HELSINKI UNIVERSITY OF TECHNOLOGY
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ECONOMIC INTEGRATION STRATEGIES FOR VIRTUAL WORLD OPERATORS

Thesis submitted in partial fulfillment of the requirements for the degree of Master of Science in Technology

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In recent years, a market has emerged for so-called virtual assets. Virtual assets are intangible valuables that exist solely in the computer systems known as virtual worlds. The most popular type of virtual world is currently the massively-multiplayer online role-playing game ('MMORPG').

This study focuses on the question "what strategy should a company operating a virtual world take towards real-money virtual asset trade?" Traditionally most virtual world operators have either ignored the market or attempted to suppress it. This study maps a range of alternative strategies available to operators and discusses their viability from the points of view of customer needs, firm resources and law.

The approach to answering the research question comprises a literature review and qualitative case studies. The literature review examines the previous research on virtual worlds. It provides a summary of the debate concerning the so-called secondary markets and presents a generalised conception of real-money virtual asset markets. Research from the resource-based school of strategic management is used to establish grounding for the case studies.

Based on analysis of the literature and case studies, a model of nine generic economic integration strategies is presented: *embargo, laissez-faire, marketplace, monopoly, monopsony, price floor, price ceiling,* and *price window*. The strategies are distinguished from each other by the market structure which they seek to set in place in the virtual asset market. They also differ in their characteristics in relation to customer needs, firm resources and the legal environment.

Findings from the study indicate that contrary to the views prevailing among some established scholars in the field (e.g. Bartle 2004; Castronova 2004b), economic integration is not necessarily incompatible with achievement- and immersion-oriented play. Some virtual world designs are incompatible with certain economic integration strategies, but the findings suggest that corresponding experiences could be delivered with alternative designs that take better heed of the virtual asset trade phenomenon.

Keywords: MMORPG, MUD, virtual asset, virtual economy, secondary market, real-money trade, economic integration

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Viime vuosina niin sanotuilla virtuaalihyödykkeillä on ryhdytty käymään laajamittaista kauppaa. Virtuaalihyödykkeet ovat aineettomia esineitä, jotka ovat olemassa ainoastaan keinomaailmoina tunnettujen tietokonejärjestelmien sisällä. Suosituimpia keinomaailmoita ovat tällä hetkellä niin sanotut massiivisesti moninpelattavat tietokoneroolipelit (‘MMORPG’).

Tämä tutkimus keskittyy seuraavaan kysymykseen: minkälainen strategia keinomaailman ylläpitäjän kannattaisi omaksua suhteessa virtuaalihyödykkeillä käytävään, oikealla rahalla tapahtuvaan kauppaan? Keinomaailmoiden ylläpitäjät ovat tyypillisesti joko yrittäneet estää tällaisen kaupankäynnin tai olleet täysin välittämättä siitä. Tämä tutkimus kartoittaa muita mahdollisia strategioita sekä hahmottaa eri strategioiden soveltuvuutta asiakkaiden tarpeiden, yrityksen resurssien sekä lain näkökulmista.

Tutkimus käsittää kirjallisuuskatsauksen ja neljä kvalitatiivista tapaustutkimusta. Kirjallisuuskatsaus käsittelee keinomaailmoihin ja virtuaalihyödykkeiden kauppaan liittyvää aiempaa tutkimusta. Se sisältää yhteenvedon niin sanottuja sekundäärimarkkinoita koskevasta keskustelusta sekä yleisen mallin virtuaalihyödykkeiden markkinoista. Tapaustutkimusten pohjaksi muodostetaan myös yhteenveto strategisen johtamisen resurssipohjaisen koulukunnan teorioista.

Kirjallisuuden ja tapaustutkimusten analyysin pohjalta esitetään malli, joka käsittää yhdeksän geneeristä taloudellisen yhdentymisen strategiaa: *embargo, laissez-faire, marketplace, monopoly, monopsony, price floor, price ceiling* ja *price window.* Strategiat eroavat toisistaan sillä perusteella, että ne pyrkivät kukin saattamaan voimaan erilaisen markkinarakenteen virtuaalihyödykemarkkinoilla. Niillä on myös erilaisia ominaisuuksia suhteessa asiakkaiden tarpeisiin, yrityksen resursseihin sekä juridiseen ympäristöön.

Tutkimuksen havainnot viittaavat siihen, että vastoin joidenkin alan tutkijoiden käsityksiä (mm. Bartle 2004; Castronova 2004b), taloudellinen yhdentyminen ei välttämättä ole ristiriidassa saavutus- ja eläytymispainotteisen pelaamisen kanssa. Tietyt keinomaailmoiden mallit eivät ole yhteensopivia tiettyjen yhdentymisstrategioiden kanssa, mutta vastaavia käyttäjäkokemuksia voidaan tuottaa myös vaihtoehtoisilla malleilla, jotka ottavat virtuaalihyödykekaupan paremmin huomioon.

Avainsanat: MMORPG, MUD, virtuaalihyödyke, virtuaalitalous, keinotalous, sekundäärimarkkina, taloudellinen yhdentyminen

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After much questing and grinding, I finally level up. Thanks to my brother Otso, who showed me new worlds.

Helsinki, 31 May 2005

Vili Lehdonvirta

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1. INTRODUCTION

1.1 BACKGROUND

According to Steve Salyer, CEO of IGE, approximately 880 million U.S. dollars' worth of virtual assets were traded for real money last year (Terra Nova 2004). IGE is a privately held 150-person company specialising in virtual asset trade. Virtual assets, such as clothes, money or realty, are intangible valuables that exist in so-called virtual worlds.

Virtual worlds are interactive models that are to some extent designed to resemble the real world. They physically exist in the databases of dedicated server computers maintained by companies acting as virtual world operators. Users access them through the Internet using specialised client programs that are capable of presenting the worlds visually and aurally. The most popular virtual worlds exist for the purpose of providing a setting for a massively multiplayer online role-playing game ('MMORPG'). Others exist simply as a platform for social interaction. Users typically participate in a virtual world by controlling an avatar, a character that represents them in the virtual context. A key feature of virtual worlds is that they are persistent: they continue to evolve even as the user logs off (Book 2004a).

Ultima Online, released in 1997, was the first highly successful MMORPG. In its heyday it had about 250,000 players who paid Electronic Arts a monthly subscription fee to access the world (Woodcock 2005). The game was designed to have a realistic economy. Players could trade with other players to exchange their virtual assets for other virtual assets, like castles for gold. It was meant to be like Monopoly: no real money would change hands. Yet in 1999, some Ultima Online players began putting their virtual assets on auction at the popular Internet auction site eBay (CNN 1999). The word spread and they received bids from other players. When an auction was completed, the payment was carried out using ordinary means such as credit card or cheque. The two players then met up in the game and the seller handed the auctioned object to the buyer. This way, Ultima Online players were able to liquidate their virtual holdings into real money.

The number and popularity of MMORPGs has since exploded. Virtually every popular MMORPG has attracted a significant real-money virtual asset market around it. It is no longer mere player-to-player small beer: a recent story in Newsweek International claims there are over 200 companies working in virtual asset trade in Korea alone, with

total yearly turnover somewhere between 83 and 415 million USD (Newsweek International 2005). Probably the most common business model is currency exchange: buying virtual currencies from players and selling them back with a small markup (Yamaguchi 2004).

The birth of the secondary market or real-money market obviously elicited reactions from the companies operating the virtual worlds. Electronic Arts, publisher and operator of Ultima Online, was enthusiastic about the phenomenon. Their press release dated 13 April 1999 proclaimed that it "redefines the meaning of online trading" (Electronic Arts 1999). They saw that secondary markets were adding value to their game, and let players trade their virtual wares as they wished. Yet other operators reacted the opposite way. Sony Online Entertainment, the operator of EverQuest, moved to suppress virtual asset trade. They had reason to believe from customer reports that secondary markets were eroding the value of their core offering, the gaming experience (CNET 2000). They asked eBay to take down any auctions concerning EverQuest assets and threatened merchant players with account freezes (CNET 2001).

Motivation

At the time Sony Online Entertainment banned EverQuest trade, a "Cloak of Flames" was selling on eBay for USD 1,125 (CNET 2000). The ban had a significant economic impact on many players and entrepreneurs. This sparked a debate: "who owns my light saber?"[1] In a survey conducted among Korean players, as many as 78% of the respondents felt that they had the right to own the items earned during play (MacInnes, Park & Whang 2004: 9). Players often justify this claim in terms similar to Lockean labour theory of ownership: "we have invested considerable labour (i.e. playing time) into obtaining our assets; therefore we are entitled to exercise ownership over them."[2]

On the other hand, operators seem to have a strong legal argument in the ownership debate. Before entering a virtual world, players are required to accept an end-user licence agreement ('EULA'). Many operators have added clauses to their EULAs that expressly forbid players from engaging in real-money trade and assert various intellectual property rights in virtual assets (Gervassis 2004; Lastowka & Hunter 2004: 67). Thus players are said to have waived any ownership rights they might have otherwise had in virtual assets.

[1] "Who Owns My Light Saber?" was the title of a discussion in 2003 at Terra Nova, a blog frequented by virtual world researchers, though I use the quip here to refer to the larger debate. See <http://terranova.blogs.com/terra_nova/2003/10/who_owns_my_lig.html>.

[2] See Lastowka and Hunter (2004: 61-64) for an analysis of this "Lockean theory of virtual property".

Both the moral and legal arguments in the ownership debate have inspired a lot of discussion. Several scholars have examined the issue from legal and philosophical standpoints and delivered their opinions, both describing the current state of affairs as well as providing normative views. Castronova (2004b) and Bartle (2004) are skeptical of the effect of player-owned assets and advise operators to hold on to their EULAs. Gervassis (2004) argues that the EULA regime is unsustainable and predicts regulatory intervention. Lastowka and Hunter (2004) also have issues with the EULA. MacInnes (2004) and Ondrejka (2004b) believe that operators would be better off by allowing virtual trade. No single view has prevailed over the others as the right choice for operators or any regulators possibly planning to intervene.

A review of actual practice among virtual world operators shows that different operators have chosen very different strategies for dealing with real-money virtual asset trade. Electronic Arts permits it and Sony Online Entertainment forbids it, but these are not the only possible approaches. Sulake, operator of the popular teen virtual world Habbo Hotel, prohibits players from trading – but is itself selling virtual items to the players. Virtual items sales form the core of Sulake's revenue model. MindArk, operator of virtual world Project Entropia, seeks to integrate the virtual economy with real economy by guaranteeing a fixed currency exchange rate of ten Project Entropia dollars to one U.S. dollar. MindArk also recently sold a virtual island to an Australian virtual investor for USD 26 500 (Economist 2005).

From the point of view of actual practice, the current ownership debate seems rather limited. The question "who owns my light saber?" invites a dualistic answer, while in actual fact there is a variety of intricate models for integrating (or not integrating) a virtual economy with the real one. A more interesting question is therefore "how should the light saber industry be organised?" For example, should the operator be the sole supplier, or should there be open competition?

There are many ways to approach this question, but I treat it as a strategy choice for the operators. A strategy is a firm's theory of how it can achieve superior performance (Barney & Arikan 2001). Operators today are conscious of the secondary market phenomenon and take it into account in organising their business, as highlighted by the above examples. They each have a theory of what model reflects best on their performance, a strategy of "economic integration". This is a sub-component of their overall strategy. Their integration strategies differ, and presumably there is no single one

that fits all. My goal is to identify a set of generic integration strategies and develop a model that helps operators by linking operator and market specific factors to a suitable generic strategy. A considerable concern to operators is also whether they are able to appropriate any of the value possibly created in the commoditisation process.

An alternative approach to the question of organisation could be a regulatory one, a one that seeks to maximise social welfare. Those who previously argued the issue of ownership from economic standpoints could now argue for an efficient industrial organisation. But for now I find that the operators' perspective is of more practical relevance: regulation and the legal status of virtual assets are variables that can potentially limit the range of strategies available to operators, but so far the legal environment has not been restrictive. Moreover, since companies create value through fulfilling customer needs, the benefit of the operators should often (though not always) coincide with the welfare of the players.

1.2 RESEARCH PROBLEM AND OBJECTIVES

The main research problem of this study can be expressed as follows: What strategy should a virtual world operator take towards real-money virtual asset trade? The problem can be broken down into four sub-questions. The first sub-question asks to identify the total set of choices for the operator:

1) What generic strategies or elements of strategies are available to virtual world operators for dealing with real-money virtual asset trade?

The the following two sub-questions examine the internal and external aspects of the problem of choosing a strategy:

2) What firm-specific factors affect the choice of strategy? In particular, what resources or capabilities are required for implementing a given generic strategy?
3) What market factors affect the choice of strategy? In particular, what are the customer needs and how does a given generic strategy relate to fulfilling them? How is the operator able to capture the value thereby created?

The final sub-question is concerned with the legal issues surrounding real-money virtual asset trade. A legal point of view is essential since the legal environment is still somewhat evolving in regard to virtual assets (Lastowka & Hunter 2004: 67-68).

4) How does the legal environment affect the choice of strategy?

The objectives of the study are as follows:

1. Identify and describe the generic strategies or elements of strategies that are available to virtual world operators for dealing with real-money virtual asset trade. Describe strategies currently implemented by operators, develop a criteria, axis or model for characterising them, and identify the generic types.
2. Identify the firm-specific factors that affect the choice of strategy. In particular, identify the resources and capabilities that are required to implement a given generic strategy.
3. Identify the customer needs that virtual world operators seek to fulfil. Describe how a given generic strategy relates to the customer needs.
4. Provide a general description of the legal issues surrounding virtual asset trade.

1.3 SCOPE OF THE STUDY

Virtual world operators are often large companies that take part in various business activities; in fact their main activity is often publishing. The complete strategy for a virtual world operator must therefore encompass a multitude of aspects, including corporate strategy, business strategy, technology strategy and internationalisation strategy. The business of developing and running a virtual world also involves many strategic choices: e.g. which segments to target, which activities to outsource, how to handle marketing, who to partner with and so on.

This study focuses on the "economic integration" strategies of virtual world operators as defined below. It is debatable to what degree an economic integration strategy can be isolated from an operator's other strategic choices. Therefore, this study can also be seen as a study of overall operator strategy which dictates the dependent variables of economic integration. For example, a particular customer segment targeting choice might lead to a particular model of integration. I do not, however, discuss how or why the operator arrived at that particular targeting choice. The focus is on real-money virtual asset trade and the various factors that affect how different operators choose to deal with it.

There is an important geographical limitation to the scope of this study. The virtual world market is divided into two major geographical segments: the Western market and the Asian market. Until recently, the industry players and products offered were almost

completely different between the two markets. This was presumably due to differing customer tastes as well as the language barrier. Although recently some products have gained market share in both markets, important distinctions still remain. From a personal point of view, there is also the practical problem that materials concerning the Asian market are difficult to come by in the languages I understand. Consequently, the case companies as well as most of the other materials focus on the Western market. In part five I consider whether any of the results can nevertheless be generalised to the Asian market.

1.4 DEFINITIONS

The following key terms need to be defined for the purposes of this study:

Virtual world: There exists a reasonable consensus among virtual world researchers on how to define the term. The definition must include most if not all the MMORPG servers currently in the market, as well as the so-called social worlds that exhibit similar characteristics (Book 2004a). There is debate as to whether MUDs or 'textual virtual worlds' should be included, but for the purposes of my study this is not too relevant, since textual worlds are less significant in commercial terms.[3]

Edward Castronova, the economist who pioneered the economic study of virtual worlds defined the term in his seminal paper (2001) as a *computer program* with the following characteristics: it is accessed simultaneously through a computer network by a *large number of users*; it is *interactive*, meaning that "the command inputs of one person [affect] the command results of other people"; it is presented *graphically*; laws of the *physics* generally apply; there is a *scarcity* of resources; and it is *persistent*, meaning that "the program continues to run whether anyone is using it or not; it remembers the location of people and things, as well as the ownership of objects." (Castronova 2001: 5-6) Castronova also considers it an essential feature of a virtual world that users participate in it through controlling an *avatar*, a virtual character (Castronova 2002: 6).

Richard A. Bartle, credited with programming the world's first virtual world in 1978, generally agrees with Castronova's definition. He refers to a simulation implemented by *a computer or a network of computers* having the following characteristics: it is shared by *multiple users;* players can *interact* with it in *real time;* it has a set of underlying rules

[3] There was a long discussion in Terra Nova last year concerning how to define 'virtual world' and related concepts. See <http://terranova.blogs.com/terra_nova/2004/06/a_virtual_world.html>.

known as the *physics;* and it is *persistent* (Bartle 2003: 1-4). Bartle also mentions participation through an avatar. Unlike Castronova, however, Bartle does not require graphical representation. No wonder, since his first virtual world, called 'MUD', was presented to the users in the form of text, as are many similar small, often non-commercial services today.

Let us consider one more author: Betsy Book (2004a) specialises in studying so-called social virtual worlds. Her definition is in line with the ones presented above: it requires a virtual *space* shared by multiple users; real-time interaction; graphical representation; and persistence (Book 2004a: 2). She also adds *socialisation* or *community*: the world must encourage or at least facilitate the formation of in-world social groups and hierarchies. Like Castronova and Bartle, Book also assumes that the main mode of participation in a virtual world is through an avatar.

All the above authors broadly agree that a virtual world is a computer system with the following characteristics: it has multiple simultaneous users, it is interactive, and it is persistent. However, that definition would also include anything from FTP sites to discussion boards. Castronova and Bartle attempt to exclude them by requiring simulated physics and Book by requiring graphical representation of 'space'. Indeed, I think it is a key feature of virtual worlds that they simulate space – and not just in the figurative sense like 'social space', but in real geometric terms. Usually the space contains terrain and has gravity, but in a MMORPG set in outer space it could be full of void. What is important is that users and objects occupy specific geometric locations in relation to each other. This sets virtual worlds apart from any discussion board, graphical chat room or webshop.

Thus, I define 'virtual world' as a computer simulation of geometric space with the following characteristics: it is accessed simultaneously by multiple users over a network; the users participate by controlling an avatar; there is real-time interaction between the users as well as between users and simulated objects; and its state is persistent. Unlike Castronova I hesitate to require that a virtual world must have a scarcity of resources, but as will become apparent, this study is mostly relevant when scarcity does prevail.

One important question remains: how many users are enough? This is a difficult question for most scholars, and so they remain silent on it. Many popular MMORPGs have subscriber figures reaching hundreds of thousands or even millions. On the other hand, the subscribers to a single MMORPG service are typically distributed between a number of actual servers, all of which run parallel instances of the MMORPG virtual world. Thus

there is in fact no single virtual world called Ultima Online – instead there are tens of independent copies of the Ultima Online world, called 'shards', each of which has a different nickname and a different set of inhabitants. In a typical MMORPG shard, the number of users simultaneously online is measured in hundreds or low thousands. Icelandic single-shard EVE Online boasts 12,000 simultaneous users in the same virtual world (CCP 2004). But for the purposes of this study, an adequate number of players is such that it generates enough demand in the real-money virtual asset market for the strategies I propose to be relevant to the operator. This is discussed in more detail below.

Other terms that have been used synonymously with the term virtual world include MMORPG, MUD (Bartle 2003), persistent world or persistent state world (IGDA 2004), digital world (Ondrejka 2004c), and synthetic world (Castronova 2004a, 2004b). However, as Castronova (2004b: 189) concedes, "serious thinkers" now mainly use the term virtual world. Also note that I use the term MMORPG to refer to a specific subset of virtual worlds.

Virtual world operator: The value chain of a typical MMORPG without a secondary market involves five different actors: developers, publishers, retailers, network service providers and consumers (Pilawski 2004: 95). The value chain resembles that of ordinary single-player games sold in a shrink-wrapped box. Indeed, the client program for a typical MMORPG is distributed and sold in a shrink-wrapped box just like a single-player game. However, running a MMORPG requires one or some of the actors to reach out from their normal business and take the responsibility of operating the MMORPG: maintaining servers, providing customer support and handling billing. In fact, in the case of many virtual worlds, *operating* the world can be seen as the primary business, while developing, publishing and distributing the client program is secondary. For this reason, I use the term 'virtual world operator' or simply 'operator' to refer to a company that is in the business of running a virtual world. This is especially appropriate for services such as Second Life and Habbo Hotel: they are distributed through the Internet and involve no publisher or retailer, yet the companies behind them are much more than just developers. Lest there be any doubt, in this study the word operator does not refer to mobile service providers.

Player: Due to the fact that virtual worlds were made popular by MMORPGs, which focus on game-like action, much of the terminology being used is derived from

games (Castronova 2001: 6). 'Player' is used to refer to a user of a virtual world. I use the terms player, user and customer interchangeably in this study.

Avatar: A player participates in a virtual world by controlling an avatar: a virtual character, sometimes resembling a human, that represents that individual player in that particular world (Castronova 2002: 6). The player interacts with the world by instructing her avatar to take actions. Players interact with each other in a mediated fashion by instructing their avatars to take actions towards each others' avatars. An avatar may hold and control virtual assets (players only ever control virtual assets in a mediated fashion through controlling an avatar).

Virtual asset: Three different types of tradables that exist in virtual worlds are being offered for sale on real-money markets: currency, items and realty. In addition, complete subscription accounts are frequently being sold. In these cases, the actual object of the trade is the avatar associated with the account: a dedicated player may develop an avatar until its inalienable attributes are valued at thousands of U.S. dollars (Castronova 2004a). To provide a convenient shorthand for these four types of tradables, I call them virtual assets. The term is sometimes used in a similar meaning without being defined explicitly, for example (Electronic Arts 1999).

Secondary market: In the context of virtual worlds, 'secondary market' is used to refer to markets where virtual assets are being traded for real money, provided that the operator is not party to the transactions. See for example (IGDA 2004).

Real-money market: Some virtual world operators such as Sulake, operator of Habbo Hotel, sell virtual assets directly to players for real money. In these cases, the term secondary market is not appropriate. Thus I have adopted the term 'real-money market' to refer to any market where virtual assets are being traded for real money, regardless of whether the operator is involved. Secondary markets are a subset of real-money markets.

Economic integration strategy: 'Economic integration strategy' is defined as a model that specifies links between the real economy and the economic system of a virtual world, including the organisation of virtual asset markets. It is implemented by an operator with the intention of realising superior performance compared to alternative strategies.

Value: Customer value is defined consistently with the economic principle of value subjectivity: customer value is the value attributed to a virtual asset by the user. Value to an operator refers to added revenue or reduced cost.

1.5 STRUCTURE OF THE STUDY

The study is divided into five parts: introduction, literature review, case studies, results, and conclusions. Part two, the literature review, covers previous research on virtual worlds. It establishes the problem domain, provides a summary of the debate concerning the so-called secondary markets, and presents a generalised conception of real-money virtual asset markets. Research from the resource-based school of strategic management is used to establish grounding for the case studies. The literature review finishes with a synthesis that provides preliminary answers to the research questions.

