

## REAL-MONEY TRADE OF VIRTUAL ASSETS: NEW STRATEGIES FOR VIRTUAL WORLD OPERATORS

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### Abstract

Game assets such as characters, currencies and items are increasingly being traded for real money. Game operators have reacted in various ways: some attempt to curtail the trade, while others encourage it. A growing number are getting involved in the trade themselves. In this paper I develop a classification based on market structures that maps the range of strategies available to an operator for dealing with real-money virtual asset trade. I apply the classification in four case studies and explore the implications of the various strategies on business, design and customer satisfaction. The case titles are EverQuest, Ultima Online, Habbo Hotel and Project Entropia. The results aim to help designers and business developers deal with the real-money trade phenomenon in a more structured manner.

### 1. INTRODUCTION

In 1999, virtual assets such as items, accounts, currency and realty were increasingly being traded for real money. The birth of this “secondary market” elicited various reactions from companies operating the massively multiplayer on-line role-playing games containing the assets (‘MMORPG’). Electronic Arts (‘EA’), publisher and operator of Ultima Online, was enthusiastic about the phenomenon. EA’s press release dated 13 April 1999 proclaims that it “redefines the meaning of online trading” (Electronic Arts 1999). EA let players trade their virtual wares freely on eBay and elsewhere. Other operators reacted the opposite way: Sony Online Entertainment (‘SOE’), the operator of EverQuest, moved to suppress virtual asset trade. It asked eBay to take down any auctions concerning EverQuest assets (CNET 2001).

Yet non-interference and outright trade

for sale, while SOE provides a safe marketplace for player-to-player transactions.<sup>1</sup>

Real-money trade of virtual assets is controversial. There is a debate going on concerning whether or not there should be RMT: whether virtual economies should be integrated with the real economy (Ondrejka 2004b) or remain isolated from it (Castronova 2004). But in reality the choice is not simply between two competing models. There is a whole variety of ways of building links between a virtual and a real economy. What these ways are and how can they be described and their characteristics examined are questions not currently addressed in the literature.

The main research question in this paper is therefore this: what strategies are available to virtual world operators for dealing with real-money trade of virtual assets? My objective is to develop and apply a classification that describes the range of strategies possible besides non-interference and embargo. My secondary objective is to provide some insight as to which strategy could be appropriate in which practical circumstances, for example regarding game design and customer needs, to provide some basis for choice for designers and operators.

In part two I review some previous literature on virtual worlds and RMT. In part three I draw insight from industrial organization economics to develop a model of the interaction between the real and a virtual economy, and use it to derive an inclusive classification of RMT strategies. In part four the classification is applied in a set of cases: Sony Online Entertainment’s EverQuest, Electronic Arts’ Ultima Online, Sulake’s Habbo Hotel and MindArk’s Project Entropia. The companies were chosen for their widely different approaches towards real-money virtual asset trade. As this is an exploratory study developing new concepts for discussion, the purpose of the sample is not to provide statistical significance, but to illustrate a wide range of strategies and their possible implications.

Each case study contains a general description of the internal economy of the given virtual world, a description of the its interaction with the real economy, and observations concerning any implications on business, design, or users. The studies are presented in an abridged form for the purposes of this paper. In parts

embargo are not the only possible strategies for a virtual world operator. In some services, real-money trade (RMT) is built into the design. Sulake, operator of the popular teen virtual world Habbo Hotel, prohibits players from trading – but is itself selling virtual items to players. 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. Recently even EA and SOE have jumped the bandwagon: EA is offering items and avatar attributes

five and six I present and discuss the results with a view to providing some hints for designers and operators and highlighting avenues for further research.

## 2. RELATED RESEARCH

There is a growing body of research on MMORPGs and other persistent avatar-mediated massively multi-user digital spaces, known collectively as *virtual worlds*.<sup>2</sup> Computer games and computer-mediated communities

<sup>1</sup> See case studies below.

<sup>2</sup> Other terms occasionally used to refer to the same concept include “persistent worlds” and “synthetic worlds” (e.g. Castronova 2004).

