VIRTUAL CONSUMPTION

Vili Lehdonvirta

Sarja/Series A-11:2009

TURUN KAUPPAKORKEAKOULU
Turku School of Economics

Cover:
Virtual townscape in *Dr Owl's Academy*.

ISBN 978-952-249-019-3 (nid.) 978-952-249-020-9 (PDF)
ISSN 0357-4652 (nid.) 1459-4870 (PDF)
UDK 366
366.1
316.7
316.77
316.334.2
004.7
17

Uniprint, Turku 2009

ABSTRACT

Millions of people are spending time and money on virtual goods: clothes for their characters in online hangouts, weapons for their fighters in massively-multiplayer games, and presents for their friends in social networking platforms. In this dissertation, I locate virtual goods as the latest step in an overall digitalisation of consumption, and examine the reasons behind this ”virtual consumption” through data gathered from some of its primary arenas. The dissertation is positioned in the sociology of consumption and also addresses recent streams of scholarship on ICT and society. In popular discourse, spending real money on virtual goods is frequently attributed to Internet addiction and manipulation by marketers. The results of this dissertation suggest that the fundamental drivers of virtual consumption are rather found in individuals' social and hedonic motivations. In online spaces, virtual goods function as markers of status, elements of identity and means towards ends in the same way as material consumer goods do in similarly contrived physical spaces. The impact of virtual goods is not limited to virtual communities, however, because pre-existing social relations are also increasingly acted out in online spaces. Survey data is used to argue that spending on virtual goods is linked to participants' economic and socio-demographic backgrounds. The resulting digitalisation of consumption can potentially have significant implications for the global economy and the ecological sustainability of consumer culture.

Keywords: consumer behaviour, online communities, cross-cultural study, electronic commerce, dematerialisation of consumption, ethics of consumption

ACKNOWLEDGEMENTS

Besides having the ostensible purpose of assigning credit, the acknowledgements section is also a game where authors compete in thanking their supporters and apologising to their families in the most clever and eloquent words possible. When faced with a game such as this, an individual has two choices. One is to accept the rules and join the game. The other is to attempt to subvert the game by putting forward an alternative one.

In the computer art subculture known as the demoscene, the convention was to present acknowledgements as a simple list of names. Instead of witty prose, competence was demonstrated by the list's visual appearance.

Supervisor
Terhi-Anna Wilska
Examiners
Sang-Min Whang
Pasi Pyöriä
Funding
Liikesivistysrahasto
Tekes

Mika Lehdonvirta
Tuukka Toivonen
Pekka Räsänen
Juho Hamari
Kai Huotari
Juha Tolvanen
Tatsuo Nakajima
Marko Turpeinen
Tuukka Lehtiniemi
Marjoriikka Ylisiurua
Herkko Lehdonvirta
Mikael Thuneberg
Pyry Lehdonvirta
Takahito Uezono
Herkko Hietanen

Eino Joas
Sulka Haro
Olli Pitkänen
Mikael Johnson
Emmi Kuusikko
Kai Kuikkaniemi
Otso Lehdonvirta
Jukka Kemppinen
Nanae Yamagishi
Jaana Lehdonvirta
Yoshiaki Hashimoto
Hiroshi Yamaguchi
Joshua Fairfield
Thomas Malaby
Horace Xiong
Riku Suomela
Dan Hunter
Esa Ojansivu
Miho Nojima
Julian Dibbell
Jun-Sok Huhh
Greg Lastowka
Andrew Schneider
Edward Castronova

Eyjólfur Guðmundsson
Savvas Papagiannidis
Johannes Borgman
Marylka Uusisaari
Hideyuki Tokuda
Pekka Nikander
Tetsuo Yamabe
Antti Ukkonen
Fahim Kawsar
Taiyoung Ryu
Zhangxi Lin
Kevin Li
Fu Qiang
Tatu Aalto
Aleksi Aalto
Frans Mäyrä
Janne Hyytiä
Yoshito Tobe
Jeremy Snyder
Heikki Mannila
Hiroaki Kimura
Kjartan Emilsson
Fernando Herrera
Tuomas Yrjänäinen

CONTENTS

1 INTRODUCTION

1.1 Why virtual consumption?

Millions of people are spending time and money on virtual goods: clothes for their characters in online hangouts, weapons for their fighters in massively-multiplayer games, and presents for their friends in social networking platforms. This market did not exist ten years ago, and today it is estimated to be worth billions of U.S. Dollars (Lehtiniemi & Lehdonvirta 2007).

This way of spending is distinct from the more recognised forms of electronic commerce: the sales of goods, services and information. Unlike goods, virtual goods do not need to be shipped. Unlike services, virtual assets are not perishable and can be re-sold. And unlike information goods (such as music, software and news), virtual goods are rivalrous: one person's use of a virtual good excludes others from using it. What are being bought and sold on the virtual goods markets are therefore not data, services or objects, but permissions: the exclusive right to use this feature or that corner of an online environment frequented by thousands of people.