Part three comprises qualitative case studies covering four different virtual world operators. The operators and their respective virtual world services are Sony Online Entertainment: EverQuest, Electronic Arts: Ultima Online, Sulake: Habbo Hotel, and MindArk: Project Entropia. The companies were chosen for their different approaches towards real-money virtual asset trade. Each case study contains an introduction, a description of the service's background and development, an overview of the world and its internal economy, a description of its economic integration strategy and customer needs, and a description of the resources used to conceive of and implement the strategy.

Part four presents the results obtained in the case studies. It builds on the synthesis developed in part two to provide answers to the research problems established in part 1.2. It comprises a refined model for distinguishing between economic integration strategies, as well as advice concerning the choice of economic integration strategy. Part five contains discussion and conclusions that summarise the results of the study. It includes critique concerning the results and methods of the study, and presents some suggestions for further research.

2. LITERATURE REVIEW

There is a growing body of research on massively multiplayer online games and virtual worlds in general. Since it is a comparatively new area of study, much of the work is descriptive. Pioneers are also experimenting with applying real-world theory to virtual phenomena. Computer games and computer-mediated communities have long been studied from the points of view of sociology, psychology and anthropology, but virtual worlds have also attracted the interest of disciplines such as law and economics. A recent stream initiated by Edward Castronova (2001; 2002) examines the subject through economic theory. Some scholars study virtual economies in their own right (Nash & Schneyer 2004), while others focus on the interaction between real and virtual economies (Yamaguchi 2004). It has also been proposed that virtual economies could be used as a research tool for economists, but I am aware of only one early attempt (Grimm & Mitlöhner 1995). A growing number of scholars (e.g. Balkin 2004; Jenkins 2004; Lastowka & Hunter 2004) apply legal theory and philosophy to discuss various unsolved issues raised by virtual asset trade, particularly the legal status and ownership of virtual assets. Bradley and Froomkin (2004) examine the possibility of using virtual worlds as a testbed for legal rules. In this part, I review the relevant literature to obtain insight concerning the problem domain, to present a preliminary solution model, and to provide a framework for the case studies.

2.1 OVERVIEW OF THE VIRTUAL WORLD BUSINESS

The first virtual world service of truly massive proportions was Ultima Online, launched in 1997. Since then, the business of developing and operating virtual worlds has grown rapidly. Last year IGDA (2004) reported 20 major virtual world services in operation, and another 11 in development. Only six services were reported cancelled or closed. Woodcock's ongoing study lists 12 virtual worlds with more than 120 000 active subscribers, and three worlds with more than a million users (Woodcock 2005).

2.1.1 The offering

A virtual world operator's offering to its customers consists of a synthetic world and the ability to lead a 'virtual life' through an avatar. The majority of the most popular

virtual worlds today have their roots in the traditional single player strategy and role playing PC game genres. They are often developed and published by the same companies, they retain familiar narrative elements, and they utilise similar game mechanics. Accordingly, they are often called "massively multiplayer online role playing games" ('MMORPG'). In the case of Ultima Online, the link is particularly strong, as the service is a direct sequel to a popular series of single-player Ultima titles. Playing a MMORPG sometimes resembles playing a single-player PC role playing game, except that many of the characters in the game are controlled by other players instead of the computer.

On the other hand, there is also a new breed of virtual worlds, including Habbo Hotel, There and Second Life. They have little connection with the traditional single-player game genres. They are developed by companies new to the business, utilise completely new concepts, and are best described as social environments instead of games. As yet their market share remains small compared to MMORPGs. Book (2004a) calls these two types of virtual worlds 'gaming worlds' and 'social worlds.' There is clearly demand for both types of offerings, but their customers may be quite different.

2.1.2 Revenue models

Charge for access

The main source of revenue for most virtual world operators today is access fees. In the Western market most MMORPG operators require players to take up a subscription before they can access the service. The subscription carries a monthly fee, typically around USD 10-15 (IGDA 2004: 21). The fee can be billed monthly or, as in the case of Blizzard Entertainment's World of Warcraft, every three or six months for a slight discount to encourage customer loyalty. Fees are typically due upfront. A MMORPG with a rather modest player base of 100 000 can thus generate yearly revenues of up to USD 18 M from subscription fees alone. One report esimates that total MMORPG subscription revenues exceeded USD 1,1 billion in 2004 (Themis Group 2004).

Access fees are also levied in the Asian market, but they are not always in the form of periodical subscription fees. In Korea and China, a significant percentage of players access virtual worlds from "gaming cafés" or "game rooms". The cafés buy access from virtual world operators at wholesale prices, based on for example the number of seats (IGDA 2004: 8). The player then pays the café for the use of the seat on a hourly basis or under some other arrangement.

Charge for the client program

The traditional revenue model for computer and video games is selling shrink-wrapped boxes through a brick-and-mortar retail channel. This model is also widely used by MMORPG operators as a complement to access charge revenues: in order to access the MMORPG, the player must first purchase a client program from a retail store. This one-time revenue helps to offset development costs. The value chain is the same as with single-player games: developer, publisher (responsible for financing and marketing), retailer and customer (Pilawski 2004: 95). There may also be a distributor between the publisher and the retailer.

Special versions of the retail package, often called "collector's editions", are used as a method of price discrimination. They usually contain maps, pins, stickers, music or some other swag associated with the game, but their real value to a hard-core gamer is in their availability. For example, Sony Online Entertainment restricted the release of the regular Star Wars Galaxies MMORPG client while simultaneously making a collector's edition abundantly available at a USD 20 price premium (IGDA 2004: 20). Dedicated gamers are happy to pay the difference to secure instant access. Some publishers also release extension kits to provide continuing retail revenues.

Retail is the channel of choice for large mainstream virtual worlds, especially MMORPGs (IGDA 2004: 18-19), but many other operators forego the physical channel and opt for digital distribution over the Internet instead. Project Entropia, Second Life, There and Habbo Hotel all have downloadable clients. Of these, only Second Life charges a one-time fee for the client after a trial period of seven days, while the others give the client for free and extract revenues by other means. Blizzard Entertainment demonstrated that digital distribution is at least technically viable for mainstream MMORPGs as well, by distributing a 2,5 gigabyte beta version of World of Warcraft with the help of peer-to-peer technology.

Charge for services

Operators may be able to realise additional revenue streams through selling value-added services to players. For example, Ultima Online charges players for changing the names of their avatars and for transporting avatars from one shard to another.[4] Normally avatar

[4] See <http://www.uo.com/uopowerup.html>.

names cannot be changed once set and avatars are restricted to living on the shard of their creation. EverQuest operator SOE offers similar services.

Advertising

Advertising is a typical revenue model for small online games, and some virtual world operators also utilise it. Habbo Hotel displays paid banner advertisements next to the game view. Funcom, the operator of Anarchy Online, offers advertising services that enable companies to display ads on the virtual billboards of the Anarchy Online sci-fi universe (Funcom 2005). However, advertising and branding are only appropriate in some types of virtual worlds (Book 2004b).

Virtual asset sales

The real-money markets of virtual assets are mostly dominated by players and specialised trading companies, but there are some examples demonstrating that virtual asset sales can be a viable revenue model for operators as well. Ultima Online relies on access charges as the primary revenue generator, but has begun realising some additional revenues by selling advanced avatars to players. For Habbo Hotel, the virtual asset sales model has been successful to the point of being a complete substitute to access charge based revenues. I will discuss virtual asset sales in more detail below.

2.2 OVERVIEW OF SECONDARY MARKETS

The virtual world market, where operators attempt to fulfil the needs of players by providing them with new synthetic worlds, is complemented by a secondary market: a market for virtual assets. To understand the secondary market phenomenon, I begin with a brief description of what I mean by virtual assets and why players perceive them as possessing real value.

2.2.1 Virtual assets

Virtual assets can be divided into four broad categories: currency, personal property, realty and avatar attributes. Currency, personal property and realty are somewhat analogous to their real-world namesakes. Avatar attributes are an important asset type that has no analogy in the real world.

Like earthly nations, most virtual worlds also have some sort of a formal internal currency. For example, in Ultima Online it is gold pieces and in EverQuest platinum pieces. In Second Life it is Linden dollars. Yamaguchi (2004) suggests that despite the name, virtual money is no less real than real money. It has the same functions: it is a medium of exchange, a unit of account and a store of value. It can only be used for purchases within the virtual world, but every earth currency is territorially restricted as well.

Personal property, often called 'virtual items' in the secondary market context, includes clothes, armour, weapons, tools, raw materials, furniture and any other moveable property that can be owned by an avatar. Castronova (2001) describes personal property in the game EverQuest, while Burke (2002) covers EverQuest, Ultima Online and Asheron's Call. These gaming worlds emphasise items that perform a useful function by helping the player attain the objectives of the game. For example, a virtual axe is useful for cutting wood or slaying monsters. With regard to weapons an armour, utility must be defined through how strong they are in relation to the weapons and armour of the average opponent. How valuable a particular item is to a player is to a large extent determined by how useful it is. Utility is thus an important value driver in gaming worlds.

In social worlds, the role of personal property is more ambiguous. Utility cannot be defined through objectives, since social worlds lack built-in goals. Rather, social worlds exist to provide a medium for social interaction (Book 2004a: 2). Personal property is thus more of a means of expression, of social status for example. Accordingly, typical items of personal property are fashion commodities: clothes, accessories and furniture (Book 2004a: 4). Burke (2002: 26-7) notes that vanity goods are valued in gaming worlds, too: for example, rare artwork and craft objects that have been discontinued from production are among the most expensive commodities available in Ultima Online.

In some virtual worlds, avatars have the ability to own something that resembles realty (buildings and land). A good example is Ultima Online, where players may erect virtual buildings such as castles. They have an important utilitarian purpose as places of storage, but they also have significant expressive value. "Much like in the real-world, obtaining housing is considered a major sign of achievement and advancement" (Simpson 1999). Suitable land is limited, however, so housing is expensive. As long as the population keeps growing, Ultima Online realty is likely to appreciate in value.[5] On the

[5] Predicting population growth trends in an old MMORPG like Ultima Online should be quite doable. Historical data can be found from (Woodcock 2005). Any shocks are likely to come in the form of rival product launches and advertising campaigns.

other hand, realty supply shocks that are not possible in the real world may occur in virtual worlds: the operator may add more land into the world, often a whole continent.

The fourth virtual asset is avatar attributes, or simply accounts. One of the old conventions inherited by MMORPGs from their single-player ancestors is character development.[6] The essence of character development in MMORPGs is that through overcoming challenges and vanquishing foes, an avatar develops her skills and accumulates experience. Skills and experience are expressed in numerical values and are thus easily quantifiable and comparable (Burke 2002: 4-6). Better skills and experience, in turn, help the avatar overcome even harder challenges and stronger foes. They also affect an avatar's social status.

Avatar attributes such as skills are inalienable, so they cannot be an exchangeable asset in themselves. A whole account, on the other hand, including the avatar (or avatars) and all its possessions, can be transferred easily. Strip away the possessions, and the only valuable thing left are the attributes. In this sense, a naked avatar is a bundle of valuable attributes and account trade is actually avatar attribute trade.[7]

2.2.2 The rise of the secondary markets

In 1999, some Ultima Online players began putting gold pieces and complete accounts on auction at the popular Internet auction site eBay (CNN 1999). One early seller described his motivations as follows: "I'd spent more than a year building up [the avatar's] online assets and felt there was value in those assets." (Electronic Arts 1999) The word spread and the sellers received bids from other players. When an auction was completed, the payment was carried out using ordinary means such as credit card or cheque. Assets were then handed over in the virtual world. In this way, Ultima Online players were able to liquidate their virtual holdings into real money.[8]

The practice quickly spread into other MMORPGs and gave rise to the phenomenon known as the secondary market. At any given time there are thousands of accounts, virtual items, currency packages and realties on sale at eBay. Data collected by

[6] In fact this tradition can be traced back to the Dungeons and Dragons tabletop role-playing game of 1972. Castronova traces its roots even further in history (2002: 9).

[7] Following this reasoning, Castronova (2004a) developed a pricing model for EverQuest avatars based on observed market prices. One of the interesting things this model revealed was that female avatars are traded at a significant discount compared to male avatars of equal capability.

[8] This was actually not the first time in history, though. Mulligan (2000: 27) reports that account and item sales were already taking place in a smaller scale in the early online games of 1980's. But it was not until eBay and MMORPGs that virtual item trading reached such phenomenal volumes.

Castronova shows that in the six-month period from January to June 2004, eBay's North American service carried more than 800 000 such auctions (Castronova 2004c). Not surprisingly, the market soon attracted a cottage industry around it. In 2001, so-called 'pharmers' were reportedly making two thousand U.S. dollars per week by harvesting valuable items from the virtual worlds and selling them off at eBay (Burke 2002: 31). Wired Magazine (Wired 2003) describes how virtual arbitrageurs reached similar earnings by buying undervalued virtual assets from eBay and selling them on for profit.

Today the secondary market is no longer centered exclusively around eBay. A story in Newsweek International claims that there are over 200 companies working in virtual asset trade in Korea alone, with total yearly turnover somewhere between 83 and 415 million USD (Newsweek International 2005). Newsweek's claim seems rather bold, especially as it does not cite sources, but it may be indicative of the scale of the market today. The Western market has seen a similar proliferation of commercial activity, though exact numbers are hard to come by.

There seems to be two basic business models: 1) trading and 2) providing a marketplace for others to trade. Alternative marketplaces started appearing when eBay banned the sales of some virtual assets following requests from certain operators. For example, there are no EverQuest-related virtual assets currently on sale at eBay, while a search on one of the alternative marketplaces called PlayerAuctions.com yields 1 229 results.

Yet most of the earnings are probably made in virtual asset trade. IGE, founded in 2001, is probably the biggest virtual asset trading company today, and there are numerous smaller ones. Most of the traders seem to focus on trading in virtual currency. The shift from sales of virtual items to sales of virtual currency can perhaps be explained with the fact that currency is a perfect commodity. In contrast, a MMORPG might have tens of thousands of different item types[9] and the attributes of each individual item may vary for various reasons, resulting in information asymmetries. Trading in currency is therefore less risky than trading in items and results in smaller transaction costs. Currency can of course be exchanged for items in intra-world markets, so the real-money currency market is a substitute for real-money item markets.

IGE and the other trading companies are rather restrained when it comes to disclosing financial figures, but at least IGE says it has "thousands of transactions per day"

[9] For example, at the time of writing, <http://www.thottbot.com/> lists 26 629 unique item types that exist in the MMORPG World of Warcraft.

and that it has "served hundreds of thousands of customers" (IGE 2005a). And IGE seems to be enjoying a pretty healthy margin on its currency sales: for example, at the time of writing, the IGE web service[10] offered to buy ten million pieces of Ultima Online gold on the Atlantic shard for USD 30. At the same time the service offered to sell the same amount of gold for USD 74.99. That is a gross profit margin of 60 %.

2.3 THE DEBATE OVER SECONDARY MARKETS

As mentiond above, the birth of the secondary markets elicited varying reactions from the companies operating virtual worlds. Electronic Arts, publisher and operator of Ultima Online, was enthusiastic about the new phenomenon and let it take its course freely. The second virtual world to grow a significant secondary market on eBay was EverQuest, but its operator Sony Online Entertainment ('SOE') moved to suppress the market. These two conflicting positions provoke continuous discussion among those following the industry.

Arguments have been put forward in support of both positions. Many established scholars tend to side with SOE: the economist who initiated the economic study of virtual worlds and their secondary markets, Edward Castronova, now argues that real-money virtual asset trade disrupts the "magic circle" that enables players to immerse themselves in the fantasy of the virtual world (Castronova 2004b: 192-196). In his view, this greatly diminishes the value of virtual worlds to their users. On the other hand, authors such as Ondrejka (2004c: 2-3) argue the opposite. Neither view currently prevails, so the debate provides conflicting advice to an operator.

Successful virtual worlds are being operated under both principles, so certainly there is no simple answer. But when I reviewed the arguments both for and against secondary markets, I noted that some of the arguments apply only in situations where players are selling virtual assets, while other arguments apply only when players are buying. I use this pattern as a starting point for identifying the different external factors that affect the operator's choice of strategy towards real-money virtual asset trade. Below is a summary of the arguments structured in this fashion. Their link with strategy will be developed further in the next part.

[10] <http://www.ige.com/>

2.3.1 Arguments against secondary markets

Arguments against the player's right to buy

Bartle (2004: 13-16), Castronova (2004b: 192-196) and many others are keen to preserve the "magic circle" in virtual worlds. Magic circle is a concept in game studies that refers to the artificial context created by the rules of the game, a "frame" that separates the game from the real world (Salen & Zimmerman 2004: 94). Like suspension of disbelief in film, the magic circle is considered by some as vital for enjoying a game. In virtual worlds, there are rules that regulate how players accumulate virtual assets. If players are able to obtain assets outside of these rules by purchasing them for real money, the argument can be made that the magic circle is broken.

It is also often reported that many players consider virtual asset purchases to be *cheating* (Bartle 2004: 7; Burke 2002: 31; Taylor 2002: 231). It seems that many players feel strongly about this. It is considered that those who "buy their way up" have not "paid their dues" as they have not spent the time and effort it otherwise takes to accumulate assets. They are therefore viewed with apprehension and disdain. It is common for opponents of buying practices to make analogies to sports and board games: e.g., nobody likes those who cheat in sports, and nobody would play Monopoly if you could buy Boardwalk with real money (Bartle 2004: 4).

Real-money buyers may also violate the "achievement hierarchy" of a MMORPG (Bartle 2004: 16; Burke 2002: 31). An important aspect of MMORPGs is character development: the skills and abilities of one's avatar improve with play. Those who have developed their avatars into powerful, skilled, "high-level" characters pride themselves with the achievement and earn the recognition of others. The ability of players to obtain high-level avatars by spending money instead of playing is said to disrupt this achievement hierarchy, making it less meaningful for others and presumably decreasing the value of the MMORPG. "Allowing players to buy high-level characters from one another is like allowing athletes to buy world records from one another," opines Bartle (2004: 16).

In all of the above cases, the argument is that buying an asset outside the game creates a negative externality for other players. Taylor (2002: 231) also points out that the ability to purchase virtual assets reduces the need to spend time in the service to obtain them. In other words, by buying their way ahead in the game, players skip a large portion

of the content. This could translate to less time spent in the service before moving to the next one, reducing subscription revenues.

Arguments against the player's right to sell

The ability to sell virtual assets for real money creates opportunities for business, which entrepreneurial individuals have been quick to exploit. Unfortunately, it is often said that players who 'work' in virtual worlds instead of playing in them reduce the gaming experience for other players, because their single-minded behaviour blocks normal play (Bartle 2004: 17). "I can't get a fishbone earring because the same guy has been camping [at the source of fishbone earrings] for two weeks," complained one EverQuest player (CNET 2000). 'Workers' harvest valuable resources with such efficiency that normal players are left with none. Their efficiency is based on specialising in a particular type of activity.

It would seem that since the costs of producing a particular virtual asset are lower for workers than for players, the players would actually be better off paying the workers for the asset instead of attempting to produce it themselves. But the problem is that modeling play time as a cost may not be accurate. Designers usually intend the challenge involved in obtaining an asset to form a part of the value of the service for the player. This value is lost if all challenges are replaced with payments. Of course it can sometimes be questioned how valuable a particular challenge is if players are willing to pay to skip it. I will touch on this issue again below.

In the above paragraph I assumed that the virtual asset market is at least reasonably competitive, if not perfectly so. But this is not necessarily always the case. Bartle describes some serious market failure situations that are possible in virtual asset markets (Bartle 2003: 303-304; Bartle 2004: 17-18). They involve predatory pricing and tactics to monopolise the supply of a resource. The result of such unfair trade practices is that players may end up paying more for an asset than what it would cost to produce it themselves or to acquire it from a competitive market.

Another problem with introducing economic incentives is that it motivates players to find and exploit bugs and security holes (Burke 2002: 32; MacInnes 2004: 2730). Exploits that allow malicious users to create assets out of thin air have seriously upset game economies in the past, but the latest virtual worlds are designed with better security in mind.

Perhaps a more problematic form of dishonest virtual trade practices is "scamming": putting an asset up on auction, collecting the payment, and failing to deliver (Bartle 2004: 19). Due to the intangible nature of virtual assets, it may be very difficult to prove that delivery did or did not take place. The target of such a scam usually takes the matter to the operator's customer service representative, but operators are generally unable and unwilling to start policing transactions that are initiated outside the virtual world. This is one of the reasons that lead SOE to ban EverQuest trade (CNET 2000).

From an economic point of view, the players' ability to liquidate their virtual holdings into real money decreases the costs of switching to another service. Operators that are afraid of losing customers to competitors might wish to maintain high switching costs. On the other hand, a rational customer would include the adverse effects of lock-in in their value assessment of the service.

Arguments against secondary markets in general

Several scholars are warning virtual world operators that when a virtual economy becomes sufficiently integrated with the real economy, there could be legal ramifications. The operator's business could fall under gambling law or even banking law (MacInnes 2004: 2729-2730). If virtual assets are recognised as the players' legal property, operators could find themselves liable for any losses caused intentionally or through negligence (Balkin 2005: 126-131; MacInnes 2004: 2727).

This could seriously complicate normal maintenance operations such as adding content (a supply shock that may upset the value of some assets), fixing bugs (may affect the value of some assets) and 'nerfing', that is, maintaining game balance by weakening excessively powerful assets (Bartle 2004: 9-10). In addition, it becomes very difficult and costly to shut a virtual world down when it is unprofitable to the operator (Balkin 2005: 127-128; MacInnes 2004: 2730).

These scenarios are mostly speculative at the moment, as the legal environment has so far been favourable to operators. Operators issue virtual currency with real value, operate games which could be construed as gambling, and cause significant financial gains and losses to players, with no judicial or regulatory intervention thus far.[11]

[11] This is the situation in the Western market. In the Asian market there is already some case law on these issues. In Korea, courts have been favourable to operators, but in China there is a much cited case where an operator was found liable for the loss of a player's virtual weapons (TechNewsWorld 2003).

2.3.2 Arguments favouring secondary markets

Arguments favouring the player's right to buy

In IGDA (2004: 24), Castronova outlines the conditions under which a secondary market for virtual assets will emerge:

1. There is something scarce in the virtual world
2. Access to the scarce thing cannot be secured inside the world using real money
3. Players can nevertheless trade the scarce thing inside the world

Castronova then notes that these conditions apply very widely to virtual worlds, and goes on to recommend that developers design worlds where secondary markets are not incentivised. But some authors (MacInnes 2004; Ondrejka 2004b; Ondrejka 2004c) opine that since secondary markets are so inevitable, perhaps operators should give in and modify their offerings to account for the fact.

Bartle (2004) discusses some ways in which design is said to encourage virtual assets purchases in MMORPGs. They are related to the character development aspect of MMORPGs: experiencing high-level content requires lots of time, which not everyone has (Bartle 2004: 7-8); some content may be boring so that even a player with enough time would rather skip it (Bartle 2004: 15);[12] and players who wish to play together have to have avatars with approximately the same skill level (Bartle 2004: 17). It is often said that older players with jobs to go to have more money than time to spend on a game, while younger players with no jobs have more time than money. Older players may thus be inclined to buy their way ahead to keep up with the younger ones or simply to experience new content.