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have long been studied from the points of view of computer science and sociology, but virtual worlds have also attracted the interest of disciplines such as law and economics. A research stream initiated by Edward Castronova (2001; 2002) examines the subject through economic theory. Some studies examine virtual economies in their own right, while others focus on the interaction between real and virtual economies. A number of scholars (e.g. Balkin 2004; Lastowka & Hunter 2004) apply legal theory and philosophy to address various unsolved issues raised by virtual asset trade, particularly the legal status and ownership of virtual assets.

MacInnes (2004; 2005) discusses RMT from the operator’s business point of view. This perspective obviously has practical relevance, but not much has been written of it so far. MacInnes describes challenges that current business models face with the rise of secondary markets. His advice is to adjust and adopt to the changing environment. In contrast, Bartle (2004) advises the operators to actively oppose RMT. He identifies a large number of pitfalls with virtual asset trade, and concludes that RMT is bad for the operator’s business.

Similar to Castronova (2004), Bartle’s analysis is rooted in the context of an isolated “parallel world” type of MUDs or MMORPG, an type of service to which RMT can easily be seen as antithetical. At the same time, the industry is experimenting with new types of services, ones in which RMT plays a strategic role. Perhaps some of these new services are less susceptible to the pitfalls of virtual property that Bartle (2004) identifies with the current ones. This would be a good starting point for a relevant classification of RMT strategies. I therefore begin by summarising the most common arguments presented in the literature against RMT in the context of traditional MMORPG services. In the next part I examine how new ways of organising RMT could alleviate some of these problems. This approach eventually leads to a classification of RMT strategies.

not “paid their dues” as they have not spent the time and effort it otherwise takes to accumulate assets. It is common for opponents of buying practices to make analogies to sports and board games: e.g., that 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). Those who have developed their avatars into powerful “high-level” characters pride themselves with their achievement and enjoy the recognition of others. The ability to obtain high-level avatars by spending money instead of playing is said to disrupt this hierarchy, making it less meaningful.

In all of the above cases, the argument is that buying an asset outside the game creates a negative externality for other players. But the ability to sell virtual assets is also criticised. It creates opportunities for business, which entrepreneurial individuals are 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 may block normal play (Bartle 2004: 17). Economic incentives also motivate players to find and exploit bugs and security holes such as “dupes” (Burke 2002: 32; MacInnes 2004: 2730). Another dishonest virtual trade practice is *scamming*: putting an asset up on auction, collecting the payment, and failing to deliver (Bartle 2004: 19). Scamming frustrates players and takes up the operator’s customer representatives’ time.

It is said that RMT potentially introduces a whole host of legal issues to the operator, involving e.g. gambling law, banking law (MacInnes 2004: 2729-2730), and liability for losses caused by bugs or “nerfing” (Balkin 2004: 126-131; MacInnes 2004: 2727). While a detailed analysis of these threats is outside the scope of this paper, I wish to point out that operators already issue virtual currencies with real value and cause significant financial gains and losses to players, with little judicial or regulatory intervention

Much of the criticism towards RMT stems from the players' ability to obtain virtual assets easily. Bartle (2004: 13-16), Castronova (2004: 192-196) and others are keen to preserve the "magic circle"<sup>4</sup> in virtual worlds. If players are able to obtain assets "outside" the world by purchasing them for real money, the argument can be made that the magic circle is disrupted, presumably lessening the immersive experience. Many players also consider virtual asset purchases to be *cheating* (Bartle 2004: 7; Burke 2002: 31; Taylor 2002: 231). It is said that those who "buy their way up" have

<sup>3</sup> MUD stands for "Multi-User Dungeon", a text-based precursor to MMORPGs.

<sup>4</sup> 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). Similar to suspension of disbelief in film, the magic circle is considered by some as vital for enjoying a game.

thus far.<sup>7</sup> In other words, the threat remains largely speculative. According to MacInnes (2005), regulation of RMT activities is planned in Korea, but it seems to aim at empowering operators rather than obligating them.

Ondrejka (2004a, 2004b) brings up some positive sides of RMT. He describes Second Life, a virtual world based on user-created content, and argues that RMT can be beneficial because it provides users with incentives to create, since they are able to turn any virtual success into real money.

<sup>5</sup> Bugs that enable players to duplicate their assets, creating new assets out of thin air.

