSION RESULTS

Bus	iness concept innovations
1. G	ame, producing
	Visual planning
	Producing the game
	Manufacturing the game device
	Hosting the game server
2. S	ales and marketing
5 I	Rewarding of certain achievements in the game
6 5	Selling and marketing the game
7 I	Launching the game with TV
3. T	elecommunications
9 I	Providing the connection
10 \$	Selling the network time
	illing/ paying
	Providing different billing possibilities for the game
12 0	Connection to a national bonus program (eg. Plussa)
5. G	ame characteristics/ customizing
13 \$	Selling features to game figures (eg. more intelligence)
14 (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)
	Frading weapons, tools or skills with other players (commission)
	Selling game figures
23 (Game figure customisation service
	upport and side services
	Counselling
	Freasure 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)
29 (Game statistics ("hall of fame")
	Forums (web site, chat and magazine)
	Gaming evenings
	Game in TV
	Offers through game (e.g. advertisements to phone)

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 organise 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 behaviour of the players change in the future?
 Why?
- Anything else?

Appendix III

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?
 - o Why?
- Addicting elements
 - What are the elements that make the game addictive?
 - Why?
 - How do you see that your gaming behaviour will change in the future?
- Anything else?

Game producing business model. Small firm (+/- 10 persons) and industry customers.