From an operator's competitive point of view, the ability to buy virtual assets for real money reduces switching costs for players coming from a rival service. For example, if a player who is a grandmaster blacksmith in Ultima Online wishes to move to World of Warcraft, she usually has to start over from the level of an apprentice and expend considerable effort to build up her skills once more. But with secondary markets, she can buy herself an artisan blacksmith avatar right from the start. This could make a virtual world more attractive to some experienced players.

[12] For a description of some boring mid-level content, see (Burke 2003).

Arguments favouring the player's right to sell

Echoing the Lockean theory of virtual property, many of those who sell virtual assets on eBay and other marketplaces claim that what is actually being sold is not the virtual asset itself, but the time it took to acquire the asset (Taylor 2002: 232). This is viewed as a morally capable argument, since after all, a person's time is something that belongs inherently to herself. The statement may or may not survive legal analysis, but in any case operators should hesitate before enforcing legal rights that have the potential to alienate their customers.

It should also be remembered that the ability to sell virtual assets for real money creates economic incentives for the players. These incentives may be used to benefit the world and its customers. Ondrejka (2004b: 98) notes that "one of the great benefits that free markets and competition bring to economies [is] innovation." He advocates the acceptance of player-owned virtual assets because they provide incentives for users to create new, interesting content to a virtual world. I will discuss user-created content ('UCC') in more detail in the case studies.

Arguments supporting secondary markets in general

Integrating a virtual economy with the real economy strengthens interaction between the worlds, increasing the usefulness of the virtual world for various real-life purposes. At the very least, such worlds could be "incredibly useful forms of communication" (Castronova 2004b: 205). Ondrejka has proposed that a tightly integrated virtual world could be a useful platform not only for communication and commerce, but for science, politics and social activism as well (Ondrejka 2004b; Ondrejka 2004c).

MacInnes (2004: 2727) notes that real-money virtual asset trade, both buying and selling, is a significant form of entertainment in itself for some players. This is presumably reflected in their value assessment of the virtual world in question. The ability to purchase positions in virtual assets and to liquidate them later also creates an opportunity for virtual investment. Today's virtual economies are riddled with inefficiencies that could be exploited by skilled arbitrageurs (Nash & Schneyer 2004). Introducing arbitrage could help make the internal economies more robust.

Perhaps a more useful form of investment would be something analogous to foreign direct investment ('FDI'). An operator could let a third party invest in developing some part of the virtual world in exchange for rights to reap economic gains from it. In this way, the virtual world could grow and develop faster than what is possible with the

operator's limited resources alone. MindArk is experimenting with a similar arrangement in Project Entropia, which I will describe in one of the case studies.

2.4 SECONDARY MARKETS AND CUSTOMER NEEDS

When one looks at the typical arguments presented in support and in opposition of real-money virtual asset trade, it seems clear that they are sometimes not arguing about the same thing. Some people seem to consider their virtual world a game in which opponents can be beaten, just like in Monopoly. For some it should be an immersive experience, perhaps similar to a good movie or a novel. For some, it is about self-expression. The perceived impact of real-money virtual asset trade varies from person to person. For this reason, there is no single strategy that would be right for all virtual world operators. Customer needs must be a factor in the choice.

Determining the needs of virtual world users is far from straightforward. In game studies, there are several typologies describing the kinds of pleasure or, more generally, benefit, that players seek and obtain through playing. Perhaps the most classic one comes from anthropologist Roger Caillois (1962). He identifies four "fundamental categories" of play:

1. *Agôn*: competition and competitive struggle
2. *Alea*: submission to the fortunes of chance
3. *Mimicry*: role-playing and make-believe play
4. *Ilinx*: vertigo and physical sensation

   (Salen & Zimmerman 2004: 335)

Caillois's categorisation is theoretically ambitious, but perhaps not fine-grained enough to be applied fruitfully in a practical marketing setting. Only the first three categories are relevant for computer games, and most modern titles probably touch on all of them. Game designer Marc LeBlanc has presented a less theoretical but more detailed typology, which may be better suited for categorising customer needs. In Game Developers Conference 2000 he presented eight categories that in his view describe the kind of pleasures players derive from games:

1. *Sensation*: game as sense-pleasure
2. *Fantasy*: game as make-believe
3. *Narrative*: game as drama

4. *Challenge*: game as obstacle course
5. *Fellowship*: game as social framework
6. *Discovery*: game as uncharted territory
7. *Expression*: game as self-discovery
8. *Submission*: game as masochism

   (Salen & Zimmerman 2004: 334)

However, it is important to note that virtual worlds are not "just games", or in some cases, not games at all. A typology developed with traditional computer and video games in mind illustrates many of the needs of virtual world users, but is not necessarily sufficient to explain them all. Since virtual worlds are a relatively new phenomenon, there is a dearth of research concerning the pleasures and benefits derived by players from them.[13] Indeed, in *On Virtual Economies*, Castronova modeled the emotional satisfaction derived by a player from a virtual world as a function of challenge and reward (Castronova 2002: 17-18). This corresponds to only one category in LeBlanc's typology. I would rather think that virtual worlds deliver a wider gamut of satisfaction than computer games, not a narrower one.

There is actually one typology that is commonly being used to describe and categorise virtual world users. It was presented by Bartle (1997) and is usually referred to as Bartle's player types. It comprises the following categories:

1. *Achievers*: like to reach defined objectives and achieve a high formal status
2. *Explorers*: revel in discovering new things about the world and its logic
3. *Socialisers*: enjoy interacting with other players
4. *Killers*: derive pleasure from demonstrating superiority over others

As a leading text, Bartle's player types have naturally attracted a lot of criticism. Some propose to amend it (Salovaara et al. 2005), while others would replace it altogether. Nick Yee (2005) recently pointed out some theoretical problems with the typology: the proposed types may contain components that are actually not interrelated, the types may significantly overlap with each other, and the construct provides no means to assess players as to what type they are. In other words, the typology may hide actual player types while creating artificial ones. Yee's critique seems pertinent, as Bartle's types have never been verified with rigorous empirical analysis.

Yee presented an alternative typology, a model of MMORPG player motivations (2005). The model has three main components, labeled *achievement*, *social* and *immersion*.

[13] Though there is slightly more research focusing exclusively on MUDs.

Each main component consists of a number of subcomponents, shown in Table 2.1. The subcomponents were identified through an iterative process involving open-ended player survey questions, and then verified and grouped using factor analysis on responses to a new, multiple-choice survey. Yee's player motivations differ from Bartle's player types in that they are not mutually exclusive: a player may have multiple motivations for playing a MMORPG, none of which are in diametrical opposition to each other. Similar to LeBlanc's pleasure types, Yee's motivations provide a relatively fine-grained typology for categorising player needs.

Table 2.1: Yee's player motivations (Yee 2005)

Achievement	Social	Immersion
Advancement progress, power, accumulation, status	Socialising casual chat, helping others, making friends	Discovery exploration, lore, finding hidden things
Mechanics numbers, optimisation, templating, analysis	Relationship personal, self-disclosure, find and give support	Role-Playing storyline, character history, roles, fantasy
Competition challenging others, provocation, domination	Teamwork collaboration, groups, group achievements	Customisation appearances, accessories, style, colour schemes
		Escapism relax, escape from RL, avoid RL problems

With regard to the present problem, all the typologies have their shortcomings. Bartle's player types were originally designed for MUDs, a subset of virtual worlds. The typology is also theoretically suspect. Yee's research focuses exclusively on MMORPG players, another subset of virtual worlds. Yee's motivations model is also somewhat a work in progress, as it has not been subjected to peer review yet. Nevertheless I consider the motivations model to afford a sufficiently inclusive and fine-grained typology for the purposes of this study. At the strategic level, the customer segmentation need not be perfect as long as it provides reasonable accuracy. Yee's main components can be considered well founded.

Table 2.2: Arguments concerning secondary markets in relation to player motivations

	Players buying	Players selling
Achieve-ment motivation	- Players see buying as cheating - "Achievement hierarchy" is violated - Players skip content, reducing subscription revenues + Level-oriented design incentivises buying + Reduces the cost of switching in from a rival service	- "Workers" block legitimate play - Unfair trade practices - Players motivated to find and exploit bugs, security holes - Scamming troubles players and operators alike - Decreases the cost of switching to a rival service + Players feel morally entitled to exercise ownership

	Players buying	Players selling
Social motivation	+ Reduces the cost of switching in from a rival service	- Players motivated to find and exploit bugs, security holes - Unfair trade practices - Scamming troubles players and operators alike - Decreases the cost of switching to a rival service + Players feel morally entitled to exercise ownership + Creates incentives for innovation and user created content + Creates incentives for investment

	Players buying	Players selling
Immersion motivation	- "Magic circle" is breached, immersion suffers - Players skip content, reducing subscription revenues + Reduces the cost of switching in from a rival service	- "Workers" block legitimate play - Unfair trade practices - Players motivated to find and exploit bugs, security holes - Scamming troubles players and operators alike - Decreases the cost of switching to a rival service + Players feel morally entitled to own their assets

Let us consider the issues brought up in the previous part concerning secondary markets, now from the point of view of player needs or motivations. It turns out that if a player is motivated solely by achievement, only a subset of the concerns identified are relevant to her. The same applies for social and immersion motivations. I have attempted to step in the shoes of such hypothetical players, and categorise the concerns accordingly. This is by no means a completely objective method and the exact choices could be subjected to much debate, but what is important here is that I believe the broader pattern can attract a reasonable consensus. The results are displayed in Table 2.2. For clarity, I have omitted the legal issues discussed above. They apply equally without being dependent on player motivations.

Assessing how much weight each individual argument should carry is difficult, but at their face value the results suggest that the desirability or acceptability of secondary markets depends on what customer needs an operator seeks to fulfil. Operators that seek to cater to achievement- or immersion-oriented players should take a more negative stance towards secondary markets than those who cater to socially-oriented players. Moreover, while there are many good reasons to react with hostility towards players selling virtual assets for real money, there may be fewer reasons to prohibit players from buying. This is especially true in the social motivation category.

2.5 A GENERAL CONCEPTION OF VIRTUAL ASSET MARKETS

In the traditional "secondary market" of virtual assets, the only market participants are players, and more recently, companies not affiliated with the operator. The market is more or less unregulated, and if it were not for certain information asymmetries, transaction costs and entry barriers, it would in theory be perfectly competitive. But let us expand the scope of investigation from secondary markets to real-money virtual asset markets in general, whether they be secondary or primary. For want of a better word, I call them real-money markets.

In real-money markets, other market structures besides perfect competition are possible as well. Industrial organisation is the field of economics that studies the structure of markets especially when they are not perfectly competitive. Common market structures identified in the field are monopolistic competition, monopoly (including 'natural'

monopoly), oligopoly and monopsony. Theoretical analysis in industrial organisation is for a large part based on game theory.

For example, in Habbo Hotel, there is no secondary market where players and companies could buy and sell virtual assets for real money. Instead, there is a market with only one seller. The seller is Sulake, the operator. Sulake maintains a monopoly over the real-money market of virtual assets in Habbo Hotel.[14] Stretching ones's imagination, one could also imagine a situation where the virtual world operator would be the only party buying virtual assets. This would be called a monopsony.

The operator can also be a seller without being a monopolist. For example, Electronic Arts has taken up selling avatars with advanced attributes directly to players.[15] At the same time, similar and better avatars are also being sold by non-operator parties (players and companies) on eBay and other marketplaces. In this case, the structure of the market is similar to ordinary secondary markets, but the market dynamics are altered. Since the operator can create assets at no cost, its supply is perfectly elastic. Therefore no seller can sell above the operator's price, in effect creating a price ceiling. In a similar way, one could imagine a market where the operator acts as a perfectly elastic buyer, creating an effective price floor. If the operator acts both as a seller as well as a buyer, there is in effect a price window inside which all prices must fall.

Table 2.3: Market structures and price controls in virtual asset markets

		Buyers			
		All parties	Non-operator	Operator	None
Sellers	All parties	**Price window**	**Price ceiling**		
	Non-operator	**Price floor**	**Perfect competition**	**Monopsony**	
	Operator		**Monopoly**		
	None				**No market**

[14] Although this is no longer entirely accurate: a tiny secondary market for Habbo assets has emerged in eBay. I will discuss this in more detail in the case study.
[15] See <http://support.uo.com/advancedcharacter.html>.

Six possible market configurations can thus be identified for real-money virtual asset markets: monopoly, monopsony, perfect competition, price floor, price ceiling and price window. In addition, there may be a situation where no market exists, either because there are no buyers or because there are no sellers. Table 2.3 displays this set of possibilities as a function of the buyers and sellers operating in the market.[16] There are some gaps in the matrix because it does not make sense for the operator to be transacting with itself. On the other hand, one could imagine a hypothetical situation where the operator's responsibility is shared between a number of parties under some arrangement, and the multiple-operator parties are transacting between each other. I return to this possibility in the case studies under the ambit of licensing.

2.6 STRATEGY AND INTERNAL FACTORS

So far I have focused on the operator's external environment, but one of the objectives of this study is to describe how internal factors relate to the choice of strategy. The most suitable theoretical approach to conceptualising this problem is provided by a stream of research in the field of strategic management known as the resource-based view ('RBV'). A key corollary of the resource-based view is that the range of effective strategies available to a company today is to some extent determined by its decisions and experiences in the past (Lockett & Thompson 2001).

2.6.1 Introduction to resource-based view

The first publication generally considered to represent the resource-based view was by Wernerfelt (1984). It was intended to be a complement to Porter's (1980) theory of competitive advantage, which is based on market positions. Wernerfelt sought to provide the same results based on resources developed and acquired by a company. At the same time, Rumelt (1984) published a paper with similar ideas independently of Wernerfelt. Rumelt's theory was not linked with Porter: it was intended to be a general strategic theory of the firm. Together these two publications comprise much of the core of what is now called the resource-based view: a firm is defined as a bundle of resources, the economic

[16] For completeness, I have included the possibility of there being no buyers or sellers in the matrix. For clarity, I have nevertheless left the "no market" marking off from the corresponding row and column except where they intersect.

value of these resources varies, and competitive advantage is derived from valuable resources that competitors find difficult to imitate.

The third classic article in the RBV is Barney (1986). Barney extends the theory with concepts and ideas that make it pertinent from the point of view of the present problem. He introduces the concept of strategic factor markets, where firms acquire or develop the resources they need to implement their strategies. Barney shows that if these strategic factor markets are perfectly competitive, even a valuable resource cannot deliver economic rents: the value of the resource must have been anticipated in its price.

However, Barney (1986) is quick to point out that markets are rarely perfectly competitive. Thanks to asymmetric information or pure luck, a company may develop or acquire a resource that turns out to be more valuable than what the market expected. Barney notes that a resource acquired today is less likely to provide economic rents than a resource acquired earlier, since today's prices reflect the resource's current value more accurately than yesterday's prices. For this reason, far-sighted decisions made in the past enable effective strategies today.

While Wernerfelt, Rumelt and Barney each provided their own definitions of *resource*, I prefer the more general definition suggested by Barney and Arikan (2001): "Resources are the tangible and intangible assets firms use to conveive of and implement their strategies" (Barney & Arikan 2001: 138). This definition is readily applicable to the present problem: There is a set of tangible and intangible assets used by an operator to conceive of and implement an economic integration strategy. The task of describing how internal factors affect the choice of strategy can be framed as the task of identifying the relevant strategic resources. Following Barney, one should also examine how the resources were developed and acquired: were they developed over time as the result of far-sighted (or lucky) decisions, bought in from the market, or acquired by some other means.

Since the three classic papers, the resource-based view of strategic management has developed with tremendous pace. Many authors are working with the theory, and it now comes in several flavours. One branch suggest that instead of using a general concept of resources, one should differentiate between resources and *capabilities*. Prahalad and Hamel (1990) define capabilities as "the collective learning in the organisation, especially how to coordinate diverse production skills and integrate multiple streams of technologies." In other words, capabilities are organisational skills that enable a firm to

exploit its resources. Resources are an input to capabilities, which in turn are used to implement strategies.

Other, more advanced distinctions have also been developed. For example, Teece, Pisano and Shuen (1997) introduced the concept of dynamic capabilities, that is, 'capabilities to develop capabilities'. Dynamic capabilities, core competencies (Prahalad & Hamel 1990) and other advanced concepts develop the theory further, but they may be difficult to apply in practice. In a study that maps an uncharted territory, I feel it is safer to stick to basic concepts. In the case studies, I differentiate between resources and capabilities when the additional theoretical distinction brings added value, but mostly it is sufficient to simply use the term resources.

2.6.2 Identifying strategic resources

Following the earlier definition, resources can be any tangible and intangible assets firms use to conceive of and implement their strategies: financial resources such as bank holdings, physical resources such as manufacturing plants, individual resources such as programming skills, and organisational resources such as unique culture (Hitt, Ireland & Hoskisson 1999). However, the resource-based view is mostly interested in a particular subset of resources: those that are able to contribute to the firm's competitive advantage.

The RBV literature offers various criteria for identifying a resource or a capability that contributes to a firm's competitive advantage. Perhaps the ones most commonly used ones are Barney's (1991) value, rareness, inimitability and non-substitutability ('VRIN'), and a developed version that comprises value, rareness, inimitability and organisational orientation ('VRIO') (Barney 1992).

According to Barney (1991; 1992), a resource is valuable if it can be used to increase revenues or decrease costs due to the firm's strategy. The value of a given resource obviously varies from company to company, depending on the existing set of resources and the strategy. A resource is rare if it is costly or difficult for competitors to acquire due to its physical scarcity. A resource is inimitable if it is costly or difficult to develop due to reasons such as restricted information or technological hurdles. A resource is non-substitutable if the same effect cannot be obtained through the use of an alternative resource combination. Barney (1992) treats non-substitutability as a special case of inimitability, and replaces it with organisational orientation: the firm's management must be aware of the resource's potential and be oriented to utilise it. This attempts to account

for the idea that a firm's management is boundedly rational. In the case studies, I identify resources and capabilities using their general definitions, and apply the VRIN and VRIO criteria to distinguish between strategic and non-strategic ones.

2.7 SYNTHESIS

In part 2.4, I discussed the viability of secondary markets from the point of view of various virtual world customer needs. The ability of players to buy and sell virtual assets may be conducive to satisfying some customer needs, but it may also seriously hinder the operator's ability to satisfy some other needs, and result in various other problems such as scamming. Some problems stem from players' ability to buy, while other problems result exclusively from players' ability to sell virtual assets.

In the traditional secondary market, only players and companies not affiliated with the operator act as buyers and sellers. In part 2.5, I introduced a general conception of real-money virtual asset markets: a one in which the operator may also be involved as a market party. Let us consider how the resulting set of new market configurations differs from the traditional secondary market in terms of the issues identified in part 2.3. The seven possible market configurations are monopoly, monopsony, perfect competition, price floor, price ceiling, price window and no market.

The first and foremost observation is that since in a monopoly the players do not participate in the market as suppliers, the negative effects associated with players selling virtual assets are eliminated. Conversely, in a monopsony the issues associated with players buying virtual assests would disappear. In other words, the whole market need not be dissolved to counter the effects of either buying or selling: monopoly or monopsony will achieve the same effect. On the other hand, the configurations that place de facto price controls would alleviate problems identified with unfair market failures. Any non-operator party would be prevented from establishing a monopoly through unfair trade practices.

In the meaning used in this study, an operator is implementing an *economic integration strategy* when it consciously strives to set in place a specific market configuration in the real-money virtual asset market of its virtual world. Based on the different customer needs identified in part 2.4, a *monopoly* strategy seems appropriate for operators focusing on social-oriented players. In addition, a monopoly strategy lowers the customer's cost of switching in while maitaning a high cost of switching out. A *monopsony*

strategy is rather hypothetical, but could be suited to an operator aiming to provide incentives for user-created content. Operators catering to achievement- and immersion-oriented players might prefer that there was no real-money market at all. Such a strategy could be called an *embargo*. Operators who neither seek to prohibit real-money trade nor take part in it themselves could be said to be following a *laissez-faire* economic integration strategy. The laissez-faire strategy corresponds to the perfect competition market configuration. Table 2.4 summarises this set of seven generic economic integration strategies.

Table 2.4: Seven generic economic integration strategies

Laissez-faire	Operator is not involved in real-money trade
Price floor	Operator enters the market as a supplier
Price ceiling	Operator enters the market as a buyer
Price window	Operator enters the market as a supplier and a buyer
Monopoly	Operator seeks to be the sole supplier
Monopsony	Operator seeks to be the sole buyer
Embargo	Operator seeks to prevent all real-money trade

By considering the subcomponent-level motivations in Yee's model (Table 2.1), it is possible to make conjectures on a number of finer distinctions in the links between strategy and customer needs. It seems to me that unlike other subcomponents of immersion, the customisation motivation would not be particularly confounded by virtual asset trade. On the contrary: the ability to buy could actually help customisers to assemble for example a perfect set of clothes for their avatar. I attempt to identify examples of this in the case studies. Similarly, the mechanics subcomponent of achievement does not seem as sensitive to secondary markets as advancement and competition. Laissez-faire or price control strategies could be most appropriate for catering to these motivations.

In addition to the links between customer needs and economic integration strategy, there is a variety of other factors affecting the choice. In part 2.3, I discussed the concerns voiced by some scholars over the legal ramifications of integrating a virtual economy to the real economy. In the most extreme case, an operator could fall under banking law due to issuing a virtual currency in which real debts can be incurred. The extend to which these concerns are pertinent, if at all, is determined by the level of integration between the real

and the virtual. An embargo strategy is certainly less risky in this sense than a laissez-faire strategy.

Figure 2.1: Choice of economic integration strategy and the factors involved

Price window Resources & cap. Customer needs Legal environment	**Price ceiling** Resources & cap. Customer needs Legal environment	
Price floor Resources & cap. Customer needs Legal environment	**Laissez-faire** Resources & cap. Customer needs Legal environment	**Monopsony** Resources & cap. Customer needs Legal environment
	Monopoly Resources & cap. Customer needs Legal environment	**Embargo** Resources & cap. Customer needs Legal environment

In part 2.6, I discussed the relationship between firm resources and capabilities and firm strategy. The set of resources available to a company affects its choice of strategy, but at the same time the strategy affects what resources are being developed and acquired in the company. Figure 2.1 summarises the set of generic economic integration strategies and the internal and external factors that affect their choice. In the case studies I elaborate on this model by examining the relationships between the various factors more closely.

3. CASE STUDIES

There are four case studies covering four virtual worlds and their operators. The companies and their respective services are Sony Online Entertainment's EverQuest, Electronic Arts' Ultima Online, Sulake's Habbo Hotel and MindArk's Project Entropia. The companies were chosen for their different approaches towards real-money virtual asset trade. The sample is far from being saturated, but for the purposes of an exploratory study the four widely different cases provide adequate grounding.

Each case study contains an introduction, a description of the service's background and development, an overview of the world and its internal economy, a description of its economic integration strategy and customer needs, and a description of the resources used to conceive of and implement the strategy.