<sup>6</sup> Nerfing is a term used to refer to the operator's act of adjusting game balance, usually by reducing the abilities or attributes of some game asset, resulting in its depreciation.

<sup>7</sup> Although in the case study concerning Habbo Hotel, I describe one actual regulatory confrontation involving virtual world operator Sulake.

The literature contains accounts both for and against real-money trade of virtual assets. In the next part I show how the choice is not simply between two extremes.

### 3. VIRTUAL ASSET MARKETS

The arguments presented in the previous part against RMT are targeted towards so-called secondary markets, that is, markets where virtual world users buy and sell virtual assets between each other without the operator's involvement. Some of the arguments were targeted against the players' ability to buy virtual assets, while other arguments were targeted specifically against the players' ability to sell them. What if RMT took place on a market where buyers and sellers were organized differently?

As discussed above, some scholars have begun applying traditional economics to examine virtual world phenomena. As with real-world phenomena, the results are valid to the extent that the assumptions behind the theories are met. Save for certain information asymmetries, transaction costs and entry barriers, secondary markets for virtual assets are an approximation of *perfectly competitive* markets in the microeconomic sense. There are plenty of buyers and plenty of sellers, and prices are determined freely by the market mechanism.

Perfect competition is not the only possible market structure, however. A field of microeconomics called industrial organization studies the structure of markets especially when they are not perfectly competitive. Common market structures identified in the field are monopolistic competition, monopoly, monopsony, oligopoly and oligopsony. A key criterion for distinguishing between them is the number and size

players.<sup>9</sup> Similar and better avatars are also being sold by non-operator parties (i.e. players and trading companies). Since the operator can create assets at no cost, its supply can be perfectly elastic, meaning that it can sell any quantity of assets at a fixed unit price. In such circumstances no seller should be able to sell above the operator's price, although they are free to sell at a lesser price. In effect, this creates a price ceiling on a market that is otherwise free and competitive.

In a similar way, one could imagine a market where the operator acts as a perfectly elastic buyer, creating an effective price floor on the market. If the operator acts as both a seller and a buyer, there is in effect a price window inside which the market price must fall.

Six possible market configurations can thus be identified for real-money virtual asset markets: perfect competition, monopoly, monopsony, price ceiling, price floor and price window.<sup>10</sup> In addition, there may be a situation where no market exists, either because there are no buyers or because there are no sellers. Table 3.1 displays this set of possibilities as a function of the buyers and sellers operating in the market.<sup>11</sup>

Table 3.1: Market configurations (i.e. structures and price controls) in virtual asset markets

		Buyers			
		All parties	Non-operator	Operator	None
All parties	Price window	Price ceiling			
	Price floor	Perfect competition			Monopsony
Non-operator	Price window				
	Price floor				
Operator	Price window				
	Price floor				

of buyers and sellers in the market. What if a virtual asset market was organized according to one of these structures?

None

No market

Indeed, this is sometimes the case. For example, Habbo Hotel has no perfectly competitive secondary market where players could buy and sell virtual assets between each other. Instead, there is a market with only one seller: Sulake, the operator. Sulake maintains a monopoly over the real-money market of virtual assets in Habbo Hotel, and thus controls the prices.<sup>8</sup> Stretching ones' s imagination, one could also imagine an arrangement where the players would be allowed to sell freely, but where the virtual world operator would be the only party allowed to buy. In microeconomic terms this would be called a monopsony: many sellers, one buyer. In both monopoly and monopsony, the operator is free to dictate the prices.

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

A virtual asset market is the interface between a virtual economy and the real economy. It is by influencing this interface that operators can influence how the economies interact. By allowing trade to go on unabated (termed a "laissez-faire" approach), they can promote interaction and integration (i.e. perfect competition). By enforcing a trade embargo, they can promote isolation. By asserting a monopoly, they can exercise control over the interaction. The choice of approach could be called

<sup>9</sup> See case study on Ultima Online below.

<sup>10</sup> Monopolistic competition, oligopoly and oligopsony are slightly more advanced concepts that have to do with differentiation and entry barriers, and are outside the scope of this paper. For example, virtual assets often have the qualities of "perfect commodities", so that differentiation may not be possible. A further study could examine the possible role of oligopolies in virtual asset markets, but at the level of abstraction sought here the distinction brings no added value.