This study is intended to be the first thorough sociological analysis of this new mode of consumption, which is termed virtual consumption. The study of virtual consumption is relevant and topical to social scientists for several reasons: Firstly, it seems to be an archetype of the so-called "dematerialisation" of consumption, which has become a prevailing topic in the sociology of consumption. Secondly, virtual consumption seems to be a prime example of the process that contemporary scholars of media and consumer culture have variously termed as materialisation, thingification or commodification of media and culture. Thirdly, virtual consumption is an important aspect of the general trend of increased adoption of information and communication technologies (ICTs) in society. The extent and manner of the penetration of digital networks and mediated experiences into everyday life depends greatly on their ability to direct revenue flows to companies operating the services. The study of the possibilities and potentials of virtual consumption therefore affords a window to the future of market-driven developments in a networked society. Finally, the study of alternative economies and consumption styles such as virtual consumption is made extremely pertinent today by the economic and ecological crises so acutely facing mainstream consumer culture.

The theoretical and methodological approach in this study is based on linking the phenomenon at hand to the long tradition of consumption-related scholarship in the disciplines of sociology and economics. But can real-money trade of virtual goods be considered as consumption in the first place? The literal meaning of "consumption" is using up, destroying or eating something, which indicates that in economic terms, objects have life cycles: first they are produced, then exchanged with money, and finally consumed, until they disappear or fade and lose their value (Wilk 2004, pp. 15-17). In the present phenomenon, nothing is consumed in the sense of something tangible being destroyed, expended, used up, worn down or eaten (with the notable exception of electric power). Indeed, Internet-related scholarship typically emphasises the intangible and intellectual nature of online activity, postulating a break with traditional models instead of seeking continuity with them. New economy, digital economy, prosumers, peer production, long tail and tuángòu are some of the recently developed notions used to describe economy and exchange on the Internet (e.g., Castells 2000; Tapscott & Williams 2006; Anderson 2006; Montlake 2007). They are contrasted with the materialist, dumb, inflexible or even destructive nature of traditional consumption.

However, even with regard to traditional consumption, materialistic and processual explanations are not always appropriate. Objects do not necessarily lose their value when used (e.g. antique, jewelry or collectibles), and they can be used several times. The value of goods may be based on non-existing properties (e.g. stock markets). Many objects also have different "social lives", which means that their use may change over time (Wilk 2004; Appadurai 1986; Douglas and Isherwood 1978). As more culturally oriented views of the economy have been adopted in social sciences, consumption has come to be understood more widely: focus has shifted from literal using up towards experiences, meanings and processes involving people and goods (Featherstone 1991, p. 85). As practical quantitative measures of consumption, scholars observe the allocation of time and money. From this perspective, there is no difficulty in considering real-money trade of virtual goods as a form of consumption.

1.2 Background: conflicting views, contrasting theories

As virtual consumption has become more common, adopted first by gamers, teenagers, and gradually by some in the older age groups, it has broken into mainstream consciousness. What was previously the obscure hobby of a few Internet-savvy youth, is now a topic of discussion among parents, in mainstream media, and among regulators. The virtual consumers themselves

were probably never very introspective about their spending behaviour, nor did they feel a need to: in a way, they were acting like the "homo economicus", making rational choices based on their preferences, however outlandish those preferences may have seemed to others. On the contrary, the first sites of virtual consumption might even have thrived in their impenetrability, like subcultures of earlier decades. But the outsiders, the parents, the media and the regulators, became interested in this new phenomenon that seems to have taken over their dependents, and are keen on presenting their views on it – or passing judgement, as the case often is.

Many of the typical views on virtual consumption that one encounters in the mainstream discussions are summarised in the quotes below. The quotes are taken from readers' comments to an article related to virtual consumption published in the online version of the Finnish newpaper *Helsingin Sanomat* on March 23, 2008.[1]

> It is completely insane to pay for something that in reality does not exist. – *Garibaldi*
>
> Consider what better and real reality you could have gotten for that money. – *nettimella*
>
> Why can't virtual coins be free? It's pointless to pay for virtual stuff when it could just as well be free. – *Miks*
>
> Children can't calculate while they play, and even adults sometimes get so immersed in the game that they forget reality. – *nettimella*
>
> Children are victims of consumer culture and become blind to the concept of money, no longer realising its value. I think the ethicality of this needs to be considered, not just how to make money [with it]. – *Keith*
>
> Previously you couldn't abuse children in business like this. It's incredible that Finland is a major player in this immoral practice. I wonder how many Finns' income depends on getting children to consume the most foolish things! – *mummo*

[1] Translated from Finnish into English by the author from comments appearing at Grönholm & Haapanen (2008).