3.1 SONY ONLINE ENTERTAINMENT: EVERQUEST

3.1.1 Introduction

Sony Online Entertainment Inc. ('SOE'), an online gaming subsidiary of Sony Pictures Digital Inc., is one of the biggest players in the global virtual world market. SOE's first MMORPG title EverQuest was launched in 1999, and for a long time it was the most popular virtual world in the Western market. EverQuest continues to be played by almost half a million active subscribers (Woodcock 2005), which is a considerable feat for a MMORPG entering its seventh year. SOE has enhanced EverQuest's longevity by producing a steady stream of expansion packs that add new content to the world.

Despite the new content, EverQuest's age is beginning to show: its features and graphics are not up to today's standards. Accordingly, SOE developed a sequel, EverQuest II. EverQuest II is set in the same medieval fantasy world, but has a cutting edge graphics engine and various improved features. It was launched in November 2004, but failed to reach the popularity of its predecessor in the increasingly competitive market. EverQuest II's active subscriber numbers capped at approximately 300 000 (Woodcock 2005).

Both EverQuest and EverQuest II are available in all the major markets in North America, Asia and Europe, though most of their player base remains in the US. In 2002,

SOE's monthly revenues from EverQuest were USD 5 million, with a gross profit margin of 40 % (Business 2.0 2002).

A vibrant secondary market emerged around EverQuest almost from the start. Hundreds of items, accounts and currency packages were listed on eBay, sometimes fetching four-figure sums for their sellers. Edward Castronova's famous article *Virtual Worlds: A First-Hand Account of Market and Society on the Cyberian Frontier* (2001) brought the phenomenon to the attention of academics and popular media alike, by describing the economic significance of EverQuest's secondary market in a rather provocative way:

> The nominal hourly wage is about USD 3.42 per hour, and the labors of the people produce a GNP per capita somewhere between that of Russia and Bulgaria. A unit of Norrath's currency is traded on exchange markets at USD 0.0107, higher than the Yen and the Lira. (Castronova 2001)

SOE was not happy with this surprise development that was not part of their business plan. In 2000 they moved to curtail the market by asking eBay to take down auctions concerning EverQuest virtual assets (CNET 2000). The effectiveness of the embargo was questionable, however, as trading then moved to unregulated sites. In April 2005, SOE seemed to admit a partial defeat by announcing that it will allow virtual asset trading in specific servers of EverQuest II (SOE 2005). Trading is to take place through SOE's special exchange system, which will enhance security while allowing SOE to capture a slice of the pie.

3.1.2 Background

EverQuest's development began in March 1996 when Sony Interactive Studios America ('SISA') hired Brad McQuaid and Steve Clover, two skilled programmers with some game development experience and a strong interest in the fantasy genre. Together they wrote the first design document for EverQuest, laying down the core game mechanics and the basic elements of the fictional world. In their work McQuaid and Clover were inspired by such classic fantasy literature authors as J.R.R. Tolkien (McQuaid 2005).

SISA devoted considerable resources to the project, and McQuaid put together a development team of more than 25 members (McQuaid 2005). The time probably seemed

ripe for an ambitious online fantasy role-playing game: Internet penetration reached high levels in the US, popular online games were emerging, and the fantasy genre was as popular as ever. SISA must have also known that their rival Electronic Arts had begun developing Ultima Online.

In 1998 SISA was renamed to 989 Studios and became a part of Sony Online Entertainment. SOE itself had recently come to being as a result of a merger between Sony Online Ventures and Sony Pictures Entertainment. More corporate restructuring followed towards the end of 1998 when it was decided that 989 Studios should focus on Sony PlayStation games: the online game team was spun off, and EverQuest development continued in a company called Verant Interactive. McQuaid became Verant Interactive's co-owner and Vice President in charge of development projects (McQuaid 2005). During this time Verant also developed Tanarus, an online tank warfare game.

EverQuest was launched in March 1999 after three years of development. It was published by SOE, but operations and community management remained initially at Verant Interactive. The next year SOE acquired Verant and their operations were merged (GameSpot 2000). Thus SOE became the operator of EverQuest. In the following years SOE went on to develop and publish nine expansion packs for the game. SOE also developed EverQuest II, but much of the original team had left the company before the sequel was launched in 2004. McQuaid himself left SOE in 2001 (McQuaid 2005).

3.1.3 Overview of the service

EverQuest is played using a native client program, which is available for Apple and Windows computers. The client was originally distributed on CDs in shrink-wrapped boxes through the usual channels for PC games, but nowadays it is rarely available in stores. Instead, SOE distributes it over the Internet for USD 9.99 per download. The expansion packs are distributed in the same ways. Sometimes some new content is also distributed free of charge over the Internet in patches that contain bug fixes and other updates.

SOE earns its revenues from client and expansion pack sales as well as subscription fees. The monthly EverQuest subscription fee in North America is USD 12.95. For EverQuest II the fee is USD 14.99. SOE also offers a bundle deal whereby a player can access EverQuest, EverQuest II and a number of other online games for a single subscription fee of USD 21.99 per month.

The client program connects over the Internet to one of several EverQuest servers, each of which runs one separate instance or shard of the game world. The original EverQuest servers were located with Verant Interactive in San Diego, but new servers have since been located in different places around the world to ensure a minimal communications latency. There are currently about 50 EverQuest servers and about 30 EverQuest II servers catering for the Western market.

As in most virtual worlds, the first thing a player does when connecting to the service for the first time is to create an avatar. In EverQuest, there are many choices to be made when creating an avatar, affecting both its appearance as well as its innate skills and abilities. Some choices can be altered later in the game, but the most important ones cannot be. For example, once a player chooses a race, a class and a religion for the avatar, there is no way to change them except by starting over with a completely new avatar.

EverQuest's fictional world is called Norrath. It is a rich medieval fantasy world with the usual mages, castles orcs and dragons, as well as lots of unique content such as gigantic living statues, all based on an elaborate background story. The fiction seems to be tuned to a slightly more mature taste than is typical with computer games. The geography consists of three continents and several smaller islands with widely varying terrain. Everything is presented to the player in 3D graphics with a first- or third-person view.

Gameplay in EverQuest is focused on combat. Computer-controlled monsters and non-player characters ('NPCs') of opposing factions frequently feel the wrath of players' virtual weapons and spells. Successful combat is rewarded with whatever loot the player is able to recover from the enemies' corpses, as well as experience points that gradually improve the avatar's abilities. Vanquished monsters and NPCs spawn back to life after a while to provide fresh targets for other players. In certain circumstances players may also combat other players. Should an avatar die, it can be brought back to life with certain minor drawbacks. Dying is never fatal.

EverQuest, like most MMORPGs, has a level system: an avatar starts out being a level 1 character, but once it has accumulated enough experience points in combat, it "gains a level" and becomes level 2. The higher the avatar's level, the more powerful it is. But a higher level avatar must also combat more powerful monsters in order to gain experience. Thus no matter what the avatar's level, its prowess relative to the monsters it is facing will always stay constant.

Players communicate with each other by typing text which is shown in a chat window, and by instructing their avatars to gesture. The system facilitates the formation of 'guilds': hierarchical player organisations that organise activities such as hunting parties and share resources among each other. Role-playing is not uncommon in EverQuest: some players think up a background story for their avatars and act and talk according to it. Player groups, guilds and communities also interact outside the service itself in fansites and discussion forums.

3.1.4 Virtual economy

EverQuest avatars are equipped with all sorts of gear to help them on their adventures and to impress their peers: swords, maces, spears, staffs, bows, tunics, cloaks, gloves, bags, hats, helmets, torches, charms, necklaces, lutes, flutes, books, grilled fish, beer barrels and so on. Some items are extremely useful and some are completely useless. An item's utility also differs from avatar to avatar: a lockpick is not much use to one who does not know how to use it. In addition to functional value, players are also interested in an item's appearance and meaning. Some items, called artifacts, are unique: there exists no more than one of each on each server.

Norrath has a single official currency system. It consists of four units: copper, silver, gold and platinum pieces. One platinum piece equals 10 gold pieces, one gold equals 10 silver, and one silver piece equals 10 copper pieces. Money and items are obtained through looting the corpses of fallen enemies, as rewards for completing quests, by using trade skills such as blacksmithing, and by trading. Avatars can trade with other avatars as well as NPC merchants. Trading with NPCs is straightforward: find an interesting merchant (an innkeeper for example), examine their wares and prices on a list, and buy or sell.

Trading with other avatars is carried out in a similar way in a special bazaar area where players can set up their avatars to act as automated vending machines. Outside the bazaar players can trade by shouting their buy and sell offers on a chat channel which is visible to all players within the same area. Interested parties agree on a meeting place and carry out the transaction using a secure trading screen: players construct their offers by dragging items from their inventories into their respective sides of the trading screen, and when both sides indicate that they are happy with the proposed arrangement, the system

carries out the transaction. However, some items, often the more powerful ones, cannot be transferred between players at all.

Castronova (2001: 26-27) notes that while EverQuest's avatar-to-avatar trade has high transaction costs due to the difficulty of connecting with a trade partner,[17] it is encouraged by the fact that NPC merchants generally have a large spread between their buy and sell prices. In addition, many items are simply not available from NPC merchants. On the other hand, NPCs will buy any items for fixed prices in limitless quantities, even poor items that players would not agree to buy. Castronova observes:

> [The NPC merchants] act effectively as employers, and the pattern of their buy offers set the wage for different activities. Unfortunately, the pattern of these buy offers seem to encourage 'farming'[18] over adventuring, because the special items that require risky adventures do not command a sufficiently high price premium from [the merchants]. (Castronova 2001: 27)

Castronova also notes that the EverQuest economies are suffering from a peculiar form of deflation, known by some as 'mudflation'. More and more items are continuously being produced out of thin air through killing and looting. Even the rarest items gradually become common gear, and their prices tumble. Castronova observed that the prices of some newly introduced items fell by 59 % in nine months (Castronova 2001: 34-35). For this reason SOE must constantly add new item types to the monsters' loot tables to provide any sort of reward. In EverQuest II, SOE is attempting to counter this problem by making items wear out with use, so that the total stock of items in the economy stays approximately constant.

Avatar-owned real estate does not exist in EverQuest, but EverQuest II does allow players to purchase housing. Houses can be furnished, used as storage rooms, and used to entertain guests. Housing is purchased from NPC merchants at fixed prices. Their supply is unlimited: they exist in kind of multiple parallel worlds, so that they do not take up any land on Norrath. Houses are not transferrable between avatars, however. There are also

[17] Although this situation has improved somewhat with the introduction of the bazaar, which did not yet exist at the time Castronova wrote (2001).
[18] 'Farming' refers to extremely repetitive killing of easy monsters to obtain large amounts of loot. In some cases farming may even be automated using a macro or a script.

banks on Norrath, but they are actually just storage rooms: they pay no interest on deposits and are oblivious to the concept of loan.

3.1.5 Economic integration strategy

Less than a year after EverQuest was launched, there was already a vibrant eBay market for accounts, items and currency. SOE saw this as a problem. One big issue were the frauds that would sometimes take place: promised items were not delivered or did not match the sellers description. Annoyed customers had no-one else besides SOE to complain to,[19] which placed the operator in a difficult position (CNET 2000). Dealing with scam complaints also began taking up significant amounts of time from SOE's customer service representatives.

If at first SOE's attitude towards the secondary market had been laissez-faire, they soon changed to pursue an embargo strategy. In early 2000 SOE officially banned the secondary market by adding clauses to their end-user license agreement ('EULA'), which all players must agree to before being able to access the service.

> "8. [...] You [...] agree that you have not and will not [...] obtain any intellectual property or other rights, including any right of exploitation [...] in any character(s), item(s), coin(s) or other material or property, and that all such property, material and items are exclusively owned by us."

> "9. [...] You may not buy, sell or auction (or host or facilitate the ability to allow others to buy, sell or auction) any Game characters, items, coin or copyrighted material." (SOE 2000)

The EULA change did not seem to affect the market and trading continued. In January 2001, after a bit of a wrangle, SOE managed to convince eBay and Yahoo Auctions to take down all auctions related to EverQuest virtual assets. According to eBay, the ban was based on SOE's intellectual property rights, which SOE claimed were being violated in the real-money trade (CNET 2001). However, the ban did not seem to be very effective: trading simply moved from eBay to other marketplaces. For example, while there are no

[19] Normally an aggrieved party in an eBay transaction can seek remedy from a number of instances, but many will turn a deaf ear if the incident is related to virtual assets. For an example, see <http://www.juliandibbell.com/playmoney/2003_10_01_playmoney_archive.html#106645520484229563>

EverQuest-related virtual assets currently on sale at eBay, a search on one of the alternative marketplaces called PlayerAuctions.com yields 1 229 results.

SOE seems to lack the means to enforce its embargo on these smaller auction sites and brokers. If it was indeed the case that some intellectual property right was being infringed, SOE might be able to bring action for some kind of authorising infringement. The only intellectual property rights that could apply in this case are copyright and trademark, but there are numerous issues with the claim that copyright or trademark is being violated when control over a virtual asset changes hands as a result of an auction. For one, it is not clear whether copyright subsists at all in virtual assets such as currency. If it does, it is probably limited to their graphical representation and not to the database entry. And whether auctioning falls within one of the copyright holder's exclusive rights is also questionable. At least it is clear that no copying takes place in an auction.

I am guessing that the vague reference to unspecified intellectual property rights is intended more as a deterrent, as is often the case today. An actual cause of action would be breach of contract: players have have agreed to keep away from secondary markets by accepting the EULA. EBay, however, is not party to the agreement, so they had no obligation to stop the trade. They also probably do not want to get involved in enforcing other people's contracts. This could be another reason why SOE came up with the intellectual property claim: eBay does take down auctions when somebody steps forward and declares that they are the real owner of the property under auction (CNET 2001). PlayerAuctions.com and others will not take down auctions, however, and there seem to be few legal means for SOE to compel them to do so.

SOE could take the breach of contract and go directly after its customers, "RIAA style". There is anecdotal evidence that they have occassionally done this. However, here SOE faces three problems: 1) there are obvious public relations implications with shutting down accounts en masse or taking legal action against one's customers; 2) it is difficult to identify which customers are in breach: the auction sites will not provide this information, though high-volume traders could perhaps be identified by their unusual behaviour patterns inside the game; 3) if either party takes the issue to court, and the court has to pass judgement on the EULA, it might even turn out that parts of the EULA are declared invalid due to anxiety over consumers' rights. Lastowka and Hunter (2004) and Gervassis (2004) examine the issue from a legal standpoint and express some concerns to this effect.

Then there is IGE, the number one virtual asset trading company. Regardless of SOE's actions or attitude towards auction traders, IGE has never ceased trading EverQuest assets. A browse through the IGE website[20] reveals that they have hundreds of accounts, hundreds of items and thousands of platinum pieces in their catalog. They even boast typical delivery times as short as 15-20 minutes. Yet IGE says no operator has ever asked them to stop trading (Financial Times 2004). I do not believe for a moment that SOE would not have had the means to stop IGE if it had wanted to. IGE admits on their website that their representatives habitually log into EverQuest to make deliveries (IGE 2005b), meaning that they have accepted the EULA and are in breach of it. None of the three EULA enforcement problems identified above would apply against a company. IGE's accounts could be terminated in an instant.

Some speculate that IGE is paying operators a slice of revenues in exchange for peaceful tolerance. In other words, IGE would be operating on a paid license, which would explain the current situation. This is not necessarily the case, though. If SOE's primary concern with secondary markets is indeed the scamming problem, then concentrating all trade in IGE is a solution to this problem, as IGE has proven itself to be a trustworthy trader. This might be a better strategy than banning trade altogether, if customers actually benefit from trade. If so, SOE has an incentive to tolerate IGE even without brown envelopes. Revenue sharing or not, the relationship between SOE and IGE almost resembles a licensing arrangement to an outside observer.

However, there has recently been an interesting development in SOE's strategy. In April 2005, SOE took the whole virtual world community by surprise by announcing a new service called Station Exchange. It is in effect an auction site, similar to eBay and PlayerAuctions.com, except that since it is being run by SOE, it can provide security and surety that no third-party auction site can. It allows players to trade avatars, items and currency between each other for real money, but there is an important caveat: trade is only allowed in specific servers of EverQuest II. Assets from the original EverQuest or other titles will not be traded at all. Obviously what will not happen is that all real-money trade would concentrate on the exchange-enabled servers. Rather, I think it is a test, and an interesting one at that. Will immersion and sense of achievement be destroyed on the exchange-enabled servers? Will players invent new modes of play? If the concept works

[20] <http://www.ige.com/>

out at all, I expect it to be extended to the original EverQuest and other SOE-operated virtual worlds before long.

In summary, SOE started out with a laissez-faire attitude towards real-money trade, but when problems surfaced, it attempted to enforce an embargo. The embargo was not very successful, and now SOE is perhaps attempting to enforce a strategy based on implicit licensing. At the same time, it is about to begin experimenting with an improved form of laissez-faire, an operator-owned marketplace. Such a marketplace-based strategy has some radically different implications compared to laissez-faire. I will develop this idea further in part four.

3.1.6 Strategy and customer needs

The average EverQuest players are in their mid-twenties, somewhat older than other online game players (Castronova 2001: 24; Yee 2001).[21] Their gender distribution is more typical: the vast majority of players are male.[22] EverQuest players are extremely dedicated to the game: Castronova (2001: 25) found that a third of all respondents spent more time playing EverQuest than working. This is despite that one in five were married or cohabiting and 15 % had children to care for. Most respondents also agreed that they would like to spend more time in the game than they currently do (Castronova 2001: 22). No wonder even SOE executives have referred to the game as EverCrack (CNET 2000).

Since EverQuest is strongly focused on the leveling system, it supports achievement-oriented play very well. Considering Yee's (2005) model of player motivations, one should therefore think that EverQuest players would tend to be motivated primarily by achievement and advancement. However, in Yee's (2001) survey respondents were asked to rate how appealing they found certain aspects of EverQuest, and the three most appealing things were "exploring a fantasy world", "social interactions" and "achieving goals". These three responses sound like the main components in Yee's (2005) motivations model: immersion, social and achievement. It would appear that EverQuest satisfies a wide range of customer needs.

When the EverQuest secondary market emerged, many players complained to SOE that buying virtual assets for real money was "cheating". As discussed in part 2.4, such

[21] Castronova (2001) found the average age to be 24.3, while Yee (2001) obtained an average of 25.6. Both studies are based on data collected in 2001, and it is possible that the demographics have since changed one way or the other.

[22] Castronova (2001) found the proportion of female players to be 7.8 %, while Yee (2001) found it to be 16 %.

arguments point towards achievement-oriented players. And whatever the primary reasons behind SOE's embargo, they responded that they will "create a level playing field" by banning the market (CNET 2000). In other words, they said that they will implement a strategy that caters to the achievement-oriented players. This made sense, since that is what EverQuest was originally designed for. But as shown by Yee's (2001) study, achievement is only part of the spectrum. There are some players whose needs are not satisfied by an embargo.

SOE's new strategy with Station Exchange involves creating separate servers for those who prefer the embargo and those prefer a market. This way SOE is "answering the demands of a sizeable proportion of [their] subscriber base", according to a press release (SOE 2005). In other words, SOE has realised that there are multiple customer segments with varying needs, and is now attempting to create two separate offerings to satisfy them all better. I discuss the viability of this strategy in more detail in part 4.

In Yee's (2001) survey about half of respondents said they have tried playing EverQuest on a player-versus-player ('PvP') server at least once. On PvP servers, players are able to attack each other instead of just computer controlled opponents. This results in a much more competitive, live-and-let-die kind of atmosphere. Yee found that players who enjoy playing on PvP servers are significantly younger than those who find PvP servers to be very unenjoyable. Interestingly, Yee's also found that those who have never bought items from eBay are significantly younger than those who have.

The above findings are consistent with some of the popular arguments cited in part 2.3: that older players have more money than time and are thus inclined to buy their way ahead to keep up with the younger ones; and that competitive play is incompatible with real-money trade. On the other hand, other explanations are possible as well: maybe young players are less likely to buy from eBay because many of them do not have credit cards yet.[23]

3.1.7 Resources and capabilities

Originally SOE had no economic integration strategy. McQuaid and Clover had a background in single-player computer role-playing games, which is strongly reflected in EverQuest. The resulting achievement-oriented game mechanics strongly favour the formation of secondary markets: focus is on levels and items, in-world trade is

[23] Although I am told that in North America, EverQuest's primary market area, credit card companies issue cards in a rather liberal fashion.

cumbersome, advancement is slow and switching costs are enormous. Secondary markets quickly emerged, and the embargo strategy was conceived as a reaction.

Implementing an embargo strategy in these conditions required lots of resources: staff to monitor trade activities, technical monitoring tools, a legal department able to mass-produce convincing threats, sufficient financial stature for legal threats to seem credible, and the capability to influence major players like eBay. SOE, by virtue of being a Sony company, must have had all this, but still they failed.

The new Station Exchange strategy, involving a regulated market on some servers and an embargo on others, leverages different resources. The exchange platform, while not yet launched, probably utilises SOE's customer databases and billing infrastructure for authentication and payment. It also benefits from SOEs brand and position of trust as an operator. As a result, SOE's service will be able to offer superior convenience and security compared to PlayerAuctions.com and other intermediaries in the market. Since SOE has these resources by virtue of being the operator, they are unique and quite inimitable by others. Station Exchange will enjoy a persistent competitive advantage over rival auction sites in the segments in which it operates.

On the other hand, compared to other operators, there is nothing unique about SOE's customer database or billing infrastructure. Their brand and reputation are also shadowed by hit operators such as Blizzard Entertainment. It seems that any operator could imitate SOE's Station Exchange at any time. Enforcing the embargo on the rest of the servers will probably still be the same uphill battle, though.