<sup>11</sup> The gaps in the matrix are places where the operator would be transacting with itself or where there is no market.

<sup>8</sup> Although a tiny secondary market for Habbo Hotel assets has emerged, on which more details in the case study.

their "economic integration strategy". A classification of seven generic economic integration strategies, based on on market configurations identified above, is presented in Table 3.2.

Table 3.2: Generic economic integration strategies for virtual world operators

Strategy	Description
Laissez-faire	Operator does not get involved with RMT nor prohibits it
Price floor	Operator enters the market as a buyer
Price ceiling	Operator enters the market as a supplier
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 RMT

The above discussion is concerned exclusively with the structure and configuration of the RMT market. From the point of view of the critique presented in part two, it is also worth considering *where* the trade takes place. The traditional secondary markets started out in eBay and spread to other Internet auction sites such as ItemBay.com and PlayerAuctions.com. In contrast, SOE recently launched Station Exchange, a centralised trading platform for EverQuest II users.<sup>12</sup> The important

around 25 % of Finnish teenagers visit Habbo Hotel at least once a month.

Habbo Hotel's world resembles a giant contemporary Western indoor area. There are public spaces such as cafés and lounges that act as venues for socialising, but the most interesting aspect of Habbo Hotel are probably the Guest Rooms, each owned and decorated by a user. The most striking Guest Rooms contain various types of sophisticated user- and community-created content ('UCC'). Johnson and Toiskallio (2005) have observed 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. They usually consist of a combination of cleverly arranged furniture, an informal set of rules, and shared fiction. Player-organisers often require participants to lay down an entry fee in furniture. The organisers may keep the furniture or share it with the winner of a quizz or a competition (Johnson & Toiskallio 2005).

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 intangible qualities. Users can barter amongst each other, but the only way to obtain completely new items is to buy them from Sulake's

difference is whether the marketplace is controlled by the operator. If it is, the marketplace is probably centralised and easily regulated. If not, it may be distributed and less susceptible to regulation. Control over the marketplace should therefore be considered another variable in defining an operator's economic integration strategy, in addition to the choice of generic strategy from the classification presented above.

In the next part, I present a number of case studies. Their purpose is to test the applicability of the classification by examining whether it is able to distinguish between different RMT approaches taken by four different operators. I also examine the manner in which the operators have implemented the strategies, and any possible implications that could be drawn for business, design, or users.

#### 4. CASE STUDIES

##### *Sulake: Habbo Hotel*

Sulake was founded in 2000 by two young Finnish digital media professionals. 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, and they attract a total of four million unique users per month (Sulake 2005). Johnson and Toiskallio (2005) estimate that

<sup>12</sup> See case study on SOE and EverQuest below.

catalog. That requires Habbo Credits, a virtual currency which must be purchased from Sulake for real money using e.g. a credit card. In Finland, the oldest and most popular way to buy Habbo Credits is by sending an SMS message to Sulake's premium number. Since December 2004, coupons yielding Habbo Credits have also been available in a popular chain of Finnish brick-and-mortar retail outlets.

In the context of the classification presented in Table 3.2, Sulake is clearly following a Monopoly strategy: the company has implemented a system where it is the only party officially selling Habbo Hotel virtual assets for real money. Its monopoly is not perfect, however. There exists a tiny unofficial secondary market for accounts and furni on eBay. I observed Habbo Hotel related auctions on eBay.com, eBay.co.uk and Huuto.net<sup>13</sup> from 1 April 2005 to 27 April 2005. 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.<sup>14</sup> Some users also 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

<sup>13</sup> Huuto.net is a Finnish auction site similar to eBay.

<sup>14</sup> As an interesting side note, in Huuto.net I often observed 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.

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.

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). For heavy buyers this creates pressure to resort to secondary markets, which remain outside regulation.

Sulake enforces its monopoly position against secondary markets by constantly reminding users that real-money trading is forbidden in the rules of the world, and possibly 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 third-

In 1999, EA acknowledged the emergence of a secondary market for Ultima Online (EA 1999). Since then, EA has taken a remarkably lenient approach towards the secondary market. They have not changed their EULA to disallow it, nor have they asked eBay to take down auctions. In their terms of service they merely disclaim any liability for scams and advise players to use caution when trading. Clearly, they are pursuing what was earlier termed a Laissez-faire strategy towards virtual asset trade.