> [Selling virtual goods] represents taking advantage of children both economically and psychologically. – *Renée*

The comments above exemplify a number of common views held towards virtual consumption that question the rationality of spending money on virtual goods. Virtual goods are typically seen as illusory, imaginary, unreal or even nonexistent. They are contrasted with "real" goods, which are rational, useful and valuable. Something real is better than something virtual. According to this view, virtual goods are not worth anything, either because of their ephemeral nature, or because they are digital, and digital image flows are reproducible without cost. Spending real money on virtual goods is therefore considered irrational.

Another view exemplified above posits that virtual consumers are so immersed in the virtual environment that they can no longer think rationally. They become addicted to the environment, the goods, or the act of virtual shopping, and spend money on virtual goods mindlessly. Virtual consumption is comparable to a dangerous drug: individuals feel compelled to indulge in it despite the fact that it causes more harm than good.

Finally, there is a strong belief that virtual consumers are, in fact, children: both literally as well as in the sense of being gullible and susceptible to exploitation by ruthless commercial interests. Virtual goods vendors entice immature minds, not yet able to distinguish between real and make-believe, into giving away their money for nothing. Selling virtual goods is therefore highly immoral. On a societal level, companies and marketers are brainwashing children into virtual consumers, making them see value in virtual goods and desire pointless virtual possessions. The result of this capitalist indoctrination is another generation of loyal consumers, this time in the virtual sphere.

It is probably safe to say that the above views, highly critical of virtual consumption, are often arrived at without substantial study or experience of the actual practices of virtual consumption. They are outsider impressions. The insiders, the virtual consumers themselves, obviously have substantial experience and embodied knowledge regarding the actual practices as well as the meanings and motivations behind virtual consumption. But they lack the motivation and perhaps also the capability and analytical distance to express these in a form that could be digested by parents, regulators and mainstream media, and thus fail to contribute to a debate on virtual consumption.

What is at stake in this debate? From a societal perspective, the spending of real money on virtual goods, as an emerging phenomenon, does not have an established position in society. It could be characterised as "gaming", which carries with it certain meanings and places it in a certain ethical frame:

recreational spending, leisure, but also frivolousness, distraction and even addiction. It could also be characterised as a form of "online shopping": economic activity, conventional, legal, but also hedonistic and subject to a different set of ethical concerns. And it could also be characterised as "exploitation", as above.

The way in which authorities such as regulators and parents conceptualise (or fail to conceptualise) virtual consumption has very practical implications for the people involved, individuals as well as companies. For example, whether parents see virtual consumption as "masculine" technology consumption or "feminine" adornment will greatly influence the ability of young consumers of different genders to participate in it. And whether society sees virtual consumption as something legitimate and desirable or something irrational and subversive will greatly shape its uptake. In Korea, the National Assembly has passed a law that makes certain types of real-money trading of virtual goods illegal (Yoon 2007). In Finland, complaints from parents lead the consumer ombudsman, a public official, to call negotiations with Sulake, a company operating an online hangout popular among teenagers (Consumer Agency 2004). Consequently, Sulake now imposes a weekly limit on the amount of money its customers can spend on virtual goods. The limit varies from country to country. According to Sulake, the spending cap is set to correspond approximately with the local price of a cinema ticket (Grönholm & Haapanen 2008). That the price of a cinema ticket is considered an "appropriate" level of virtual consumption suggests that it is conceptualised as a leisure activity, spending on perishables as opposed to durables, and perhaps associated with cultural activities and spending time with friends.

The epistemological starting point of this study is that beyond all these different constructions of virtual consumption, there is also an objective reality of which it is possible to obtain indirect knowledge through empirical methods. This reality consists not only of the physical world of natural sciences, but also of the human world of subjective meanings and intentions that underpin actors' externally observable behaviour. In this view, phenomena are seen as socially situated but not socially determined, maintaining the possibility of objective critique of both actions and beliefs. By providing an empirically-based account that strives towards objectivity, or is at the very least external to the existing viewpoints, I hope to contribute to the debate on the nature of the phenomenon in a way that helps participants see the matter clearly and judge virtual consumption on its merits.

The strategy adopted in this study when empirical observations are to be explained as manifestations of reality falls under the amorphous category of sociology. This strategy is contrasted with and complemented by the rational choice approach associated with economics. The difference between these two

general approaches, in the idealised form thought of here, can be briefly summarised as follows, after Therborn (1991) and Räsänen (2004). The economic approach assumes that all individuals act according to the same rules of interest and rationality, so that variance in behaviour is explained mainly by variance in external conditions and constraints. For instance, the reproduction of social class from generation to generation might be explained as the consequence of economic constraints facing disadvantaged children, making it impossible for them to pursue a strategy of education and social advancement. Given equal opportunity, it is thought that every person would pursue a utility-maximising strategy of advancement and leisure, the exact mix depending on individual preferences.