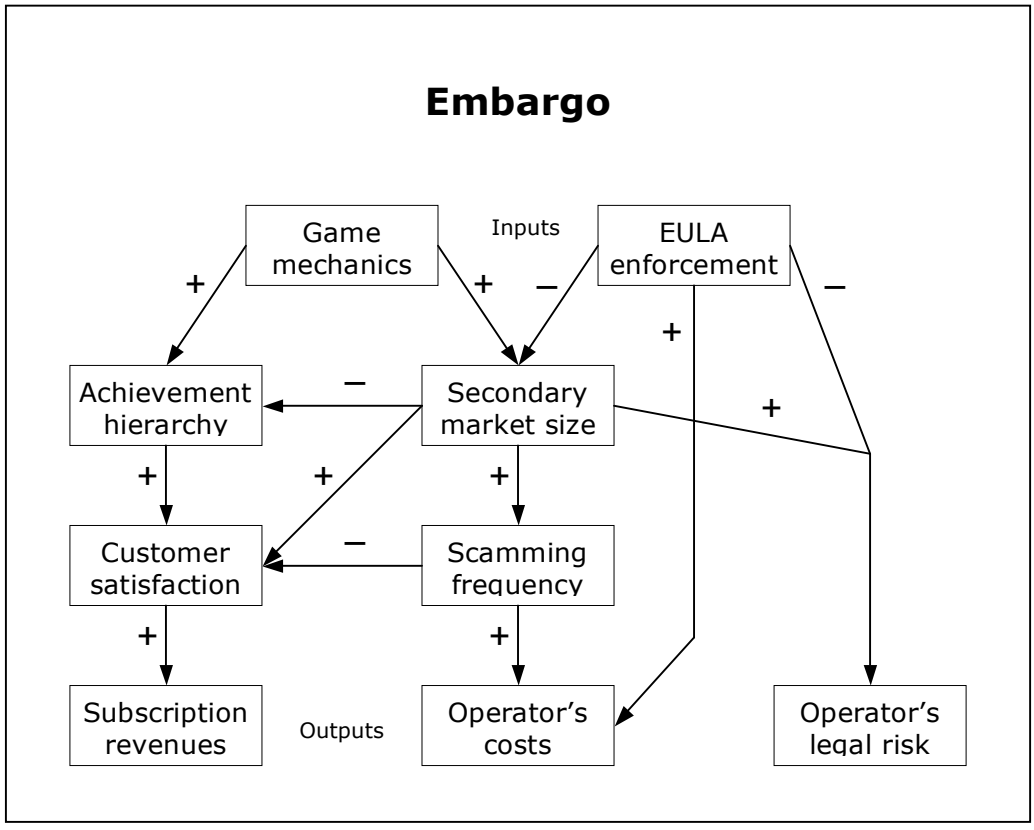
3.1.8 Synthesis

Figures 3.1 and 3.2 present SOE's embargo strategy within the framework of this study. Figure 3.2 depicts possible interrelations between the various internal and external factors affecting the strategy. A directed link accompanied by a plus sign denotes positive influence and enhancement, while a minus sign signifies the opposite. Achievement hierarchy is depicted as a factor in its own right. The needs of non-achievement-oriented customers who actually benefit from real-money trade are included implicitly as the positive link between secondary market size and customer satisfaction. The licensing and marketplace provision based variations on SOE's strategy are covered in a separate discussion in part 4.1

Figure 3.1: SOE's economic integration strategy

Price window	Price ceiling	
Price floor	Laissez-faire	Monopsony
	Monopoly	**Embargo** Resources & cap. Customer needs Legal environment

Figure 3.2: Dynamisms between internal and external factors in SOE's embargo strategy



3.2 ELECTRONIC ARTS: ULTIMA ONLINE

3.2.1 Introduction

Ultima Online was the first popular massively-multiplayer online role-playing game. Even gamers who have never played it have usually heard about it, thanks to the long history of the Ultima series of role-playing games. Ultima Online was developed by Origin Systems, Inc. and published and operated by Electronic Arts Inc. It was launched in 1997 and still has approximately 150 000 active subscribers (Woodcock 2005). Servers are running in North America, Europe, Japan, Korea, Taiwan and Australia, and Electronic Arts claims it has players in 114 countries. There are six expansion packs for Ultima Online, the latest was published in November 2004 (Electronic Arts 2005).

3.2.2 Background

Origin Systems was founded in 1983 by Richard Garriott and others. Garriott had been programming computer role-playing games since highschool, and had already released Ultima I, Ultima II and various other titles. His sources of inspiration included the typical Dungeons & Dragons and J.R.R. Tolkien, but later also the Society for Creative Anacronism ('SCA'), a historical re-enactment society he joined in 1980. From 1983 to 1992 Origin developed and published a number of role-playing games, including Ultimas III through VII. The series was a major success, selling millions of copies through the years. Especially Ultima VII was highly acclaimed by critics for its very open-ended game world.

One of the distributors for the Ultima series was Electronic Arts. In September 1992, Electronic Arts acquired Origin Systems. Garriott and the team continued developing Ultima games, releasing Ultima VIII in 1994. Around this time they also started planning an online version of Ultima, and Raph Koster was hired as the lead designer. Koster had a similar background to Garriott, having programmed and sold games since his school days, but was ten years Garriott's junior. Koster also had experience from MUDs,[24] which was very relevant to the task at hand.

Ultima Online was launched in September 1997 after a short period of beta testing. At first it was a very open-ended world, where players were free to do many things without

[24] Multi-User Dungeons/Dimensions ('MUDs') are the textual predecessors of graphical virtual worlds.

hard-coded rules interfering. It was expected that the player society would soon evolve to take care of things such as security. However, murder and robbery prevailed. One reason for this sad result was thought to be the fact that Ultima Online's players turned out to be quite a bit younger than Koster had expected. "[Y]ou can practically set your watch by the time the miner killers come out, as it's when their players get home from school", commented one early player.[25] The designers were forced to change the rules many times before finally making it impossible for avatars to harm each other except in pre-determined areas.

In 2001, almost four years after its release, Ultima Online reached 250 000 active subscribers. That was then more than a third of the whole Western market. It maintained this player base until 2004, when the numerous competing services it had inspired began taking their toll. Today Ultima Online has approximately 150 000 active subscribers, while the total player base is measured in millions (Woodcock 2005)

3.2.3 Overview of the service

Ultima Online is played using a native client program designed for the Windows operating system. Fans of the game have also developed a compatible version that runs on Linux. The client is distributed on CDs in shrink-wrapped boxes through the usual channels for PC games, and sells for about the same price. The expansion packs are distributed in the same way. Like most MMORPG operators, Electronic Arts earns its revenues from client and expansion pack sales as well as subscription fees. Currently the monthly subscription fee is USD 12.99. The client program connects over the Internet to one of several Ultima Online servers, each of which runs one separate instance or shard of the game world.

Avatar creation in Ultima Online is similar to other role-playing games in that the player is presented with a host of choices affecting both the avatar's appearance as well as its innate skills and attributes. However, unlike in EverQuest, the initial selection does not dictate the avatar's future outlook so strongly, meaning that the players have more choice over which direction they develop their avatars to. There are no set races or classes. Avatars can pick up new skills and forget old ones as they advance.

Ultima Online's medieval fantasy world Britannia follows the strong legacy of the earlier Ultima games. The civilised parts of the world are ruled by Lord British, a noble and virtuous king, but there are always orcs and monsters lurking in the hinterlands and

[25] See <http://www.aschulze.net/ultima/stories9/release1.htm>.

causing trouble to players. Gameplay is quite varied: players can focus on diverse activities from fishing to thieving. Crafting activities such as blacksmithing are especially popular. Overall, there are about 50 such skills (Simpson 1999). While it is possible to play the game entirely without fighting, combat remains an important element for most players. Players can attack computer-controlled monsters and NPCs and engage in combat with other players in designated areas. The rewards loot and combat skill increases Communication between players is handled by typing text which appears on top of the avatar. Long-distance chat between acquaintances is also possible.

An implicit objective of the game is to develop a powerful avatar through improving the various skills all the way up to the status of grandmaster. A single avatar cannot excel in all skills, so most players actually maintain several avatars simultaneously, playing one at a time in turns. The next implicit objective is to gather as much wealth as possible to maintain a lordly lifestyle: silk, castles, and virtual jewelry. Since the game has been running for years, many players have already reached the highest proficiencies multiple times. Now they just log in to socialise, fight, role-play, or generally mess about.

3.2.4 Virtual economy

Ultima Online designers originally had the ambitious goal of creating a complex, realistic in-game economic system. However, due to bugs and design flaws, the economy experienced various crises such as hyperinflation, which once rendered gold pieces, the official currency, nearly worthless (Simpson 1999). It also became apparent that a real market economy might not be the best vehicle for satisfying customer needs: after all, MMORPGs are meant to be an alternative to the pressures and restrictions of the real world. “If they spend four hours hunting wolves when the price of wolf pelts is rock bottom, they don’t like being told to hunt something else instead”, Bartle (2003: 305) remarks. During the years, Ultima Online’s economic system has undergone many changes and has served as a great lesson for the whole MMORPG developer community.

Simpson (1999) describes the Ultima Online economy in great detail, as it was both before the design changes and after. The main difference is that it switched from a closed system, where total wealth remained constant, to an open system, where resources are created and destroyed at suitable paces to keep prices stable. The new model is generally known as the “faucet-drain” model.

There is a rich variety of tradeable virtual assets in the Ultima Online economy. Items of personal property range from armour and clothes to foods, magical reagents, tools, and raw materials. The majority of items are created out of thin air when they are looted off the corpses of fallen monsters. Many items can also be created by NPC merchants and players who possess suitable crafting skills. Items crafted by players consume raw materials, which can be acquired through skills such as mining and lumberjacking (Simpson 1999).

In addition to personal property, avatars may also own realty. Buildings come in many sizes and shapes, and since the Age of Shadows expansion pack, players have also been able to design their own. To construct a new building, a player must buy a deed from an NPC for a significant amount of gold. Then the player must find a suitable plot of land. Unoccupied land is not owned by anyone, but suitable plots are very scarce. Best spots have been taken years ago. For this reason, old buildings are often traded for significant premia.

Similar to EverQuest, Ultima Online's avatar-to-avatar market system is rather primitive. Avatars in close proximity to each other may negotiate using the chat system and then carry out a transaction using a trade screen similar to other MMORPGs. Avatars may also set up their own NPC vendors to sell whatever they wish at fixed prices. Finding suitable offerings and comparing prices therefore takes time. There is no official central marketplace, though de facto marketplaces do emerge. The fact that there is no reliable market where assets could be acquired with low transaction costs encourages players to hoard massive amounts of goods in their houses.

3.2.5 Economic integration strategy

Ultima Online's secondary market was the first of its kind. Electronic Arts noted its emergence in a 1999 press release: "In recent weeks, people have been flocking to one of the Internet's best-known auction sites, eBay, to bid on Ultima Online (UO) accounts, being sold by UO players. Several of the accounts have traded at more than $2,000 and two accounts have sold for $3,000 each." (Electronic Arts 1999) Gold, items and realty were also on offer.

Ever since that first press release, Electronic Arts has taken a remarkably lenient approach towards the secondary market. They have not changed their EULA to disallow it, nor have they asked auction sites to take down entries. In their terms of service they merely

disclaim any liability for scams and advise players to use caution when trading. On the Ultima Online website, they provide a warning, entitled "Be cautious when buying outside the game":

> If you are scammed outside the UO game system, such as through eBay, Tradespot, or another auction site, this is a legal issue and not an in-game issue. Players shouldn't page or e-mail GMs or other OSI staff with information or complaints about this type of fraud. If you wish to pursue fraud charges, please contact your local police; we will release relevant information only to law enforcement officials. (Electronic Arts 2005)

Clearly, they are pursuing a laissez-faire strategy when it comes to virtual asset trade. Electronic Arts does have an official Account Access Transfer Program,[26] but it is not a transaction platform like SOE's upcoming Station Exchange. The buyer and the seller must conclude the deal by some other means such as eBay. The program is simply a way for the players to let Electronic Arts know that an account has changed hands. It provides security for the buyer, who will from that point on be recognised by Electronic Arts as the legitimate owner, should dispute arise. However, Electronic Arts charges USD 30 for the service, and it involves a significant transaction cost: sending paper forms through conventional mail.

Most interestingly, Electronic Arts also has their own Advanced Character Service.[27] For USD 29.99, a player can transform a new, unskilled avatar into a moderately skilled one. There are 10 skill sets to choose from, and only one set can be purchased for an avatar. The templates include Warrior, which turns the avatar into an able fighter, and Bard, which teaches the avatar musicianship, peacemaking, and magic resistance among other things. The service can only be applied to a previously somewhat unskilled avatar, so it cannot be used to boost high-level avatars. For some reason, the Advanced Character Service is not available at all on Japanese and Korean shards.

Using Electronic Arts' Advanced Character Service is clearly a substitute to buying a similar avatar from eBay. It differs in that it does not deliver any valuable property that an seasoned avatar would usually possess, but then property can be purchased separately. In my model of generic economic integration strategies, this is an instance of the price

[26] See <http://www.uo.com/acct_xfer.html>.
[27] See <http://support.uo.com/advancedcharacter.html>

ceiling strategy: no player or company should be able sell a comparable avatar for more than what Electronic Arts is charging, assuming that the market is efficient. In fact, Electronic Arts should actually be able to command a premium, thanks to the zero risk of fraud.[28] In summary, Electronic Arts pursues a laissez-faire economic integration strategy, except that in the avatar attribute market it has established a price ceiling for moderately skilled avatars.

3.2.6 Strategy and customer needs

The Ultima Online player community reacted to the secondary market with mixed feelings. Discussion forums, such as the semi-official Ultima Online forum at Stratics.com,[29] are full of the familiar arguments: the game is like sports and buying is cheating; buying breaks the achievement hierarchy; and buying disrupts the atmosphere of the world. On the other hand, some say they do not care as they cannot tell whether an avatar is "legit" or bought anyway. One poster said he was happy there was a secondary market, because he was quitting Ultima Online and wanted to liquidate his assets. Some fans at Stratics.com compared Ultima Online to other MMORPGs and thought that Ultima's gameplay is more resistant to the negative effects of real-money trade: it has skills instead of levels; there are plenty of other activities besides combat; and there is much less "camping for rare spawns" than in EverQuest.

When the Advanced Character Service was introduced in September 2002, it caused an outrage in the player community. Forums were filled with complaints, petitions signed, and virtual demonstrations held. The vocal opponents thought that the service was "lessening the sense of achievement" and that it will "unbalance the game" (Stratics 2002). On the other hand, a proponent said that "Some have limited play time and may wish to spend the time *playing* the game rather than building skills so they can eventually be able to play" (Stratics 2002). Obviously the two sides had a different perception of what constitutes play. In any case, it was quickly pointed out that the "advanced" characters are actually rather mediocre avatars, and as such will not affect the game much, certainly not

[28] It would be interesting to examine prices on eBay and elsewhere to see how well this rule holds. I did not attempt such an investigation for this study, because it is actually a rather complicated task: one must account for the fact that there are usually multiple avatars of varying skill associated with each account on sale at eBay, and that each avatar may be holding valuable possessions. The problem could perhaps be formalised using Castronova's (2004a) avatar attribute pricing model.

[29] There is no official Ultima Online discussion forum, so developers use the Stratics.com forum to communicate with the player community.

as much as eBay already does. The turmoil died down quickly, though many players say they quit Ultima Online as a result of it (Stratics 2002).

Apparently players have widely differing motivations for playing Ultima Online, and it may not be possible to reconcile them under one economic integration strategy. I suspect that the Advanced Character Service is a feature for a MMORPG that is approaching the end of its life cycle. At this stage, any new Ultima Online subscriptions are likely to be from returning customers. Most existing customers have achieved much of what there is to achieve, and the motivational focus has shifted from advancement to spending time with old friends. Returning customers have already gone through the skill development treadmill at least once, and might not be looking forward to doing it again.

Regardless of motivations, Ultima Online players may also be drawn to secondary markets due to their low transaction costs compared to in-world markets. A player looking for a specific piece of equipment or a particular kind of real estate will find it much easier to type it in the search box in eBay than to seek out a seller in the land of Britannia. Sites like Stratics.com try to alleviate this by providing means for buyers and sellers to connect outside the game even when they do not intend to use real money.

3.2.7 Resources and capabilities

Electronic Arts' laissez-fair strategy was simply a decision not to react to the surprising emergence of secondary markets. As such, the only resource really required to implement it was the secondary market. Unlike its mirror, the embargo strategy, laissez-fair is easy to implement even without substantial financial resources. However, the virtual world and customer needs must be suited to real-money trade or otherwise the strategy risks destroying more value than it creates. Game mechanics that are at least slightly resistant to the negative effects of secondary markets have helped Electronic Arts create value with the strategy.

Compared to laissez-faire, the price ceiling strategy that Electronic Arts is implementing in the avatar attribute market has the added benefit that it is able to capture a part of the created value directly to the operator. All the technical resources required to implement a price ceiling, such as billing and account management, are such that Electronic Arts already has them by virtue of being the operator. Thus Electronic Arts was able to implement its whole economic integration strategy without acquiring any additional resources.

In retrospect, perhaps better resources in customer relations management would have helped Electronic Arts reduce the turmoil caused by its strategy choices in the player community. Some of the outrage expressed in the community may have been strongly exaggerated, an unnecessary source of value destruction. For example, most MMORPGs today have official player discussion forums.

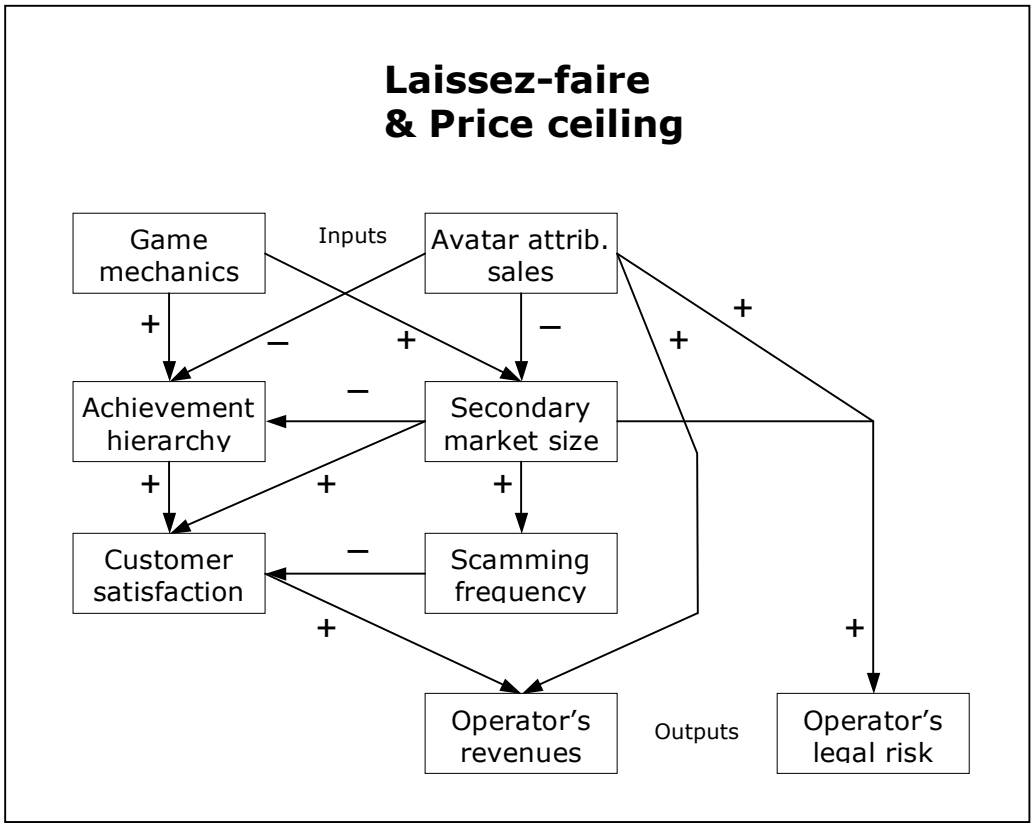
3.2.8 Synthesis

Figures 3.3 and 3.4 present Electronic Arts' economic integration strategy within the framework of this study. Figure 3.4 depicts interrelations identified above between the various internal and external factors affecting the strategy. A directed link accompanied by a plus sign denotes positive influence and enhancement, while a minus sign signifies the opposite. Achievement hierarchy is depicted as a factor in its own right. The needs of non-achievement-oriented customers who actually benefit from real-money trade are included implicitly as the positive link between secondary market size and customer satisfaction. Note the multiple revenue streams and apparently high legal stakes involved with this strategy.

Figure 3.3: Electronic Arts' economic integration strategy

Price window	**Price ceiling** *(avatar attributes)* Resources & cap. Customer needs Legal environment	
Price floor	**Laissez-faire** *(other asset types)* Resources & cap. Customer needs Legal environment	Monopsony
	Monopoly	Embargo

Figure 3.4: Dynamisms between internal and external factors in Electronic Arts' strategy



3.3 SULAKE: HABBO HOTEL

3.3.1 Introduction

Sulake was founded in 2000 by two young Finnish digital media professionals, Sampo Karjalainen and Aapo Kyrölä. The company's flagship service is Habbo Hotel: an open-ended virtual world aimed at teenagers. Localised versions of Habbo Hotel are currently running in 16 countries: Australia, Canada, Denmark, Finland, France, Germany, Italy, Japan, Netherlands, Norway, Singapore Spain, Sweden Switzerland, UK and the USA. China and Korea are next in line (Sulake 2005c). According to Sulake, the service attracts 3.6 million unique users each month (Sulake 2005b). Johnson and Toiskallio (2005) estimate that around 25 % of Finnish teenagers access Habbo Hotel at least once a month.

Access to Habbo Hotel is free and unrestricted, as Sulake's revenue model is based on virtual asset sales. Sulake maintains a monopoly over currency sales and attempts to enforce an embargo on other virtual assets. The strategy seems to have been a considerable success so far. Sulake's estimated revenues for 2004 were EUR 15 million, up from EUR

4.9 million in 2003 and EUR 2.3 million in 2002 (Sulake 2004). In January 2004 Sulake had 45 employees, while in April 2005 the company had more than 170 employees worldwide, most of whom are working with Habbo Hotel. In January 2005 Sulake secured a significant investment from Benchmark Capital, one of the owners of eBay (Sulake 2005c).

3.3.2 Background

Habbo Hotel was developed inside Sulake by a small team of developers lead by Sampo Karjalainen and Aapo Kyrölä. It represents the latest installment in a series of similar services developed by Karjalainen and Kyrölä even before the founding of Sulake. Each service in the series retains some elements from the earlier ones while also introducing new ideas. In this respect, Habbo Hotel is the end result of a long, incremental development process.

Karjalainen's background is in audiovisual design, while Kyrölä is a skilled programmer (Talouselämä 2005). During the 90's they both worked for To The Point Oy, producing children's multimedia products, corporate multimedia presentations, CD photo compilations and other audiovisual products peculiar to the decade. Karjalainen was responsible for the visuals, while Kyrölä programmed user interfaces and scripts that allowed designers to compile multimedia presentations without the need for programming skills. In 1998, Karjalainen and Kyrölä both moved to Satama Interactive, a prominent Finnish new media development and consulting agency. Karjalainen began working on the Internet equivalent of multimedia presentations, the so-called rich media: animated, interactive elements often displayed on web pages and banner advertisements. Kyrölä was assigned to Satama Interactive's technology team, where he focused on back-end server programming.