Yet today EA also runs a so-called Advanced Character Service. 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 service can only be applied to a previously somewhat unskilled avatar, so it cannot be used to boost high-level avatars. The service is clearly a substitute to buying a similar avatar from eBay.<sup>15</sup> In the context of the classification developed in part three, this is an example of the Price ceiling strategy: no player or company should be able sell a comparable avatar for more than what EA is charging, assuming that the market is efficient. In fact, EA should actually be able to command a premium, due to the near-zero risk of fraud associated with dealing

party Habbo Hotel related websites are branded “official fansites” by Sulake (Johnson & Toiskallio 2005).

In summary, Sulake has implemented what I termed the Monopoly strategy. Its method of implementation seems to have been successful in that Habbo Hotel’s secondary markets are tiny compared to those of many other services. Access to Habbo Hotel is free as the revenue model is based completely on virtual asset sales. On the other hand, the revenues are notably smaller than for MMORPGs of similar caliber. 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).

#### *Electronic Arts: Ultima Online*

Ultima Online, the first highly successful MMORPG, was launched in 1997 and still has approximately 150 000 active subscribers (Woodcock 2005). Servers are running North America, Europe, East Asia and Australia, and EA claims it has players in 114 countries. Like most MMORPG operators, EA earns its revenues from shrink-wrapped client and expansion pack sales as well as subscription fees.

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, and today Ultima Online utilises a more simplistic faucet-drain economy (Simpson 1999). There is a rich variety of tradeable assets in the economy. Items of personal property range from armour and clothes to foods, magical reagents, tools, and raw materials. Avatars may also own realty. The best housing land has often been taken years ago, and old buildings sell for significant premia.

with such an established company.

EA’s RMT strategy is not without its problems, however. To illustrate some potential pitfalls with their approach, it is helpful to review some reactions from the Ultima Online player community. The rise of the secondary market and EA’s subsequent laissez-faire approach was greeted with mixed feelings. Discussion forums, such as the semi-official<sup>15</sup> Ultima Online forum at Stratics.com, are full of the familiar arguments against RMT: 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 simply cannot tell whether an avatar was obtained through legitimate play or bought from the market. 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: for example, 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. The opponents thought that the service was “lessening the sense of achievement” and

<sup>15</sup> The Advanced Character Service differs from eBay in that it does not deliver any valuable property that would usually come with a seasoned avatar, but the property can be purchased separately from the secondary market and its contribution towards the price accounted for. Pertaining to avatar skills of a certain level, the two services are substitutes. <sup>16</sup> There are no official Ultima Online forums, but developers use the Stratics.com forums to communicate with the player community.

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). The two sides seem to have had a somewhat different perception of what constitutes play in Ultima Online. 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 in a decisive way, certainly not 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).

Players apparently have widely differing motivations for playing Ultima Online, and it may not be possible to reconcile them all 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

not match the sellers description. Aggrieved customers had no-one else besides SOE to complain to,<sup>18</sup> which placed the operator in a difficult position (CNET 2000). If at first SOE’s attitude towards the secondary market had been Laissez-faire, the company soon changed to pursue an Embargo strategy: in early 2000 SOE officially outlawed the secondary market by adding certain clauses to their end-user license agreement (‘EULA’).

Despite the EULA, trading continued profusely on eBay. 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 (CNET 2001). This move proved to be rather ineffective: trading simply moved from eBay and Yahoo to other marketplaces. For example, at the time of writing there are no EverQuest-related virtual assets on sale at eBay, but a search on one of the alternative marketplaces called PlayerAuctions.com yields 2 247 results.

returning customers, who have already gone through the skill development treadmill at least once. 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. EA is also currently preparing to start selling certain game items for real money.<sup>17</sup>

#### *Sony Online Entertainment: EverQuest*

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. The sequel, EverQuest II, was launched in November 2004, but failed to reach the popularity of its predecessor, capping at approximately 300 000 active users (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 U.S.