The sociological approach, in contrast, de-emphasises external constraints and seeks to explain choices and outcomes primarily by reference to variance in the actors themselves, and in particular the actors' positions and roles in different social structures and groups. Describing the concrete mechanisms through which actors' attributes are thought to affect choices and outcomes is a key concern. For instance, the reproduction of social class might be explained as the consequence of values and norms absorbed by children from their parents, leading working class children and middle-class children to make systematically different choices regarding education, irrespective of their economic standing. In practice, the two approaches can be combined, so that individuals are assumed to be exercising rational choice –based agency within the limits afforded by their structural positions (Räsänen 2004). This approximates the explanatory strategy followed in this dissertation.

Applying a sociological approach to subject areas that are traditionally considered "economic" is sometimes termed *economic sociology*. The contemporary school of self-identified economic sociologists in North America has, however, focused on the production side of economic life, paying relatively little attention to consumption (Zelizer 2002a). The literature that this study draws on for sociological theories of consumption centers on the work of contemporary British scholars and some of their continental predecessors. With the help of computer-mediated communication literature that establishes online spaces as capable of sustaining social relationships and social aggregates, these theories can be applied in the virtual domain. The dissertation also places established social scientific accounts of consumption in something of a contrast with a mushrooming literature on Internet-based consumer behaviour, which emphasises a post-materialistic ethos and active participation by consumers.

1.3 Research questions and methodology

In this section, I introduce the research questions, scope and methods used in this study. The overall purpose of the study is to provide an informed account of the main characteristics of virtual consumption so that it can be assessed on its merits and compared to other fields of human activity. The main task is therefore to explain the most controversial aspect of the phenomenon: *why do people spend real money on virtual goods?* This primary research question is divided into secondary research questions as follows:

RQ 1: What kind of benefits do virtual consumers experience from virtual goods?

Under the rational choice model, it is necessary to assume that virtual consumers believe they are obtaining some kind of benefit from spending on virtual goods that justifies this spending over all possible alternative uses of time and money. In order to understand why they might think so, it is natural to ask what such benefits might be. On the other hand, in the previous section it was suggested that rational choices are not the whole story. The fact that virtual consumption seems to be centered around online hangouts and other sites of social intercourse leads us to suspect that it may also be shaped by social norms and structures, against which the preferences of individual actors might appear as no more than fluctuations in an overall pattern. A second question is thus formulated as follows:

RQ 2: What kind of social structures promote and regulate virtual consumption?

Finally, it is obvious that the companies operating the online hangouts and other sites of virtual consumption (referred to as the operators from hereon) play a part in giving rise to the whole phenomenon, but the mechanisms through which they do so must be elucidated before it is possible for anyone to judge them as ruthless exploiters any more than praise them as faithful servants of consumers' tastes. While recognising that it is impossible to deal with this topic in a conclusive way within the limits of this dissertation, I put forward the following research question:

RQ 3: What is the role of operators in promoting and regulating virtual consumption?

Social sciences offer several possible methodological approaches to generating answers to these questions. Empirical research methods are often classified into three broad categories: qualitative, quantitative and mixed-methods approaches (Creswell 2003). According to Töttö (2004), it is, however, more accurate to speak of research based on textual materials, research based on measurement results, and research that utilises both types of data. The rationale for choosing one method over the other is based on its suitability for the purpose and context of the study, including its epistemological and ontological stance towards the subject matter (Creswell 2003, pp. 5-12).

In a realist ontology, materials represented in textual form, such as field notes and interview transcripts (and understood broadly, also audiovisual material such as drawings and advertisements) are useful for answering questions about subjects' cognitive state: meanings, intentions and beliefs held by an individual or a group of people (Töttö 2004, pp. 13-14). Inasmuch as this study is concerned with uncovering objects in the human world, particularly beliefs held by subjects regarding benefits that can be derived from virtual goods, as well as social structures such as groups and norms, its analyses should therefore be based on some kind of textual materials.

Materials consisting of measurement results, such as survey responses, are useful for answering questions about the frequency of some attribute within a given population, for uncovering dependencies between attributes, and for lending support to theories concerning causal mechanisms (Töttö 2004, pp. 14-15). Inasmuch as this research aims to uncover dependencies and propose causal mechanisms regarding how social structures and decisions made by the operator affect virtual consumer behaviour, its analyses should be supported by some kind of measurement results.

The notion of frequency brings up the question of scope and generalisability. As a practical matter, no research methods can capture a phenomenon called "virtual consumption" as a whole, because there is no way to obtain a representative sample of all "virtual consumers". Nor would we be very interested in the average attributes of such a huge and arbitrarily defined group (does it include everyone who has once purchased a virtual good, or regularly purchases virtual goods, or perhaps regularly visits sites of virtual consumption?). Instead, the answers given in the articles constituting this dissertation address specific cases of varying breadth, situated in a limited span of time and space. Towards the end of this introductory part of the dissertation, these answers are collected together and synthesised, but the synthesis is not so much a generalisation to some unknown population as it is an ideal type: a reference point against which some observations compare better and some worse. This is similar to, for example, the notion of fashion,

of which a great deal is known even though its exact boundaries have never been discovered.