In autumn 1999, Karjalainen and Kyrölä launched their first persistent multiplayer on-line environment dubbed "Mobiles Disco".[30] They developed it on their free time as a project where they could exercise their creativity freely, something that their day jobs did not always permit (Talouselämä 2005). It was a purely non-commercial leisure activity with no revenue models attached. The client program was like a piece of rich media: a Macromedia Shockwave object embedded into a web page, playable with any browser

[30] Despite the name, Mobiles Disco had nothing to do with mobile phones. The name comes from an unknown Finnish rap band called Mobiles, who were involved with the creation of the service (Talouselämä 2005). One cannot help also noticing that the childrens' plastic play figures called Playmobiles bear a passing resemblance to Mobiles Disco avatars.

fitted with the Flash plug-in. Karjalainen and Kyrölä never thought of Mobiles Disco as a game: instead, they wanted to create a "virtual meeting place" (Talouselämä 2005). Upon first logging in, a user would create an avatar by choosing its head, body and leg graphics from a pre-made selection. The user would then be presented with an isometric 3D view of the "disco". It consisted of two rooms: a bar and a dance floor. Users could move their avatars around the rooms, make their avatars dance, talk to other users by means of speech bubbles, and order drinks from the NPC bartender. Mobiles Disco attracted a loyal user base that helped Karjalainen and Kyrölä develop the service further.

After Mobiles Disco, Karjalainen and Kyrölä developed "Lumisota" ("Snowball Fight"). Unlike Mobiles Disco, Lumisota was a commissioned job, so Karjalainen and Kyrölä had to consider maintenance, scalability, stability and other operational issues more thoroughly than before. However, as Lumisota was commissioned as part of an advertising campaign, there was still no need to build in a revenue model. Launched in 2000, Lumisota looked and played much like Mobiles Disco, with alpine huts where avatars could congregate and socialise. In addition, there was a built-in gaming element: players could form teams and move outside to the snowy landscape to engage in snowball fights. Skilled fighters would accumulate points and rise in rank.

Lumisota was very successful, attracting thousands of Finnish players. After a while the company operating the service began thinking about capitalising on the success. Accordingly, Karjalainen and Kyrölä implemented a revenue model: by sending a premium priced SMS message from their mobile phones, users could purchase extra-powerful snowballs, increased carrying capacity, and protective overcoats. However, the majority of users reacted negatively to the change, claiming that the premium features were "unfair".[31] Some users even organised virtual strikes and demonstrations to underline this view.

After the success of Lumisota, Karjalainen and Kyrölä founded Sulake. Their next project was "Hotelli Kultakala" ("Hotel Goldfish"), the initial version of what later became Habbo Hotel. It dropped the gaming aspect of Lumisota and added more socialising features. Users had expressed a wish to have their own private space in the virtual world, so Karjalainen and Kyrölä programmed each avatar to have its own room. An imaginary hotel was then a natural setting for the fiction. Hotelli Kultakala's revenue model was

[31] Much of the dissatisfaction was aimed at the power-for-money feature in general, but some of it was also due to the fact that the premium features were only available to subscribers to one particular mobile service operator.

based on licence fees extracted from a portal owner who hosted the service to attract visitors. In addition, Karjalainen and Kyrölä thought it would be nice if users could have something to decorate their rooms with, so they made it so that users could buy pieces of furniture by sending premium priced SMS messages to Sulake. Any revenues obtained this way were split between the portal owner and Sulake. (Talouselämä 2005)

In early 2001, Sulake launched HabboHotel.com, an international English-language version of Hotelli Kultakala. Unlike Hotelli Kultakala, HabboHotel.com is hosted and operated by a subsidiary of Sulake without a third-party portal. Localised versions of Habbo Hotel have since been opened in 16 countries. HabboHotel.com is now officially Habbo Hotel USA.

3.3.3 Overview of the service

Habbo Hotel's client program is a Macromedia Shockwave object programmed in Lingo. It is accessed through the Habbo Hotel web page[32] using a web browser equipped with a Macromedia Shockwave plug-in. The client is downloaded into the browser rapidly and automatically, free of charge. Habbo Hotel's server back end is running on Sulake's own Java-based FUSE platform. There is one shard for each of the 16 countries.

Habbo Hotel's world resembles a giant contemporary Western indoor area with interesting twists from past decades to science fiction. Avatars wear T-shirts, sweaters, sneakers, baseball caps and other remarkably mundane stuff, with the occassional afro haircut. There is an emphasis on teenage culture embodied in the discos, cafés and lounges, but only of the very innocent sort: clean, comfortable, completely safe, free of foul language and non-alcoholic. The rich visual style is dominated by a pixellated "retro-gaming" look.

Users move their avatars around the hotel by choosing a public space or a private room from a searchable list. Once the selected room appears, the avatar can be moved around the room by clicking on floor tiles. Users communicate with others in the room by typing text that appears above the avatar in a speech bubble. It is also possible to use instant messaging to communicate with previously met friends regardless of whether they are in the same room. Avatars can also be instructed to sit on chairs, lie in beds and dance. The public spaces act as venues for socialising, but they also provide some possibilities for

[32] Habbo Hotel USA can be found at <http://www.habbohotel.com/>.

interacting with the world: avatars can order food and non-alcoholic drinks from NPC vendors and play little subgames like diving into a pool from a tall tower.

However, the private rooms are perhaps the most interesting element in Habbo Hotel. Users may choose to keep their private rooms to themselves, or let anyone come in freely. Those who let anyone come in often advertise their rooms in the public spaces, as it is considered a positive achievement to have as many visitors in one's room as possible. Some use their rooms to showcase their collections of valuable items, some decorate their rooms according to a specific style, and some strive to furnish their rooms as convenient hubs for social interaction. Yet the most striking rooms are those with various types of sophisticated user- and community-created content. It is usually a combination of a clever arrangement of furniture and a completely informal set of rules and shared fiction, existing only in the minds of those participating in the room.[33]

Johnson and Toiskallio (2005) describe several types of user- and community-created content observed in Habbo Hotel: quizzes, bingos, re-enactments of popular TV shows like "Who wants to be a Millionaire", beauty contests, race tracks, gambling casinos, dating games, talk shows with Habbo celebrities, VIP lounges, orphanages, and turn-based team games with elaborate rules. Successful concepts are copied fast and those who organise the most popular activities may become minor celebrities. According to Johnson and Toiskallio, some users also occassionally visit the foreign versions of Habbo Hotel to pick up the latest fashions and bring them home.

Since Sulake's target customer segment is rather young, the rules of appropriate conduct are somewhat more stringent than in many other services. All textual conversations are subject to automatic filtering, and there are also live moderators called "Hobbas" enforcing the code of conduct. Perhaps the younger audience is more prepared to accept rules and supervision than their slightly older brothers and sisters that characterise the demographics of MMORPGs.

3.3.4 Virtual economy

Habbo Hotel's economy revolves around what the users call "furni": personal property such as furniture, decorations and small household items. They are in scarce supply, some more than others. Some of them have functional utility, but more often their value springs from some intangible qualities. Besides furni, other types of virtual assets either do not

[33] Which is actually just a beardy way to describe children playing.

exist or lack value. The only avatar attribute is appearance, but it can be customised easily at any time at no cost. Private rooms could be considered realty, but they can likewise be acquired at no cost.

There is a currency of sorts in Habbo Hotel, called Habbo Credits. However, Habbo Credits can only be used in transactions between an avatar and the virtual world. They cannot be traded between avatars. Avatar-to-avatar transactions can only involve furni, and they are carried out using the trade screen method familiar from other services: a user requests to trade with another user, a trade screen is brought up, both users construct their offers by dragging items from their inventories into their respective sides of the trade screen, and if both users indicate that they are happy with the proposed arrangement, the system carries out the transaction. There are no official marketplaces and trading is not possible in the public spaces, but some private rooms act as bazaars: it is possible for players to flag their rooms as being dedicated to trading. Combined with the fact that there is no official currency, the dispersed marketplace makes the avatar-to-avatar market less liquid than it could be.

However, as can be expected by looking at what has happened in other virtual worlds (Bartle 2003: 307-8, Burke 2002: 8, Simpson 1999), some Habbo Hotel users have adopted informal currencies to replace the missing official one. At the time of writing, the unofficial fansite Habbox.com uses the following currency system to measure value: 1 throne (T) equals 17.5 club sofas (CS), and 1 club sofa equals 60 rubber ducks (RD). For example, according to Habbox.com, a turntable is worth 13 T 10 CS.[34] A casual browse of other fansites shows the same system being used with slightly different valuations. Inside Habbo Hotel some seem to use the T/CS/RD system not only as a measure of value, but also as a store of value and a medium of exchange. Those familiar with the system will in effect enjoy lower transaction costs in their avatar-to-avatar transactions.

There is something else besides furni that possesses economic value in the Habbo universe, but it is not a virtual asset. It is the virtual services sector, which I above referred to as user- and community-created content. Organisers of quizzes, shows, competitions and other attractions usually require participants to lay down an entry fee in furni. The organiser may keep the furni or share it with the winner of the quizz or competition

[34] Habbox.com FAQ explains the method used for valuating furni: "We have Rare Values Reporters working for us, who spend a lot of time visiting trade rooms in Habbo. If for example Habbox has a value of 7 CS for a Petal Patch, and they see that a lot of people trade Petals for 6.5 CS (for example 6 Club Sofas and a Mochamaster) then they will report about this, and we will adjust the value of the Petal Patch on Habbox." <http://www.habbox.com/rareFAQs.htm>

(Johnson & Toiskallio 2005). The proceeds from one event can be used to develop the next one. In this way, users taking part in a value-creating activity are capturing a part of that value for themselves. Their revenue model is exactly the same as that of many real-world entertainment service providers.

3.3.5 Economic integration strategy

Sulake's economic integration strategy is a monopoly strategy: they seek to be the only party selling Habbo Hotel virtual assets for real money. Specifically, Sulake sells Habbo Credits and seeks to enforce an embargo on all other real-money trade. Inside the world Habbo Credits can be used to purchase furni from Sulake's catalog and spent on subgames such as diving, but Sulake does not exchange Habbo Credits back to real money.

Habbo Credits are available for purchase in a variety of ways: online purchase with a credit card, phone purchase through an IVR[35] service, mail order with cheque, cash or money order, and through various online payment systems. The purchase methods are somewhat location specific: in Finland, the oldest and most popular way to buy Habbo Credits is by sending an SMS message to Sulake's premium number.[36] Since December 2004, Habbo Credits have also been available in a popular chain of Finnish brick-and-mortar retail outlets: for five euros, one can buy a coupon with five codes on it. When entered into Habbo Hotel, each code yields six Habbo Credits, for a total of 30.

Inside Habbo Hotel, Sulake sells furni for Habbo Credits at fixed catalog prices. The supply is perfectly elastic: prices do not change to reflect demand. However, while most items are available to any user at any time, there are many items with limited availability. "Collectibles" are only available for a limited time period. Seasonal items are available at specific times of the year. Club items are only available to those who pay a membership fee to join "Habbo Club." A special piece of furni is sometimes made available only in a strictly limited quantity. An example of this is a trophy given to the winners of an official competition. In Habbo slang, such items are known as "super rares".

As stated, Sulake aims to maintain a simple monopoly over Habbo Hotel real-money trade, but the actual mode of economic integration between the virtual and the real economy is slightly more complicated. Firstly, there exists a traditional secondary market for accounts and furni. Since the number of shards is small compared to MMORPGs, the

[35] IVR stands for interactive voice response, a computerised phone service.
[36] The use of SMS messages for micropayment is very popular in Finland, especially among teenagers. In contrast, no Finn born during the past few decades has probably ever seen a cheque, let alone mailed one.

secondary market is less fragmented and should be more liquid. But in actual fact it seems to remain rather weak. From 1 April 2005 to 27 April 2005 I observed Habbo Hotel related auctions on eBay.com, eBay.co.uk and Huuto.net, a Finnish auction site. On any given day there were between 13 and 33 ongoing account and furni auctions on eBay.com, 22-36 on eBay.co.uk, and 0-5 on Huuto.net.[37]

Secondly, some users engage in the practice of "selling furni for credits": the seller agrees to hand over a piece of furni to the buyer; in exchange, the buyer agrees to purchase Habbo Credits from Sulake to the seller's account. The end result is that the seller gives up furni and receives Habbo Credits, while the buyer gives up real money and receives furni. I cannot estimate how common this is, but apparently common enough for Sulake to have taken a stand against it in their newsletter (Sulake 2005a). Sulake points out that such transactions are extremely prone to scamming.

Due to the legal and moral implications of the fact that most Habbo Hotel users are young teenagers, Sulake has been forced to limit the amount of Habbo Credits it sells to users. For example, in HabboHotel.com, the SMS purchase option can only be used five times within a seven day period for a total worth of 10 USD. Sulake adopted the limits in 2004 after complaints from parents lead to negotiations with the Finnish consumer ombudsman (Finnish Consumer Agency 2004). This creates additional pressure for heavy buyers to resort to secondary markets.

Sulake enforces their position against secondary markets by constantly reminding users that real-money trading is forbidden in the rules of the world, and probably also by observing and curtailing real-money trading related speech inside the world and monitoring Habbo Hotel related auctions on third-party auction sites. Sulake is most likely also able to maintain some degree of control over speech in the community around Habbo Hotel: the five most visited Finnish Habbo Hotel related third-party websites are branded "official fansites" (Johnson & Toiskallio 2005). In conclusion, Sulake's implementation of the monopoly strategy has clearly been succesful: Habbo Hotel's secondary markets are tiny compared to those of many other services.

[37] As an interesting side note, in Huuto.net I often obseved how sellers or prospective buyers would propose to exchange Habbo Hotel assets for assets in another virtual world. The other virtual world was always RuneScape, <http://www.runescape.net/>. Apparently there is some overlap between the user communities of these two services. This could be a fruitful topic for further research.

3.3.6 Strategy and customer needs

Sulake's customers are teenagers: according to Johnson and Toiskallio (2005), 95 % of Finnish Habbo Hotel users are between 10 and 19 years old. Unlike in many other virtual worlds, the gender distribution is nearly equal.

Similar to Mobiles Disco, Habbo Hotel was created to function as a rich social platform instead of a game with pre-determined goals. Therefore it is easy to think that Habbo Hotel would mostly be conducive to satisfying the needs of social-oriented customers. However, in actual fact the service seems to be catering to a wide range of customer needs. Johnson and Toiskallio (2005) identify the following user groups among Habbo Hotel users: 1) *furniture traders and collectors*, 2) *chatters*, 3) *gang-members*, 4) *Hobba-supervisors*, 5) *cheaters*, 6) *quizz-makers and players*, 7) *the hotel manager*, and 8) *celebrities*.

Quizz-makers and players should perhaps be divided up into two distinct groups following Salovaara et al. (2005): *playmakers* who make the games and organise the activities, and *players* who mostly just participate in them. Furniture traders and collectors could perhaps also be divided up into two sub-groups: those who try to collect as many rare and valuable furni as possible, having a room that resembles a stockpile, and those who are focused on decorating their room nicely. Taking these changes into account, and leaving out the supervisors and hotel managers who are indeed users in a sense but not customers, we arrive at the following categorisation:

1. *Players*: take part in game-like activities
2. *Playmakers*: organise and take part in game-like activities
3. *Decorators*: spend their time designing and decorating rooms
4. *Collectors*: collect valuable furni, using rooms for storage and display
5. *Socialisers*: engage in chating, celebrity games and other social activities
6. *Cheaters*: attempt to break rules and technical restrictions

Since we assume that Yee's (2005) model discussed in part 2.4 provides a more or less complete set of possible virtual world user motivations, we can attempt to fashion these categories as a subset of that model. *Socialisers* maps neatly to the social main component of Yee's model, or at least its first two subcomponents. *Collectors* are after advancement of a sort, obtained through accumulation. *Decorators* are interested in customisation:

picking items that fit specific styles and colour schemes. *Players* are clearly interested in competition, and advancement, too: some player groups award ranks and levels to their members based on their achievements in game-like activities. It is interesting to find that in a virtual world with no built-in level system, highly advancement-oriented players will go and make up one for themselves.

Playmakers are no doubt social-oriented, and perhaps enjoy a degree of role-playing as well. *Cheaters* include ill-behaving rule-breakers as well as the segment of users who attempt to produce arcane effects such as blue skinned avatars by hacking the protocol between the client and the server. There apparently used to be a whole 'scene' or subculture devoted to this in Habbo Hotel until the protocol was made more robust. In Yee's (2005) terms, hackers are perhaps motivated by mechanics, discovery or even advanced customisation abilities. Note that users with playmaking and hacking motivations may of course simultaneously have other motivations for participating in Habbo Hotel.

Sulake's monopoly-based economic integration strategy seems to be in harmony with all of the motivations identified among Habbo Hotel's users. For customisation and social purposes, the ability to purchase virtual assets for real money with relative ease is convenient and beneficial. Some assets are held in limited supply so as to give them an added meaning of status. Similarly, easy buying seem to be conducive to role-playing activities: role-playing requires props, and the easier they are to obtain the easier it is to devise intricate role-playing scenarios and environments.

In part 2.3, I wrote that the achievement related motivations are the ones that are usually seen as suffering as a result of real-money trade. However, this does not seem to be the case in Habbo Hotel. This could be seen as a result of the fact that all the avatars have equal abilities. Success in any competitive activity is due to skill or chance, and any achievement recorded not in the avatar's level but in the user's reputation. User-created competitions and advancement ladders are designed in such a way as to take Sulake's strategy into account as a given.

Sulake's ban on players selling virtual assets for real money eliminates the associated negative effects such as scamming. But in part 2.3, I also listed certain reasons not to ban real-money player sales: players feel entitled to exercise ownership over their assets; the ability to sell creates incentives for user-created content; and the ability to sell creates incentives for investment. In Habbo Hotel, I have not observed any user dissent concerning the ban on selling, though my observations are by no means comprehensive. It

is possible that the users' young age plays a part: perhaps they are less inclined to consider financial issues and more inclined to accept moral guidance from an authority. As for user-created content, there already exists heaps of it in Habbo Hotel. The creators get rewarded, but the rewards are given in in-world assets rather than in real money. How real financial incentives would change the scene is difficult to say.

3.3.7 Resources and capabilities

For a long time after Habbo Hotel's launch, it was not apparent at all that revenues derived from virtual asset sales could actually maintain the whole business: Karjalainen and Kyrölä thought the service would probably die within a year or so (Pixeli.net 2005). Sulake sold virtual assets from the very beginning, but only really started focusing on the activity after a few years' success. At this point their economic integration strategy, even if not called such, must have been framed in explicit terms: Sulake seeks to maintain a monopoly.

This strategy, like all of Habbo Hotel, emerged from a long, incremental development process started with Mobiles Disco. Key resources in that development were not only Karjalainen and Kyrölä's technical, visual and concept design skills, but also the active user community that gave feedback to the developers, helping them tune the service to match customer needs. Actual virtual asset sales were implemented for the first time in Lumisota. Karjalainen and Kyrölä obtained valuable experience on the technical implementation of asset sales, but more importantly, they learned from massive user feedback that certain types of asset trade will conflict with customer needs and result in user resentment. Not surprisingly, Habbo Hotel's design is completely free of such assets as avatar attributes.

Sulake's implementation of their economic integration strategy has been a success: virtual asset sales are up, customers are thriving, and the secondary market is negligible. There are several important resources that Sulake continuously leverages to achieve this. Their purchase system provides several different user friendly billing options. This is an important point as the majority of their young user base will not have a credit card. They have good relations with their users, and their users tend to respect rules such as the ban on secondary markets. And most importantly, they have an overall concept that is able to satisfy a wide range of customer needs by allowing the operator to sell virtual assets for real money.

Out of the resources that Sulake used to conceive of their economic integration strategy, the development skills and experience in selling virtual assets are not particularly rare or inimitable today. Virtual world design is taught in universities and virtual asset trade is discussed in detail in this study and elsewhere. But an active user community that participates in the early development effort to fine-tune the result may actually be harder to come by today than it used to be, since there are now so many more virtual worlds and other services competing for users' attention.

As to the resources Sulake is using to implement the strategy, a purchase system that includes several convenient online and offline methods of payment used to be rare, but is increasingly becoming available as a service offered by financial intermediaries such as Paypal. An obedient, well-behaved user community is certainly a rarer resource, but I would guess that it is equally due to the young age of the users as to the community management efforts of Sulake, and as such not impossible to imitate.

Habbo Hotel's unique concept along with its ability to inspire user-created content and encourage virtual asset purchases is probably Sulake's most valuable resource. A result of a long development process, it has evolved slowly to comprise many an odd intricacy, many of which were not anticipated by the developers.[38] This leads me to believe that there may be path dependencies in the development of the design and the user community which makes the whole concept difficult to imitate.

3.3.8 Synthesis

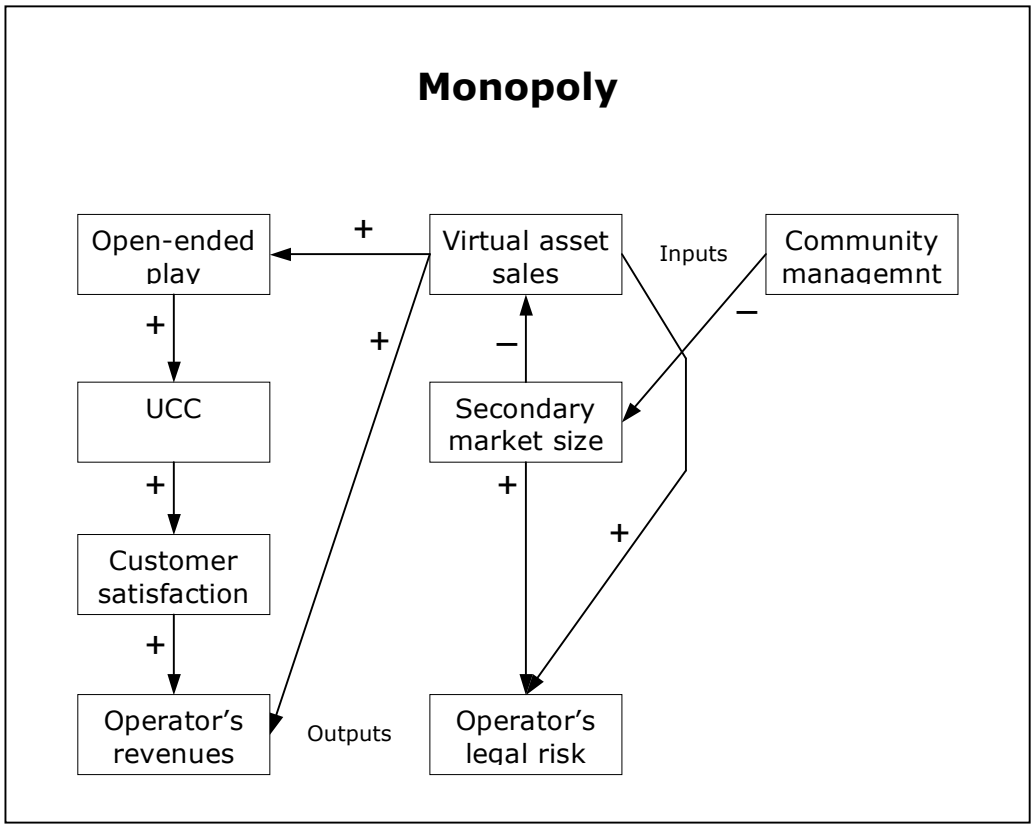
Figures 3.5 and 3.6 present Sulake's economic integration strategy within the framework of this study. Figure 3.6 depicts interrelations identified above between the various internal and external factors affecting the strategy. For clarity, only a subset of the most imporant factors has been included. A directed link accompanied by a plus sign denotes positive influence and enhancement, while a minus sign signifies the opposite. The figure is merely one possible rendering of the situation and should not be interpreted too literally.