EverQuest's fantasy economy revolves around money and items of personal property, from weapons and armour to food and musical instruments. 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 with NPC merchants. Avatar-owned real estate does not exist in EverQuest, but EverQuest II allows players to purchase housing from NPC merchants at fixed prices. The houses are not transferrable between players.

Less than a year after EverQuest was launched, there was already a vibrant eBay market for its accounts, items and currency. SOE saw this as a problem. One issue were the repeated frauds occurring in the market: promised items were not delivered or did

<sup>17</sup> See <<http://www.uo.com/evilitems.html>>.

In April 2005, SOE took the virtual world community by surprise by announcing a new service called Station Exchange (SOE 2005). It is in effect an auction site, similar to eBay and PlayerAuctions.com, except that the site is being run by SOE. As such, it is able to provide security and surety that no third-party auction site can, effectively eliminating fraud. It allows players to trade avatars, items and currency between each other for real money. There is an important caveat, however: trade is only allowed in assets belonging to certain specific EverQuest II servers. Assets from the original EverQuest or other titles cannot be traded at all.

When the EverQuest secondary market emerged, many players complained to SOE that buying virtual assets for real money was "cheating". SOE responded that they will "create a level playing field" by curtailing the market (CNET 2000). In other words, they declared that they will implement a strategy that caters to achievement-oriented players who perceive RMT as cheating. But as shown by Yee (2001), achievement is actually only a part of the spectrum of EverQuest player motivations. There are some players whose needs are not satisfied by an Embargo strategy. SOE's new strategy with Station Exchange involves creating separate servers for those who prefer the embargo and those prefer to trade. This way SOE claims to be "answering the demands of a sizeable proportion of [their] subscriber base" (SOE 2005). They have realised that there are multiple customer segments with varying needs, and are now attempting to create separate offerings to cater for them all. It will be interesting to see whether this strategy works: for example, will players respect the boundaries and cease trading on non-trading servers? Will assets on trading servers retain

<sup>18</sup> Normally an aggrieved party in an eBay transaction may 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](http://www.juliandibbell.com/playmoney/2003_10_01_playmoney_archive.html#106645520484229563)>

their value, or will the value structure be destroyed along with the remnants of the achievement hierarchy?

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 however, and now SOE is beginning to experiment with Laissez-faire on an operator-controlled marketplace.

#### *MindArk: Project Entropia*

Project Entropia is developed, published and operated by MindArk PE AB in Gothenburg, Sweden. It is a MMORPG with a science fiction setting: players take the role of human settlers on a distant planet inhabited

withdrawal period. This leaves a small gap for a market to arise for anyone willing to trade the currency within the spread. Not surprisingly, anecdotal evidence tells of players trading PEDs directly among themselves using PayPal as their payment method. In the classification of economic integration strategies, MindArk's PED exchange therefore matches 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 price was determined in

by peculiar monsters and malevolent robots. Project Entropia was launched in 2003 and approximately 250 000 player accounts have been registered according to MindArk. 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.

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, with player-issued securities possibly appearing in the future, according to MindArk. All assets can be readily traded. Unlike most MMORPGs, Project Entropia even makes individual avatar attributes tradeable in-world using so-called "skill chips" as a transfer medium. This reduces or eliminates account trade on secondary markets. The official currency of the fictional universe is 1 Project Entropia Dollar ('PED') equaling 100 Project Entropia Cents ('PEC').

From the very beginning, MindArk has sought to integrate Project Entropia's economy with the real economy. The company's 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 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. Each payment method incurs fees and transaction costs of varying size on the player, e.g. 3.5 % of the value of the transaction when using a credit card. When players wish to cash out and sell PEDs back to MindArk, MindArk 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. 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. There is a neat spread between the two rates. The spread is wider if you also consider other transaction costs like the long

an auction and equals USD 26 500 plus 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 as MindArk continues to develop the island. In June he said he had already recovered approximately USD 9 000 through taxation and property sales. (Guardian Unlimited 2005)

Project Entropia is an interesting hybrid, because it supports RMT even though the gameplay is very similar to achievement-oriented MMORPGs. As discussed in part two, the argument has been made that RMT is harmful to MMORPGs since it enables players to buy their way to rewards, invalidating the achievement hierarchy. Buying oneself a powerful avatar is particularly easy in Project Entropia. Does this mean that Project Entropia cannot satisfy achievement-oriented players? I believe the answer is no. In MMORPGs like EverQuest, an avatar's attributes and possessions are the main measure of achievement. In Project Entropia, the measures are different. Perhaps one measure is economic viability. Perhaps players strive to create avatars and guilds (known as "societies") that turn in an economic profit. Those who invest more will have higher revenues, but their opportunity costs will also be higher. As 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 Storey's island may also become common sources of economic rents in the future.