Textual materials used in this study were collected through the following methods: non-participant observation ("cultural entreé"); capturing texts published on the Internet by users and operators ("online fieldnotes"); participant observation and informal chats with users, both computer-mediated and face-to-face ("cultural immersion"); and formal interviews with users, operators and professional virtual goods traders. As signalled by the terms I have placed in parenthesis above, this palette is similar to the methods used by cultural antropologists when writing ethnographies of cultures and communities, and is indeed sometimes understood as an application or modification of the ethnographic strategy to the "online world" (Kozinets 1997; Markham 1998; Maclaran et al. 2004). For example, Kozinets has coined the term netnography, which he defines as follows:

> [A] written account resulting from fieldwork studying the cultures and communities that emerge from online, computer-mediated or Internet-based communications, where both the fieldwork and the textual account are methodologically informed by the traditions and techniques of cultural anthropology. (Kozinets 1997, p. 470)

In addition to the data collection methods, this strategy involves a general approach to interpreting the data and representing the findings in a way that, among other things, acknowledges and takes into account the subjective role of the researcher (Maclaran et al. 2004, p. 155).

However, Miller and Slater (2000) are critical of an Internet ethnography conceived entirely as the study of online "communities" and relationships. Their own ethnography of Internet use in Trinidad describes the use of online services as being highly embedded in existing practices and communities, such as family and church, as opposed to forming new communities and relationships that are detached from the rest of the society. To some extent this must reflect the fact that only basic services such as email and instant messaging were available to Trini users, more immersive virtual environments being absent. The question of "emergent" versus "embedded" aspects of online life will be dealt with in detail in section 3.1. In the context of methodology, it suffices to say that the materials used in this study address both aspects to a degree, by including data about subjects' online behaviour as well as some data on real-life background variables.

Measurement results or quantitative data is represented in this study by the results of an online survey of the users of three localised online hangouts: *Habbo UK*, *Habbo Spain* and *Habbo Japan*, all operated by Sulake

Corporation. The survey was administered as a trilingual online survey with the assistance of Sulake employees in July 2008. The survey attracted 11255 responses, of which 5288 responses were selected for analysis in article four of this dissertation. Due to the data collection method used, it is not possible to estimate response rate, but the respondents' gender and age distributions are consistent with the results of a recent larger survey of Habbo users (Sulake 2008).

The main statistical method used in article four is logistic regression. A series of logistic regression models are constructed to test hypotheses regarding the influence of factors such as socio-demographic structures and usage style on virtual consumer behaviour. Logistic regression was chosen because it operates with categorical dependent variables and is a non-parametric method, and as such does not require that the variables are normally distributed (Hair et al. 2006, pp. 355-368). Additional details regarding the survey data and the statistical methods used are provided in article four.

Finally, this study involves research not only on the objects of the human world, but also on the rules, objects and landscapes, the "virtual architecture", of online spaces. Miller and Slater argue against making this distinction, lest it lead into Latour's pitfalls of "sociologism" and "technologism" (2000, pp. 8-9). Although in this study the two are seen as existing separately of each other, the main method through which we encounter and understand architecture in the discussions below is through its involvement in the practices of the human world, rather than through a "natural science" of re-discovering and classifying technological artefacts for their own sake.

1.4 Structure of this dissertation

This dissertation consists of a collection of five scientific articles on the topic of virtual consumption, preceded by this introductory part. The purpose of this introductory part is to introduce and motivate the research problem, to position the work within the field of social sciences, to introduce the methods used, and to present the main results and the conclusions that can be drawn from them.

The introductory part is organised into four major sections. In this first section, I introduced and motivated the problem area and the methods used. In the second section, titled *Theoretical approaches to consumption in social sciences*, I will place the dissertation in context with related work in social sciences and describe the theoretical approach adopted in this research. In the third section, titled *Virtual consumption*, I provide background on the phenomenon under scrutiny and synthesise the main empirical results of this

study into four subsections. In the final section, I present conclusions from these results and discuss the resulting notion of virtual consumption in a larger societal context, in a subsection titled *Ethical perspectives on virtual consumption*.

2 THEORETICAL APPROACHES TO CONSUMPTION IN SOCIAL SCIENCES

In this section, I will review the most important perspectives into understanding and explaining consumption behaviour in social sciences. Understaning refers to the meanings attached to consumption, possibly with some ethical colour. For example, consumption behaviour can be understood as the exercise of free will, or as the result of manipulation. Explaining refers to identifying causal relationships that result in a given type of consumption behaviour. The perspectives presented here combine aspects of understanding with aspects of explaining to form general theoretical approaches of consumption.