[38] As an example, the all-time best-selling furni is a piece of a bar counter. Unlike the developers intended, it is used by players to fence off areas in their rooms – to demarkate the division between a stage and an audience, for example.

Figure 3.5: Sulake's economic integration strategy

Price window	Price ceiling	
Price floor	Laissez-faire	Monopsony
	Monopoly Resources & cap. Customer needs Legal environment	Embargo

Figure 3.6: Dynamisms between internal and external factors in Sulake's strategy



3.4 MINDARK: PROJECT ENTROPIA

3.4.1 Introduction

Project Entropia is a MMORPG with a science fiction setting: players take the role of human settlers on a distant planet inhabited by peculiar monsters and malevolent robots. Project Entropia is developed, published and operated by MindArk PE AB in Gothenburg, Sweden. It was launched in 2003 and approximately 250 000 player accounts have been registered according to MindArk (MindArk 2005). The actual number of active players is probably measured in tens of thousands. Players come from different parts of the world, though language barriers limit participation outside the Western market.

Economic integration with the real world has been Project Entropia's primary design goal from the start. MindArk encourages and facilitates integration through guaranteeing a fixed exchange rate between the in-world currency and U.S. dollars.

3.4.2 Background

In 1997 two groups of people lead by Benny Iggland and Jan Welter Timkrans got together and decided to found a company to advance their shared idea of a new, massive virtual world. MindArk AB was founded in 1999 and Jan Welter Timkrans became its managing director. Development of Project Entropia was started. The original concept was a almost a general purpose virtual world: a place designed not only for leisure, but for society, commerce and investment. MindArk thought that Project Entropia should become the "Windows of virtual worlds", popular and pervasive.

> This platform, or Universe, will take the internet to the next logical level of the future. Everybody: ordinary people, companies, e-commerce, and nearly every other conceivable use or user of the internet will benefit and make use of facilities and functions provided within the system named Project Entropia. (Stratics 2003)

MindArk announced Project Entropia to the public in March 2000. A 3D graphics engine was licensed from Numerical Design Limited, the same NetImmerse engine that was used by upcoming MMORPG titles such as Dark Age of Camelot. Indeed, Project Entropia was starting to look like a MMORPG itself, too, and was referred to as one by the gaming

press. Beta testing commenced in September 2001, and it focused on MMORPG-like activities such as hunting for loot.

Project Entropia was officially launched on 30 January 2003. According to Timkrans, its development budget had thus far been some USD 15 million (MindArk 2002). It did not become a pervasive platform for virtual interactions, but it did become one of the few MMORPGs with a sci-fi setting. And most importantly, it retains a high degree of connectedness to the real economy.[39]

3.4.3 Overview of the service

Project Entropia is played using a native client program that runs only on the Windows operating system. The client connects to one of several interconnected servers. There are no multiple shards in Project Entropia: all players connect to the same universe. The client program can be downloaded gratis from the Project Entropia website. Approximately every six weeks MindArk releases a version update that enhances the functionality of the client program, fixes bugs and adds new content and features to the game. The version update is likewise a free download. (MindArk 2005)

Project Entropia is set in a far future, where mankind is trying to find itself a new home by colonising earth-like planets in distant solar systems. Players take the role of settlers on Calypso, a planet rich with water, animals, vegetation and natural resources. Unfortunately, everything has not gone quite as planned, and there is a robot menace colluding with evil mutants to throw the settlers back to outer space. Hence the need for lots of weapons and armour.

Upon first logging in, players create an avatar. The appearance of an avatar's body is highly customisable using a mind-boggling number knobs and sliders: skin colour, numerous facial features, height and build can all be changed according to taste. Anything else besides appearance cannot be customised: skills will have to be learned later. New clothes to replace the initial standard issue must also be purchased separately. Gameplay consists of typical MMORPG activities such as hunting, mining, crafting and exploring. Players communicate using a chat interface. Seasoned players augment the in-game chat by using IRC simultaneously while playing. Avatars cannot normally hurt each other, but

[39] In April 2003, due to some corporate restructuring, a new company called MindArk PE AB was tasked with operating Project Entropia (MindArk 2003). I use the word MindArk to refer to both MindArk AB and MindArk PE AB in this study.

there are special zones where player-to-player combat is possible. Avatars that end up dead are resurrected, but may lose some of their possessions.

What in fantasy MMORPGs are called guilds are "societies" in Project Entropia. There is a large set of commands for maintaining societies, and their structures and purposes vary. Some focus on the traditional combat or leisure while others are almost pure business organisations.

3.4.4 Virtual economy

Economy has been one of the main focus points in Project Entropia. All types of virtual assets are available: personal property, realty, currency and avatar attributes. All can be readily traded. The official currency system is 1 Project Entropia Dollar ('PED') equals 100 Project Entropia Cents ('PEC'). Each avatar has a "PED card" on which their money is stored. The card cannot be stolen or lost, and can be used for any transactions. Cash items can also be extracted from the card or transferred into the card.

Personal property in Project Entropia includes weapons, armour, manufacturing equipment and vanity items. As in other MMORPGs, items are produced through looting and crafting. Crafting requires raw materials such as ores, which are produced through mining. Items wear with use and eventually their constituent raw materials return to circulation; it is a closed economy. Personal property can be traded both avatar-to-avatar as well as avatar-to-NPC. The NPCs are actually "trade terminals": vending machines that sell some items and buy all items at a low price, enabling avatars to liquidate any property. In avatar-to-avatar trade, prices are usually quoted relative to the trade terminal buy price: "TT + 30" means whatever the trade terminal buy price is plus PED 30, while "200 %" means twice the trade terminal buy price. This curious habit is perhaps meant to provide protection from inflation or just highlight the perceived surplus value.

There are three ways to conduct avatar-to-avatar trade: standing on a street corner and typing your offers into the local chat; using a player-owned shop complete with an NPC salesperson; and using an auction house. Auction houses are no doubt the most efficient marketplace on Calypso, but there is a listing fee of PED 1. Low-value items can either be auctioned in stacks, or traded through the other channels. Street corner face-to-face trade allows for instant transactions with no fee, but suffers from the usual

information asymmetries. Setting up a player-owned shop can cost as much as PED 3 000-4 000,[40] and has not attained much popularity (PERC 2005).

Realty comes in many sizes and shapes, from castles to apartments, and includes both buildings and land. Both are scarce. MindArk initially distributed houses at a fixed price, and since then an aftermarket with freely determined prices has emerged. Additional land is sometimes made available in "land grabs": events where player societies fight it out for the control of a strip of land, and after a set time the prevailing society is nominated as the legal owner. In normal circumstances realty cannot be stolen.

Unlike other MMORPGs, Project Entropia also makes individual avatar attributes tradeable in-world. Players may transfer skill points from their avatars into so-called "skill chips". The chips can then be traded like commodities. A buyer of a skill chip can transfer the points back into her avatar to enjoy an improved ability. Some skill points will have been lost in the process, however.

Societies provide an alternative to market-based resource allocation. In some societies the economic activity is highly coordinated. The leader of a French society La Faction Beta explains their value chain as follows: "[W]e have the mining sector that supplies the ore and liquids. Then there is the crafting, which of course equips the combat sector. [...] everything that is found by the combat sector [and] any surplus from others is sold by the commercial sector." (The Gate 2003: 12) From the point of view of transaction cost economics (Coase 1937), they fulfil exactly the same role in the virtual economy as companies do in the real economy.

3.4.5 Economic integration strategy

From the very beginning, MindArk has sought to integrate Project Entropia's economy with the real economy. Their method of choice is to exchange the virtual currency for real money at a fixed rate of PED 10 to one U.S. dollar. Players can buy PEDs from MindArk by using a credit card, bank transfer or various online payment systems. Similar to Habbo Hotel, there are also paper coupons available containing unique codes that can be exchanged to PEDs. According to MindArk, such coupons are currently available for purchase in three Internet cafés/game rooms in Sweden and one in the US. Each payment method incurs fees and transaction costs of varying size on the player. When using a credit card, there is a deposit fee of 3.5 % of the value of the transaction.

[40] Note that this is convertible to USD 300-400.

When players wish to cash out and sell PEDs back to MindArk, they are requested to fill in their bank account details: name and address of the bank, SWIFT-code and account IBAN number. MindArk then sends the money using an international bank transfer. The PEDs are deducted from the avatar's card immediately, but according to MindArk it may take from ten business days to up to three months for the funds to appear on the player's account.[41] A withdrawal fee of 1.5 % of the value of the transaction or a minimum of USD 10 is deducted from the amount payable.

Taking the transaction fees into account, MindArk is actually selling virtual currency at a rate of approximately USD 1 to PED 9.65 and buying at approximately USD 1 to PED 10.15. The spread is wider if you also consider other transaction costs like the long withdrawal period. This leaves a small gap for a market to arise for anyone who can trade within the spread. Not surprisingly, players have been known to trade PEDs among themselves using PayPal as their payment method (PERC 2005). In my model of generic economic integration strategies, MindArk's PED exchange therefore equals the price window strategy.

One of the original motivations behind MindArk's strategy was the ability to attract outside investment from third-party developers (Stratics 2003). No third-party developers have been announced so far, but a small investment has been placed by an entrepreneurial individual. David Storey, an Australian Project Entropia player, bought a virtual island from MindArk for PED 265 000 (The Register 2004). The price was determined in an auction and equals USD 26 500 plus possible transaction fees. The property itself is a lush tropical island complete with a castle. Storey says he considers it an investment and aims to make a profit. He acquired "taxation rights" on hunting and mining activities taking place on the island, meaning that he will automatically obtain a small share of the value harvested by visitors to his property. He is also looking forward to selling plots of land near the beach for others to build houses on.

Storey's investment resembles foreign direct investment ('FDI'): it was not carried out through stock or commodity markets, but rather through direct dealings with the "government" of Calypso. Like FDI, it is also harder to liquidate. Due to the difficulty of exit, FDI investors usually require strong legal protections for their investment. It goes without saying that their property right must be recognised by the host country's law. In countries where political risk is considerable, substantial investors may also require the

[41] And indeed I have seen players complaining on forums that the funds are taking a very long time to appear.

host government to agree to so-called “stabilisation clauses”. Stabilisation clauses are essentially promises that the legal environment will not be changed in a way that affects the investment adversely. They are usually placed under the jurisdiction of an international arbitrator. (Coale 2002)

The legal protection offered by Project Entropia seems to be extremely weak. Their EULA[42] gives virtual property holders almost no rights at all. It includes the following clauses:

> 5. Termination
>
> MindArk may terminate this Agreement [...] without reason [...] no refund will be granted. [...]
>
> 6. Ownership
> [...]
> Virtual items will often have names similar or identical to corresponding physical categories such as "people," "real estate," "possessions," and the names of specific items in those categories such as "house," "rifle," "tools," "armor," etc. Despite the similar names, all virtual items are part of the System and MindArk retains all rights, title, and interest in all parts [...].
>
> As part of your interactions with the System, you may acquire, create, design, or modify Virtual items, but you agree that you will not gain any ownership interest whatsoever in any Virtual item, and you hereby assign to MindArk all of your rights, title and interest in any such Virtual item.
> [...]
> 10. MindArk's Limitation of Responsibility
> [...]
> MindArk shall, in no event, be liable for any damages, loss or expense [...] arising from the use of Project Entropia. [...]

[42] Project Entropia Conditions of Use, <http://www.project-entropia.com/account/Apply.ajp>

> MindArk reserves the right to interrupt Project Entropia with or without prior notice for any reason or no reason. [...]

On one hand, these limitations of liability are understandable from MindArk's point of view. In part 2.3 I summarised some of the possible legal ramifications of economic integration. Without limitations such as this, MindArk might find it difficult to find investors willing to invest in the company, since the the company's assets would be at a considerable risk. On the other hand, with the limitations in place, MindArk might have a hard time attracting investment into the virtual world itself. I wonder if the USD 26 500 island deal did not include some additional guarantees for Mr. Storey's security.

Then there is the issue whether even a carefully worded EULA is able to shield MindArk from all liability. The EULA is a contract between the operator and the user, and in different legal systems there are doctrines that invalidate unduly burdensome contract terms. Citing Project Entropia as an example, legal scholars Lastowka and Hunter believe such doctrines could soon be triggered: "It is likely that we will see courts rejecting EULAs to the extent that they are overly restrictive upon the economic interests of the participants within the world" (Lastowka & Hunter 2004: 68).

Another challenge facing MindArk's economic integration strategy is cheating. In all MMORPGs, there are players who devise hacks, scripts, macros or some other means to automate repetitive tasks or to gain some other advantage. This is usually against the rules, but it is perfectly understandable that it happens anyway, since players have a strong individual incentive to do so. Monitoring helps operators keep such behaviour down to a level that does not disrupt the game too much, but it is probably impossible to eradicate it completely. "The client is in the hands of the enemy," goes an adage among online game developers. This could become a particular problem in Project Entropia, where any extra advantage immediately results in improved financial performance.[43] The situation is similar to the real world, where companies are incentivised to engage in unethical behaviour because it helps them beat the competition.

3.4.6 Strategy and customer needs

Project Entropia is an interesting hybrid, because it supports real-money trade even though the gameplay is very similar to achievement-oriented MMORPGs: combat, gathering and

[43] There are at least two known ways to cheat in Project Entropia: automatic mouse clicking software and system clock speed-ups. See for example <http://www.perc.info/index.asp?page=115>.

crafting are main activities, and avatar improvement seems to be an inherent objective. As discussed above, the argument has been made in connection with other MMORPGs that real-money trade spoils the game since it enables players to buy their way to rewards instead of fighting for them, invalidating the achievement hierarchy. Buying oneself a powerful avatar is particularly easy in Project Entropia.

Does this mean that Project Entropia cannot satisfy the needs of achievement-oriented players? I believe the answer is no. In MMORPGs like EverQuest, the avatar's attributes and possessions are the main measure of achievement in the player community. In Project Entropia the measures are different. I believe a main measure is economic viability. Players strive to create avatars and societies that turn in an economic profit. Those who invest more will have higher revenues, but their opportunity costs will also be higher. Like in the real world, superior returns result not from additional investment, but from competitive advantages. In Project Entropia players seek competitive advantages through effective organisation, skill and information. Natural resources such as David Storey's island may also become sources of economic rents in the future. Strategic management in the Project Entropia universe would be an interesting topic for study in itself, but here it suffices to say that I believe there is an achievement hierarchy in Project Entropia where success cannot be bought any more than a firm can buy success in the real world.

3.4.7 Resources and capabilities

MindArk's ambitious economic integration strategy requires a number of resources to implement. To exchange USD for PED, MindArk must have in place a flexible billing system. A billing system or elements of it can be outsourced easily, as MindArk has done. MindArk must also have in place a mechanism that allows users to withdraw funds. It must be able to deliver small amounts of money to anywhere in the world, a somewhat challenging task. Apparently this mechanism is currently not performing according to players' expectations and could prove to be the missing resource in MindArk's strategy.

Security is a vital resource. Users deposit wealth with MindArk much the same way as they do with a bank. Any security breaches could harm MindArk's image as a trustworthy partner and impede the successful implementation of the strategy. This issue is exacerbated by the fact that MindArk offers no insurance or legal safeguards for the users' holdings.

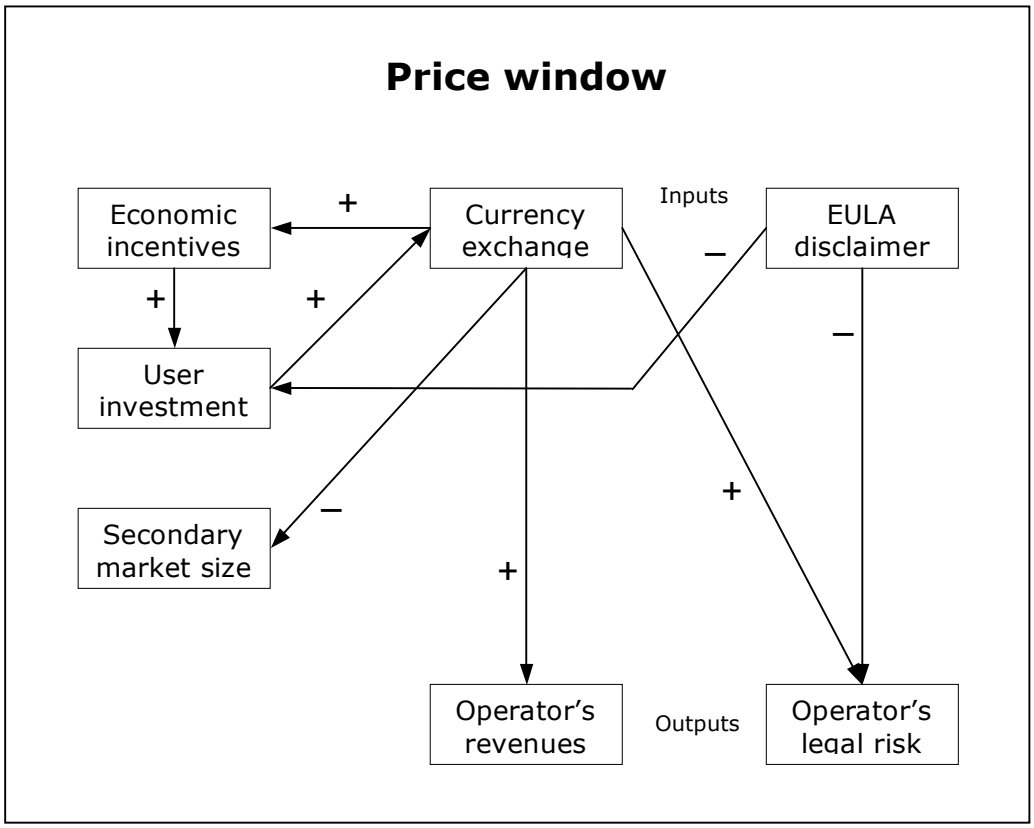
3.4.8 Synthesis

Figures 3.7 and 3.8 present MindArk's economic integration strategy within the framework of this study. Figure 3.8 depicts interrelations identified above between the various internal and external factors affecting the strategy. For clarity, only a subset of the most imporant factors has been included. A directed link accompanied by a plus sign denotes positive influence and enhancement, while a minus sign signifies the opposite. The figure is merely one possible rendering of the situation and should not be interpreted too literally.

Figure 3.7: MindArk's economic integration strategy

Price window Resources & cap. Customer needs Legal environment	Price ceiling	
Price floor	Laissez-faire	Monopsony
	Monopoly	Embargo

Figure 3.8: Dynamisms between internal and external factors in MindArk's strategy



4. ECONOMIC INTEGRATION STRATEGIES FOR VIRTUAL WORLD OPERATORS

4.1 DESCRIBING ECONOMIC INTEGRATION STRATEGIES

The first objective of this study is to identify and describe the generic strategies or elements of strategies that are available to virtual world operators for dealing with real-money virtual asset trade. In part two I developed a model that describes such strategies through the configuration of the virtual asset markets they seek to create: who are the buyers and who are the sellers. These two dimensions were motivated by establishing a link between them and customer needs. The dimensions yielded seven possible market configurations: no market, monopoly, perfect competition, monopsony, price floor, price ceiling, and price window. In part 2.7, I described seven generic economic integration strategies based on these configurations: embargo, monopoly, laissez-faire, monopsony, price floor, price ceiling, and price window.

Table 4.1: Examples of desired market configurations identified in business cases

		Buyers			
		All parties	Non-operator	Operator	None
Sellers	All parties	**Project Entropia** price window	**Ultima Online** *(avatar attributes)* price ceiling		
	Non-operator	-	**Ultima Online** *(other asset types)* perfect competition	-	
	Operator		**Habbo Hotel** monopoly		
	None				**EverQuest** no market

In part three I examined a set of case companies and found that they were indeed attempting to influence the configurations of their virtual asset markets. Table 4.1 shows some of the companies' desired market configurations on the market configuration matrix introduced in Table 2.3. Based on these findings it was possible to say that each of the

operators was implementing one or more of the seven generic economic integration strategies (Figure 4.1).

Figure 4.1: Economic integration strategies in the case companies

Project Entropia **Price window** Resources & cap. Customer needs Legal environment	Ultima Online **Price ceiling** Resources & cap. Customer needs Legal environment	
Price floor	Ultima Online **Laissez-faire** Resources & cap. Customer needs Legal environment	Monopsony
	Habbo Hotel **Monopoly** Resources & cap. Customer needs Legal environment	EverQuest **Embargo** Resources & cap. Customer needs Legal environment

Broadly speaking, the strategies followed the characteristics conjectured in the synthesis in part 2.7, although links between specific strategies and specific customer needs seemed to be more complicated than previous literature suggests. The model was able to distinguish between materially different strategies and is useful for that purpose. However, there were two instances where a new underlying generic strategy could be observed: a strategy that had distinct characteristics but was not yet distinguished by the model.

4.1.1 Marketplace

Sony Online Entertainment's upcoming Station Exchange service allows all non-operator parties (players, trading companies, etc.) to trade virtual assets between each other. Based on the resulting market configuration (perfect competition) SOE's generic strategy is laissez-faire. However, as implemented by e.g. Ultima Online's operator Electronic Arts, laissez-faire is a very different, passive strategy. It requires no resources and generates no direct profits. Its value to Electronic Arts is whatever slice of the added value Electronic Arts is able to capture from the players through subscription fees. Since the added value

varies from player to player while the subscription fee is the same for all, the slice cannot be large. In contrast, SOE's strategy neatly captures a slice of the added value from each player individually through a percentage fee on each transaction. It is a way of unbundling the virtual world service: it enables charging separately for access and trade.[44] SOE's strategy also differs in that it requires some resources to implement and eliminates the problem of scamming that plagues laissez-faire markets.

SOE's Station Exchange points to a new dimension in defining economic integration strategies: marketplace. Electronic Arts' laissez-faire utilises third-party marketplaces such as eBay. Station Exchange, on the other hand, is an operator-owned marketplace. This distinction is adequate to explain the differences in their characteristics that appear despite the same market structure. Let us therefore distinguish between two generic economic integration strategies that utilise the perfect competition structure: laissez-faire and *marketplace*.

How about operator-owned marketplaces with other market structures? Sulake is implementing a monopoly structure. They have both types of sales channels: their own proprietary mobile and online purchase mechanisms, and third-party brick-and-mortar retail outlets. Who owns the marketplace does not make a big difference in the monopoly strategy. Electronic Arts is selling Ultima Online avatar attributes through their own platform while others trade the same assets on eBay. They could take a step along the marketplace dimension and channel all trade through their proprietary platform. They could also take a step in the opposite direction and move their avatar sales to eBay. It is unnecessary to name all these variations, but they are interesting possibilities to keep in mind.