While strategic management in the Project Entropia universe would be an interesting topic of study in itself, 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. Perhaps MindArk's efforts to open up Project Entropia's virtual economy are not antithetical to its MMORPG-style gameplay. On the other hand, one must avoid far-reaching conclusions: Project Entropia's playerbase is dwarfed by that of most MMORPGs in the market (Woodcock 2005).

## 5. RESULTS

The first objective of this study was to identify the strategies that are available to virtual world operators for dealing with real-money virtual asset trade. In part three I referred to typical market structures identified in industrial organization economics to describe different ways in which buyers and sellers on virtual asset markets could be arranged. The motivation for this was provided in part two, where it was described how

say that each of the operators was following one of the generic economic integration strategies as shown in Table 5.2. In some cases an operator had segmented the market and was applying several different strategies in parallel. The first objective of this study was thus met with a classification that was useful in that it enabled seven strategies with radically different properties to be distinguished from each other.

critique towards RMT is often directed at a particular configuration of virtual asset markets, the secondary market, where players are free to buy and sell assets in a “perfectly competitive” fashion. Other possible configurations besides perfect competition were identified as monopoly, monopsony, price ceiling, price floor, price window and embargo. In addition, it was noted that each configuration may exist on an operator-controlled marketplace or on open third-party marketplaces.

A marketplace and a market configuration together define a virtual asset market. In effect, the virtual asset market is an interface between a virtual economy and the real economy. By influencing this interface, operators are able to influence the way in which the economies interact. Thus it was said that operators consciously striving to define the configuration of their virtual asset market are following an “economic integration strategy”. Based on this idea, a generic classification of such strategies was presented in Table 3.2.

Table 5.1: Market configurations targeted by case companies<sup>19</sup>

	Buyers		
	All parties	Non-operator	Operator None
All parties	<b>Project Entropia</b>	<b>Ultima Online</b> avatar skills	
Non-operator	-	<b>Ultima Online</b> other assets	-
Operator		<b>Habbo Hotel</b>	
None			<b>EverQuest</b>

In part four I examined a set of case companies and analysed their approach towards RMT. I found that they were indeed attempting to influence and define the configuration of their virtual asset markets. Table 5.1 shows the market configurations aimed at by the companies. Based on this observation it was possible to

<sup>19</sup> EverQuest II Station Exchange enabled servers belong to the same cell with Ultima Online (other assets), but were omitted from the table for clarity. Likewise for Table 5.2.

Table 5.2: Generic economic integration strategies applied by case companies

Strategy	Description	Applied in
Laissez-faire	Operator does not get involved with RMT	Ultima Online (other assets)
Price ceiling	Operator enters the market as a supplier	Ultima Online (avatar attribs)
Price floor	Operator enters the market as a buyer	-
Price window	Operator enters the market as a supplier and a buyer	ProjectEntropia
Monopoly	Operator seeks to be the sole supplier	Habbo Hotel
Monopsony	Operator seeks to be the sole buyer	-
Embargo	Operator seeks to prevent all RMT	EverQuest

A secondary objective of this study was to provide some insight as to which strategy would be appropriate for an operator in which circumstances. As seen in EA’s and SOE’s cases, 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 Embargo could well be the operator’s next choice, because it attempts to force players back into acting according to the design. However, the cases suggest that if the virtual world is designed in such a way that it inadvertently incentivises players to trade on secondary markets and makes such trade possible, there is little hope that an Embargo will be very successful.