I begin with economic perspectives to consumption, from classical notions of consumption to modern consumer theory. I then make a detour to some studies where economics is applied to virtual consumption. The aim is to situate this work in relation to these earlier efforts, and to illustrate the limitations of the canonical economic approach in this domain. Armed with this understanding, I turn to more substantive, socially situated theories of consumption, which will act as the theoretical basis of this work. I introduce five different approaches from the sociology of consumption to answering the question, "why do people buy?" Finally, I consider the effect of culture on consumption to support the global perspective of this work.

2.1 Consumption in economics

It is fitting to begin a review of theories of consumption from economics, because the early political economists of the eighteenth and nineteenth centuries are precursors not only to modern economists, but arguably also to some of the more sociological approaches to consumption. This claim is based on the fact that classical political economists analysed economic processes in connection with what would today be called their political and social context. Later economists began to construct the economy as an autonomous sphere, achieving great clarity and rigour in their theories, but sometimes setting aside the commitment to empirical validity.

2.1.1 Classical notions of consumption

The latin word “consumere” is a combination of the prefix “con-”, meaning “altogether”, and “sumere”, “to take up”. Until the eighteenth century, the word meant waste, using up, as in consumed by fire, or consumption as a wasting disease (Porter 1993). According to Slater (1997), in the Western political economy and proto-economic thought of the premodern and Mercantilist eras, consumption was regarded as a loss, a departure of value from the society. It was a regrettable and undesirable thing, particularly when indulged in by the lower classes. Higher classes could use extravagant consumption as a means to display their status, but in doing so they were deviating from virtue as opposed to performing a duty or contributing to the functioning of the society. The view of consumption as a loss can be seen as reflecting the economic stagnation and slow economic growth of the those eras. Under such conditions, economy was easily seen as a zero-sum game, where success is measured in durable wealth, such as gold bullion. Purchase, payment and subsequent consumption represented a one-directional transfer of wealth from one party to another. Consumption, the using up of goods, was therefore a losing strategy.

Towards the end of the eighteenth century, hand-in-hand with the progress of industrialisation and the onset of rapid economic growth, classical political economists such as Bernard Mandeville and Adam Smith brought about a radical refashioning of the concept of consumption. Consumption was redefined as demand: the driving force behind economic expansion. A famous quote from Smith posits that “consumption is the sole end and purpose of all production” (Smith 2009 [1776]). Consumption was no longer a vice, an infraction, a deviation, but the natural counterpart of production in the construction of a thriving economy and society. The economic redefinition of consumption proceeded hand-in-hand with a moral redefinition. The idea of the consumer as exercising his sovereign free will by making judicious choices on the market resonated well with the ideals of Enlightenment thinking (Slater 1997, p. 38-39).

In the utilitarianist school of thought, instigated by Jeremy Bentham (1748-1832), all the diverse benefits and downsides of consumption were reduced to a single, measurable entity known as utility. This idea was appealing to early economists, because it allowed comparisons to be made between otherwise incommensurable goods and provided a theoretical basis for the use of prices as a mechanism of social coordination (Slater 1997, p. 45-46). Economists such as John Stuart Mill and Francis Edgeworth used the concept of utility to theorise consumer behaviour (Jehle & Reny 2001, p. 5). Assuming that each good carries with it a certain amount of utility, and that the consumer is a

being that seeks to maximise their utility, it is possible to predict which goods the consumer prefers to spend their money on. In this context was also born the notion of the rational consumer as the one who behaves in a way that maximises utility, in contrast to the irrational consumer who allocates their money in a less than optimal way.

2.1.2 Modern consumer theory

In modern mainstream microeconomics, theoretical ideas regarding consumption have evolved into a coherent, canonical theory known as consumer theory. The final form of the standard theory is attributed to Debreu (1959). It is "a bedrock foundation on which so many theoretical structures in economics are built" (Jehle & Reny 2001, p. 3). In practice, it consists of a number of axioms and theorems expressed in mathematical notation that allow far-reaching conclusions to be derived from a small set of starting assumptions.

What follows is a brief summary of the relevant features of modern consumer theory following Jehle and Reny (2001). Despite the name, modern consumer theory is essentially a general theory of choice that has been applied to a wide range of behaviours from shopping to voting. It places the consumer in a theoretical situation where they are presented with all the goods available in the economy and asked to decide how much of each good to purchase. This "shopping basket" containing an arbitrary quantity of each good is called a consumption bundle. Given a set of assumptions, consumer theory predicts which of all the possible consumption bundles the consumer ends up choosing.

A key assumption is that the consumer seeks to select the consumption bundle that is "most preferred in the light of his personal tastes" (Jehle & Reny 2001, p. 5). It is assumed that for each possible pair of consumption bundles, the consumer either prefers one of the bundles or is indifferent about them. This is called the preference relation. The preference relation is a given: something that each consumer is expected to have at the outset and that remains unchanged throughout. Consumer theory does not attempt to say anything about where consumer preferences come from or what they are like, with the important exception that it expects them to satisfy a number of assumptions, known as the axioms of consumer choice. As will be seen later, the most important of these axioms for the purposes of this discussion is strict monotonicity: the idea that, other things being the same, more of a good is always better than less.