4.1.2 Licensing

In connection with SOE and other cases I discussed the position of the trading company IGE in real-money markets. I pointed out that the relationship between SOE and IGE almost resembles a licensing arrangement to an outside observer. Whether or not this is really the case here, the example raises the thought that such a licensing arrangement would actually be a viable strategy option for a virtual world operator.

[44] In general, bundling is a good strategy if it reduces dispersion in the customers' willingness to pay (Shapiro & Varian 1999: 73-76). This is the case with e.g. articles bundled together to form a magazine: although customers value individual articles differently, in total the differences are averaged out and a single price captures the value well. However, in the present case it may be more efficient to price services separately, as differences in willingness to pay for access and trading are distributed unevenly.

In this hypothetical licensing strategy, the operator seeks to enforce a monopoly position in the market, but instead of acting as a supplier itself, chooses a licensee to be the sole supplier. Licenses may also be handed out to several suppliers, in which case they engage in oligopolistic competition. There are two possibilities for how licensees acquire their stocks: either they buy virtual assets from players, like IGE is currently doing, or they create assets out of thin air. The latter obviously requires the operator to provide the licensees with suitable technical means. If the licensees acquire their stocks by buying from players, the resulting market structure somewhat resembles the marketplace strategy: players are buying and selling through a safe channel that imposes a markup. If, on the other hand, a licensee is able to create assets out of thin air like the operator, the resulting market structure is equivalent to the monopoly strategy: players cannot sell and they only buy from the official supplier.

The thought of an operator sharing or even surrendering some of its sovereign power (the ability to create assets) to a company like IGE may at first seem frivolous: the company would literally obtain a license to print money, and could send the virtual economy down to rapid inflation. However, the licensee would actually have an interest in preserving prices at an optimal level. Flooding the market would only result in the value of the assets disappearing and players moving to a more meaningful world, while a stable economy would probably yield a bigger net present value. Therefore a licensee could be expected to maintain scarcity in a similar way as the operators are currently doing.

Table 4.2: Nine generic economic integration strategies

Laissez-faire	Operator is not involved in real-money trade
Marketplace	Operator provides a marketplace for real-money trade
Price floor	Operator enters the market as a supplier
Price ceiling	Operator enters the market as a buyer
Price window	Operator enters the market as a supplier and a buyer
Monopsony	Operator seeks to be the sole buyer
Monopoly	Operator seeks to be the sole supplier
Licensing	Operator seeks to allow only license holders be suppliers
Embargo	Operator seeks to prevent all real-money trade

Table 4.2 shows the generic economic integration strategies with marketplace and licensing added. From the point of view of customer needs, licensing can be similar to the monopoly strategy or the laissez-faire strategy, depending on whether the licensee creates its stock out of thin air like the operator, or buys it from the players. Licensing differs from monopoly and laissez-faire in the resources and capabilities required to implement it.

4.1.3 Economic integration across markets

This study began with the assumption that once an operator chooses for example a laissez-faire model to deal with real-money trade, it applies it consistently across all virtual asset types. In the case studies it was shown on several occassions how operators may actually choose different models of economic integration for different virtual asset types. Table 4.3 summarises these findings. It follows that it is not always sufficient to describe an operator's strategy as one of the nine generic strategies identified, but instead as a "constellation" of four models, one for each asset type.

Table 4.3: Economic integration across markets in case virtual worlds

	Currency	Personal property	Realty	Avatar attributes
Ultima Online	Laissez-faire	Laissez-faire	Laissez-faire	*Price ceiling*
Project Entropia	*Price window*	Laissez-faire	Laissez-faire	Laissez-faire
Habbo Hotel	*Monopoly*	Embargo	Embargo	Embargo

When two virtual asset types are not mutually exchangeable in a virtual economy, the model of economic integration chosen for each one does not impact the other. But in most cases virtual assets of different types are exchangeable, and the choice of constellation becomes highly important. This gives rise to a question: which of the possible constellations are viable? I will provide some basic conjectures concerning constellations below, but they would also be an interesting topic for further study.

In this discussion, I assume mutually exchangeable virtual assets, so that for example currency can be traded for realty and vice versa inside the world. This trade links the real-money trade of different virtual assets. For example, Sulake maintains a monopoly over its currency market and imposes an embargo on other markets. In effect this extends the monopoly to the other markets, which is Sulake's intention. Originally they directly

sold personal property, but later decided to move to selling it indirectly through currency sales, probably because this makes billing easier. If personal property was readily available on laissez-faire secondary markets, Sulake's currency would lose much of its value. Monopoly–embargo is therefore a viable constellation for Sulake, while monopoly–laissez-faire is not.

Laissez-faire–embargo does not make much sense: trade from one market would simply move to another. According to the law of one price, the same asset must trade at the same price on all markets, assuming they are efficient. Laissez-faire coupled with any of the price control strategies is interesting, because it reveals how similar the complicated dynamics are to real-world multiple currency exchanges, with free floats and currency pegs.

4.2 CHOOSING AN ECONOMIC INTEGRATION STRATEGY

The main research question of this study is "what strategy should a virtual world operator take towards real-money virtual asset trade?" Sub-questions that follow concern the factors that affect this choice. In part 2.7 I presented a synthesis that begins to answer these questions by describing relationships between a number of external and internal factors and the strategy choice. The business cases provide material that now allows me to elaborate on these relationships.

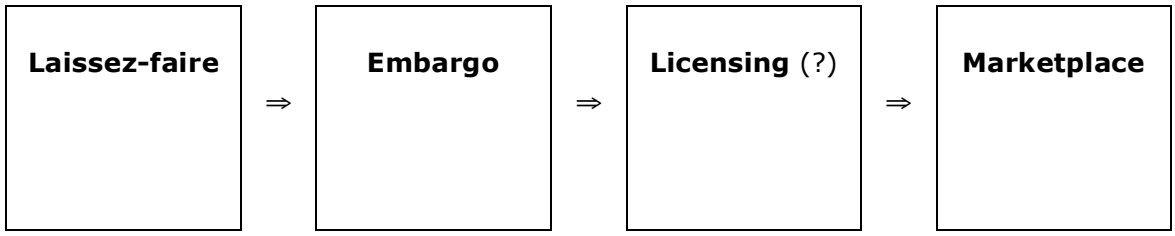
The synthesis established a number of links between generic strategies and customer needs as represented by Yee's (2005) model (Table 2.1). The most important distinction was that laissez-faire and monopoly strategies are seen as appropriate for operators focusing on social-oriented players, while operators catering to achievement- and immersion-oriented players might prefer that there was no real-money market at all, opting instead for an embargo strategy. However, the case studies showed that many kinds of strategies were able to cater to a wide range of customer needs. The key issue was how well the virtual world design was able to reconcile real-money trade and customer needs. In terms of the resource-based view, the key resource necessary for successfully implementing an economic integration strategy is therefore a suitable virtual world. What follows is a discussion of the various strategies and designs. It is divided into two parts: strategy choice from the point of view of existing operators, who are limited by the design

and other factors into a constrained set of choices; and strategy choice from the point of view of designers of new virtual worlds, who are free to alter the constraints.

4.2.1 Strategies for existing worlds

For existing virtual worlds, the design of the service and other constraints such as image and legal issues place limits on the choice of economic integration strategy. Consider Sony Online Entertainment: SOE's strategy has evolved from the initial state of laissez-faire through the subsequent unsuccessful embargo to a partial marketplace strategy. Along the way it is also possible to speculate whether SOE had a licensing strategy with IGE (Figure 4.2). These four strategies are the only options available to operators unable or unwilling to enter the real-money markets themselves.

Figure 4.2: The evolutionary path of SOE's economic integration strategy



Laissez-faire is the initial state of affairs when an operator is caught unaware by an emerging secondary market. If the original design did not include plans for real-money trade, then the embargo is the next natural choice, because it attempts to force players back into acting according to design. However, if the virtual world is designed in such a way that it incentivises players to trade on secondary markets and makes such trade possible, there is little hope that the embargo will be successful. At least it allows the operator to send a message and gain positive publicity among those players who are against trading.

When it becomes clear that enforcing a total embargo is not possible, licensing and marketplace strategies are the next natural choices. Both alleviate the scamming problem inherent with laissez-faire, and also allow the operator to capture some of the value created. On the other hand, both involve admitting a defeat to real-money trade and probably result in achievement- and immersion-oriented players suffering. However, the cases lead me to suspect that any harm to achievement hierarchies and magic circles is actually a lesser problem than the negative publicity caused by the operator's decision to

tolerate this harm. Player communities are notorious for exaggerating the negative effects of decisions made by the operator. They may cry in chorus that their experience is ruined even if only a few would actually have noticed the effects had there been no forum outrage. There are differences in game designs though: EverQuest gameplay can be seriously hampered by fiscally motivated farmers, while a competing world called World of Warcraft gameplay is less susceptible to them. From a customer relations point of view, a covert licensing deal can be a better strategy than outright marketplace provision. Licensing also requires less resources than setting up a highly secure online marketplace, and licensing could possibly help shift some of the legal risk away from the operator.

The above four strategies are for operators unable or unwilling to enter the real-money markets themselves. Electronic Arts chose a different path: after the initial laissez-faire, it entered the avatar attribute market as a seller. This strategy was termed price ceiling. If the operator is willing, the three price control strategies can be implemented successfully even if they were not included in the original design. They allow the operator to capture a some of the value, but come with similar customer relations issues as described above. Choosing an appropriate price is an interesting optimisation problem: if the price is too high, sales will be slow, but if the price is too low, the asset will quickly lose its value in the eyes of the customer, because the value of virtual assets is often closely related to their scarcity. This is similar to expensive fashion items in the real world: much of their value comes from the fact that only a select few can afford to wear them.

Monopoly and monopsony strategies are not readily implementable in existing virtual worlds that were not designed with such strategies in mind. Like embargo, they would require the operator to suppress secondary markets, a feat that has proven difficult.

4.2.2 Developing a new virtual world

Despite what was said above, it is still true that real-money trade tends to have an adverse effect on the built-in achievement mechanisms of MMORPGs like EverQuest. But is this kind of level-grinding MMORPG the pinnacle of virtual world design? How could virtual world developers leverage real-money trade instead of suffering from it?

MMORPGs are massive packages of almost entirely developer-created content. Content development is expensive, and secondary markets may help players consume it even faster (Taylor 2002: 231). Not surprisingly, some operators have begun exploring the possibility of leveraging user- and community-created content (‘UCC’). Whenever UCC is

discussed, economic integration is a key issue. I mentioned in part two how economic integration is thought to be one way to provide incentives for users to create content. The basic idea is that by providing users with the possibility of financial gain, they are motivated to develop content.

Linden Labs' Second Life follows exactly this model. Users are able to construct three-dimensional objects and program them with functionalities. The economy involves the trade of these objects for Linden Dollars, Second Life's virtual currency. Linden Labs then encourages users and third parties to trade Linden Dollars for real money (Ondrejka 2004a; 2004b; 2004c). In other words, Linden Labs is following a laissez-faire strategy. Other suitable strategies for promoting UCC through economic incentives are all those that allow users to liquidate their virtual holdings into real money: for example, marketplace and monopsony.

While Second Life is notable for being a completely UCC-driven virtual world, its market share remains very small. It was launched in 2003 and has approximately 25 000 active users (Woodcock 2005). It could be said that while Second Life has succeeded in promoting content creation amongst its users, it has failed to attract a significant user base. A designer aiming for high subscription figures is thus unlikely to adopt Second Life's model as a basis for a new virtual world.

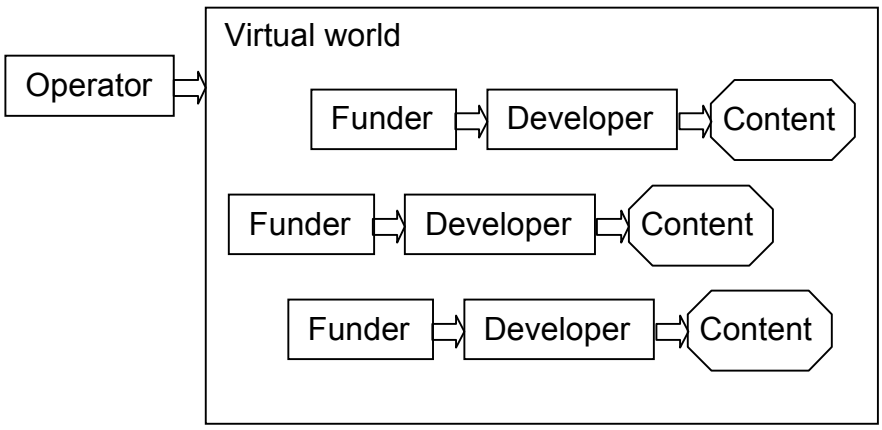
The case study on Project Entropia also touched on user participation. In contrast to Second Life, Project Entropia is a MMORPG, and based on the current dominance of MMORPGs in virtual world market shares, has the potential to reach a bigger audience. Project Entropia does not incorporate tools for users to create new virtual objects with like Second Life does, but MindArk leverages financial incentives and user participation in other ways: the USD 26 500 island deal shifted a part of the financial risk of content development from the operator to the user. While the sum is negligible compared to MindArk's total development budget of USD 15 M,[45] it serves to point out a possible future model: user- and community-funded content ('UFC'). Suitable generic economic integration strategies for pursuing a UFC-based content development model are those that allow users to place investments into the virtual economy, such as laissez-faire, marketplace and monopoly. The user in UFC could also stand for a professional investor if conditions were right.

[45] The situation in December 2002, after which the budget has grown. See (MindArk 2002).

MindArk has also mentioned the idea of having third-party developers create and presumably sell content within MindArk's universe (Stratics 2003). One could imagine for example a set of quests developed by a third party, or perhaps even a new continent or a whole planet. This is a sort of half way between Second Life's UCC and EverQuest's traditional model where a single developer creates the whole virtual world. It might represent a good trade-off between the quality and control issues of UCC and the inflexibility and capital requirements of the traditional model. Suitable economic integration strategies would be those that allow the third party to extract revenues from its work, such as laissez-faire, marketplace or licensing. Another possibility is that the operator compensates the third party with a share of its subscription revenues, in which case the economic integration strategy could even be an embargo. The operator must of course also provide the third party with tools and access rights for creating things out of thin air. It seems almost surprising that licensing and third-party development are not more common in the industry today.

Third-party development (or UCC) together with user funding could break up the prevailing content production model in an interesting way. The current monolithic developer-publisher-operator companies such as MindArk could turn into infrastructure providers, while content production would be carried out by scores of independent developers with separate independent funding (Figure 4.3). The platform could either be completely open, facilitating competition and market-based content selection, or it could be moderated by the operator, ensuring quality and enabling consistent fiction for the purposes of building MMORPGs.

Figure 4.3: Virtual world as a platform for independently funded development



A similar content development model already seems to have emerged spontaneously in Habbo Hotel. Organising a game, show, competition or some other player-run attraction in Habbo Hotel requires suitable furni. One way which player-organisers acquire such furni is through entry fees extracted from the participants of said activities (Johnson & Toiskallio 2005). In other words, a set of content is developed by an independent actor and funded by players who benefit from it. The role of Sulake is to provide a platform for this activity and to act as a moderator. Sulake ensures that the content is consistent with Habbo Hotel's minor-friendly atmosphere.

UCC is currently associated with social-oriented worlds and has little to do with gaming-oriented MMORPGs that rely on levels and skill points to provide opportunities for achievement and advancement. Is it possible to reconcile real-money trade and achievement hierachies? It seems that Project Entropia and Habbo Hotel succeed in this to some extent. Player communities measure achievement with their own user-defined metrics. Any rank obtained by a participant is merely a status item and the only power it carries is social and communally enforced. On the other hand, the scope of such an achievement hierarchy is limited to the particular sub-community. In contrast, the levels and skill points of MMORPGs are "tangible" and entail actual power and added capability enforced by the system. The sign of achievement in MMORPGs is the tangible reward. When the reward is commoditised, there is no longer any way to observe a hierarchy.

It seems that the next generation of MMORPGs should therefore find ways to de-couple status and reward. This is similar to what Timothy Burke (2004) is suggesting when he says that virtual world designers should make the "major unit of persistence" something different from the avatar and its possessions. Burke suggests that the major unit should be the world itself. Habbo Hotel points to another possibility: an inherently non-transferrable communally determined standing.

Last year Castronova proposed a holy grail for the virtual world design community: "Build a fantasy roleplaying world, with markets and character advancement, where eBaying does not happen – not because eBay is forbidden, but because no player wants to use it." (IGDA 2004: 27) I would like to propose an alternative one: Build an immersive fantasy world where players enjoy a feeling of achievement – not because real-money trade is forbidden, but because the design leverages it.

5. DISCUSSION AND CONCLUSIONS

The current debate concerning real-money trade of virtual assets has focused on contrasting two extreme options: complete integration and complete isolation. In this study, I attempted to map out the range of strategies that lies between these extremes. The result is a model of nine generic economic integration strategies presented in Figure 4.4.

Figure 4.4: Nine generic economic integration strategies

Price window Resources & cap. Customer needs Legal environment	**Price ceiling** Resources & cap. Customer needs Legal environment	**Marketplace** Resources & cap. Customer needs Legal environment
Price floor Resources & cap. Customer needs Legal environment	**Laissez-faire** Resources & cap. Customer needs Legal environment	**Monopsony** Resources & cap. Customer needs Legal environment
Licensing Resources & cap. Customer needs Legal environment	**Monopoly** Resources & cap. Customer needs Legal environment	**Embargo** Resources & cap. Customer needs Legal environment

I also attempted to identify how various internal and external factors such as customer needs affect how an operator chooses to deal with real-money trade of virtual assets. The literature reviewed in part two suggests that economic integration is in many ways incompatible with a satisfying playing experience. In particular, it is pointed out that real-money trade interferes with the players' feelings of achievement (Bartle 2004: 16) and immersion (Castronova 2004b: 192-196). Assuming so, virtual world operators catering to achievement- and immersion-oriented players would be best off enforcing an embargo on real-money trade.

However, the case studies showed examples of achievement-oriented play taking place in virtual worlds highly integrated with the real economy. This lead me to conclude

in part 4.2.2 that the issue is more of a question of design. The archetypal fantasy MMORPG should not be viewed as a pinnacle of virtual world design. Instead, developers should be seeking ways to de-couple achievement from reward and enhance user participation in delivering persistent experiences. Similarly, in cases where real-money trade has lead to 'farming' that interferes with normal play, the problem could almost always be alleviated with better design. Economic integration strategies such as price window and monopoly are therefore not inherently incompatible with achievement-oriented play, just incompatible with certain designs.

Achievement-oriented play is manifested by e.g. ranking lists and comparisons, and can thus be observed with some reliability. Player immersion, on the other hand, is more difficult to study. Castronova (2004b) believes that the best immersive role-playing experience can only be delivered by a virtual world that is completely isolated from the real world. In his view, economic integration inevitably detracts from the world's immersive ability. I touched on role-playing in the case study concerning Habbo Hotel. The environment and the game mechanics are by no means designed to support any specific fantasy, but players seem to use what props are available to immerse themselves in anything from ice hockey championships to a modelling contest. This leads me to conclude that isolation is not a prerequisite for immersion.

On the other hand, Habbo Hotel's user base is comparatively young. Perhaps older kids require more sophisticated toys to be amused. Is economic integration the primary threat to an authentic atmosphere in fantasy world that aims to be serious? What the case material suggest and what Castronova (2004b: 194-195) also seems to accept is that the main reason why MMORPGs lack immersiveness is that players engage in "out-of-character" behaviour: mundane talk is the norm, while role-playing is an exception. This issue has little to do with real-money trade. Therefore, instead of thinking they can promote immersion through enforcing an economic embargo, operators should perhaps contemplate on a completely different aspect of design. To me it looks like role-playing is currently successful in small clusters of players under the direction of a central actor: guild leaders in EverQuest role-play servers, dungeon masters in Neverwinter Nights, and playmakers in Habbo Hotel. Involving players more intimately with the content development process as discussed in part 4.2.2 could be one way of leveraging this potential.

In any case, embargo has proven to be a difficult strategy for operators to enforce. The legal environment has permitted operators to shut down marketplaces such as eBay, but trade has simply moved elsewhere. Sulake has had relative success in curtailing secondary markets as part of its monopoly strategy. One reason for its success could be its strong community management capability: Sulake has perhaps succeeded in creating an atmosphere where players are less willing to trade in secondary markets. In general, the legal environment has left the operators free to choose their economic integration strategies without interference. However, the risk of some legal liability in the future cannot be discounted especially for those operators who pursue integration aggressively. For now, the situation remains open.

5.1 CRITIQUE AND SUGGESTIONS FOR FURTHER RESEARCH

Yin (2002) suggest that the following set of factors be applied when assessing the quality of case study research:

1. Reliability, which refers to the ability to replicate the research with consistent results and thus aims at minimising errors and bias during the research.
2. Construct validity, which refers to the use of correct operational measures.
3. Internal validity, which refers to establishing causal relationships.
4. External validity, which refers to the ability to generalise the results obtained in the study.

Given that the research method used was fairly basic and that only publicly available information was utilised in the case studies, there are no major issues with replicating the research reliably. As to construct validity, the key concept of economic integration strategy was operationalised through market structures, which are readily observable. That this is the appropriate operationalisation is one of the key propositions of this study. In contrast, customer needs are a difficult variable to operationalise. I applied existing theory on player motivations and assumed that motivations translate to what marketing science knows as customer needs. However, no method currently exists for comparing or even quantifying player needs or motivations across different virtual worlds. Yee's (2005) research is the most pertinent, but it focuses on MMORPGs only and has not been subjected to rigorous

review yet. In the end any results concerning customer needs and economic integration had to be phrased so as not to imply strong orderings or magnitudes.

Causal relationships are also rather debatable. I describe how players, the virtual world and its economic integration model form various interrelationships, but specifically try avoid asserting strong causalities. In addition to the normal difficulties of establishing causality, in this case the matter is also confounded by the fact that the player community and the virtual economy may act like state machines: a certain change in economic integration strategy may bring about different results in the system depending on the state of the aforementioned. Evolutionary paths mentioned briefly in part 4.2.1 could provide an interesting avenue for further research.

In the introduction I stated that the scope of this study is the Western virtual world market. The industry, firm resources and customers are different enough in the Asian market that generalisations towards the east are difficult without further study. However, I believe the general conception of real-money virtual asset markets and the nine generic economic integration strategies are abstract enough to be applicable globally: they are based on common market structures and interactions identified in industrial organisation studies and apply in any situation where operators may hope to exercise control over how their virtual asset markets are shaped.

If one accepts the generic economic integration strategies as they are presented here, there are two logical avenues for follow-up research: the internal and external environments being integrated. I categorise players into the external environment and consider research into player needs and motivations vital. Virtual worlds could become the new television. They need their equivalent of the mass communications research tradition.

On the internal side, this study identified a suitable virtual world design as the key resource necessary for successfully implementing most generic integration strategies. A follow-up study could attempt to map “generic virtual economies” and examine how they work in combination with generic economic integration strategies. The resulting set of “economic design patterns” could be very useful for virtual world designers, who strive to create robust virtual worlds in a world where economic integration is a given.

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