If it becomes clear that enforcing an Embargo is not possible, a strategy based on an operator-controlled marketplace may be the next best thing. It alleviates the scamming problem inherent with Laissez-faire on an open market, and also allows the operator to capture a slice of the value generated by the trade. On the other hand, it involves admitting defeat to RMT and may therefore result in outcry from achievement-oriented players. However, the cases lead me to suspect that any harm to achievement hierarchies and magic circles may actually be a lesser problem than the negative publicity. Player communities are notorious for exaggerating the negative effects of decisions made by operators. There are differences in game designs though: EverQuest gameplay can be seriously hampered by fiscally motivated farmers, while newer MMORPGs

that utilise instancing are most likely to be much less susceptible.

If the operator is willing to enter the market as an active participant, then the price control strategies are

would be empirically grounded and thus more valid, better guaranteed to reflect reality. However, in this study, the objective was not to describe current reality, but to map the whole variety of possible ways of linking

also possible. Ultima Online's case suggests that they can be implemented successfully even if they were not part of the original design. A Price ceiling strategy allows the operator to capture some of the value of the trade, but may 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, as the value of many virtual assets seems to be closely related to their scarcity (Burke 2002: 26-7).

The cases suggest that Monopoly 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. Sulake, on the other hand, has applied a Monopoly strategy successfully from the start. It caters well for socialising and customisation oriented players, and does not seem to rule out immersion and achievement in user-created mini-games. The strategy could involve an increased risk of legal or regulatory confrontation, though.

## 6. DISCUSSION

The main contribution of this study is the classification of "economic integration strategies" presented in Table 5.2. It was provided as an answer to the question, "what strategies are available to virtual world operators for dealing with real-money trade of virtual assets?" The question itself was motivated on the basis that current discussions concerning RMT tend to focus solely on two extreme strategies, full integration and complete isolation.

No similar analysis or categorization could be found in the literature. The work of MacInnes (2004; 2005) is perhaps the closest, examining how secondary markets affect virtual world operators' business models. However, MacInnes's investigation is limited to what I referred to as "perfectly competitive" virtual asset markets, that is, markets where non-operator parties trade amongst each other. This study has a wider scope, also considering the situation where the operator becomes an active participant in the market. The results are consequently applicable to a larger variety of business models and services, reaching beyond the architypal fantasy MMORPG.

Despite the lack of earlier examples, the classification presented in this paper is obviously not the only possible way to map operators' approaches towards RMT. This classification was derived from one theoretical analysis of virtual asset markets, and subsequently applied in a few case studies. One alternative approach would be to start with a large sample of companies, examine each's strategy, and derive a model or a classification. This way, the result

virtual economies with the real economy. This implies also identifying hitherto unused strategies, which suggests the use of an inclusive theoretical construct.

This study identified two new economic integration strategies that were not observed in use in any of the case companies. In fact, I am not aware of any operator currently utilizing said strategies. The strategies are Monopsony and Price floor.<sup>20</sup>

Under the hypothetical Monopsony strategy, the operator seeks to be the only buyer in the virtual asset market. Players are allowed to sell virtual assets, but only to the operator. If successful, this leads to a strictly unidirectional relationship between the virtual economy and the real economy: virtual holdings may be liquidated into real money, but real money cannot be used to purchase status or power in the virtual world. This strategy could therefore conceivably serve at least two useful purposes: it could provide incentives for user-created content while simultaneously defending the integrity of the achievement hierarchy and the magic circle. Whether it could be implemented in practice is of course another matter. It would obviously need to be supported by a revenue model such as monthly subscription fees.

Price floor is similar to Monopsony in that it involves the operator buying virtual assets from the players. The difference is that players would also be allowed to buy assets from each other. The model could perhaps be applied to an Ultima Online style open virtual economy, if for some reason the operator wanted to guarantee a certain "minimum wage" to all players.

MindArk's Project Entropia could signal a new way of leveraging interaction between a virtual economy and the real economy. The deal whereby a player acquired a section of the virtual landscape in exchange for approximately USD 26 500 could be said to have 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, it could exemplify a future model: users fund the development of parts of a world in exchange for an in-game interest. This could be termed "user-funded content" ('UFC'). Suitable economic integration strategies for pursuing a UFC-based content development model would be those that allow users to place investments directly into the hands of the operator, such as the Price window and the Monopoly.

<sup>20</sup> See Table 3.2.

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