One notable use of this model of consumer behaviour is to derive demand curves that indicate how prices of goods affect the quantity demanded.

Together with supply curves derived from another branch of microeconomics, the theory of the firm, demand curves can be used to predict and explain changes in prices and quantities of goods traded on the market. For example, classical economists could not explain why an increase in the price of potatoes in nineteenth century Ireland lead to an increase in their demand. The contemporary "law of demand" stated that an increase in price should always result in a decrease in the quantity demanded. The modern theory is able to account for this so-called Giffen's paradox: an increase in the price of potatoes lead to an increase in their demand, because peasants could no longer afford other, more expensive foods, and thus had to focus more of their consumption on potatoes (Jehle & Reny 2001, p. 54).

2.1.3 Utility, price and value

As the above discussion indicates, modern consumer theory no longer derives consumer preferences from the amount of utility associated with goods. On the contrary: the theory starts with the preference relation, which is conceptually much simpler and can to an extent be directly observed, as it consists of preferences over simple pairs of consumption bundles. From the preference relation, a utility function can then be derived: a real-valued function that represents the preference relation by assigning higher numbers to preferred consumption bundles. This kind of "utility" is simply an ordinal measure of the preferability of a given consumption bundle. The Benthamian notion of utility as a measurable quantity of pleasure or pain is considered anachronistic and no longer used (Jehle & Reny 2001, p. 16).

To assess the worth of a given good, the modern economist looks at the amount of other goods the consumer is willing to forgo in order to consume it (Jehle & Reny 2001, p. 47). This reflects the notion in modern economics that value is subjective: a good is worth whatever someone is willing to pay for it. This subjective theory of value can be contrasted with the view that goods have some kind of intrinsic, objective value independent of any consumer or observer, such as the view held by classical economists such as Smith and Ricardo that the value of a good is related to the amount of labour required to produce it:

> The real price of every thing, what every thing really costs to the man who wants to acquire it, is the toil and trouble of acquiring it. What every thing is really worth to the man who has acquired it and who wants to dispose of it, or exchange it for something else, is the toil and trouble which it can save to himself, and which it can impose upon

> other people. What is bought with money, or with goods, is purchased by labour, as much as what we acquire by the toil of our own body. That money, or those goods, indeed, save us this toil. They contain the value of a certain quantity of labour, which we exchange for what is supposed at the time to contain the value of an equal quantity. (Smith 2009 [1776])

Labour theories of value can be used in a normative fashion to criticise what one views at "excessive" profits. In contrast, accepting the subjective theory of value means accepting that goods do not have any "fair" or "natural" prices (or that the prevailing competitive market price is always "fair" and "natural"). Equating value with price also implies that goods must be scarce in order to have economic value. This means that goods that in a psychological, physiological or other sense might be quite valuable, are nevertheless economically worthless if they are abundant. Regardless of these weaknesses as a moral theory of value, the subjective view has been shown to be superior to the labour-based views in predicting actual market behaviour.

In Marxist economics, the value of commodities is related to the amount of *socially necessary* labour time required in their production. Although Marx saw labour as "a necessary condition, independent of all forms of society, for the existence of the human race" (*Capital*, quoted in Swedberg 2003, p. 9), the notion of "socially necessary labour" calls attention to the fact that production is, after all, in no way independent of the social and cultural arbitraries that condition consumption. Sociologists and cultural theorists claim that the cultural component of production is, in fact, constantly increasing, as will be discussed in section 4.4.2 below. Thus instead of a subjective theory of value and an objective theory of value, it may be more accurate to speak of a consumption-based notion of value and a production-based notion of value.

2.1.4 Economics and virtual consumption

In the brief history of economic inquiry touching on virtual consumption, the author whose works stand out as the most cited is Edward Castronova.[2] Of

[2] An economist by training, Castronova is currently Associate Professor of Telecommunications at Indiana University Bloomington. His career as a "virtual economist" began in 2001, when he put out an online working paper titled *Virtual Worlds: A First-Hand Account of Market and Society on the Cyberian Frontier* (Castronova 2001, later published as Castronova 2006a), followed by an another the following year (Castronova 2002). The papers attracted considerable attention from the mainstream media and contributed to the emergence of a loose, multi-disciplinary field of "virtual world studies" among North American academia. Castronova's work has thus far not succeeded in making significant impact among economists, as only one of his virtual economy studies has been

interest here are Castronova's earlier studies, which center around economic analyses of an online game called *EverQuest* (Castronova 2001, 2002, 2004). EverQuest is a so-called "massively-multiplayer online role-playing game" (from hereon, MMORPG): a virtual space where each player controls a character, known as an "avatar", through which they interact with other players and the environment. The game contains various kinds of virtual "goods", including items, currency and the avatars themselves. Castronova noted that, crucially, these goods are scarce: their production is programmed to require a limited resource, players' time, ensuring that there are never enough of them to saturate demand. This sets EverQuest apart from some earlier digital environments, where objects could be created at will and were thus abundant. Due to the scarcity of the objects, Castronova found that he was able to analyse the "virtual economy" of EverQuest using concepts from ordinary micro- and macroeconomics.

Castronova documented various economic agents and processes within the virtual economy, and collected data from auction sites outside the game where virtual goods belonging to the game were traded for real money. Using this data, he calculated an exchange rate for the game currency against the U.S. Dollar. Using survey data collected from the players, he also estimated the U.S. Dollar value of the virtual possessions of an average player, the U.S. Dollar value of the amount of virtual property generated during an average hour of gameplay ("wage"), as well as a pseudo-GDP per capita -figure (Castronova 2001).[3]

Other economists who have studied virtual goods include Huhh (2008), Lehtiniemi (2008), Nash and Schneyer (2004). The latter used microeconomic reasoning to explain why the release of an existing MMORPG to a new market area caused changes in the existing users' virtual consumption patterns: the influx of new players caused asymmetric supply and demand shocks that affected different goods differently (Nash & Schneyer 2004). They also observed that the prices of certain goods oscillated as a function of the time of day, and explained it with the fact that Japanese players exhibit different preference patterns compared to North American players. Canonical microeconomic approaches can thus be useful in explaining virtual consumption behaviour and even predicting how it reacts to changes in market conditions.

---

published in a peer-reviewed journal associated with economics (Castronova 2004). He subsequently authored two books, oriented towards virtual world studies rather than economics (Castronova 2005, 2007). His latest work represents a kind of comeback to economics, connecting with the experimental and behavioural movements within the field: his goal is to use multiplayer online games to study economic phenomena and decision making empirically (Castronova 2008).

[3] For a rebuttal of Castronova's GDP calculations and some alternative ideas regarding the measuring of economic activity in virtual economies, see Lehtiniemi (2008).

2.1.5 Limits of the economic approach: Castronova's puzzles

As illustrated in the previous section, microeconomic analyses based on modern consumer theory can go some way towards explaining why people buy virtual goods by, for example, explaining changes in virtual consumption patterns as a result of supply and demand shocks. One might even suggest that the success of microeconomic models in these studies indicates that virtual consumers behave "rationally" in the sense that they allocate their income to combinations of goods that more or less maximise their utility in light of their "personal tastes".

However, this would be a false conclusion. "To say that someone bought something because it represented a utility to them adds nothing to our knowledge of why they bought it, what their motives or needs were"; "it is a tautology which says nothing about particular needs but simply infers their presence [...] from the act of buying" (Slater 1997, p. 44). We do not really know whether it was "personal tastes" that prompted users to buy virtual goods. Economics is not concerned with where consumer preferences come from, only how they are acted upon. There is a vague assumption that preferences are related to "personal tastes" (Jehle & Reny 2001, p. 5), but it is an assumption, not a conclusion. It moreover says nothing about where these tastes come from, nor how they are shaped. We require a deeper explanation for why people buy virtual goods.

If economics is not sufficient to answer the question at hand, then where should we look next? According to Don Slater, the current disciplinary structure of thinking about consumption tends to follow a division where economics deals with the "formal rationality" of consumption, "the logic and procedures through which individuals calculate the best means to maximize the satisfaction of desires that are themselves assumed", while the study of the actual desires, that is, the "substantive rationality" of consumption, is the task of other disciplines, such as biology, psychology and sociology (Slater 1997, p. 43). Formal and substantive rationality are Weber's concepts adapted by Slater for this purpose. In this harmonious division of labour, sociologists, psychologists and physicians reveal the processes that lead to a set of preferences, and the formal models of economics are then used to derive demand patterns and other behavioural conclusions from these preferences. However, if Polanyi is to be believed, the market model itself is culturally constituted. I would like to argue that especially in the case of studying virtual consumption, the role of other social sciences needs to go further than discovering and explaining preference relations, into the domain of describing the (economic) models of interaction. The argument is presented below.

Castronova's recent work (2008) focuses on experiments aiming to show that economic behaviour within virtual economies is in line with the models of microeconomic theory. This is a crucial step if the happy division of labour described above is to be followed. But already in his first, famous paper, Castronova documented a phenomenon that seems to contradict one common assumption in microeconomics. Based on data he had collected, Castronova calculated that the prices of virtual goods in EverQuest decreased 29 percent in one year (Castronova 2001, pp. 34-35). Assuming that the avatars' income remained constant, this allowed players to purchase more goods than before. According to the monotonicity assumption of consumer theory, more goods is always preferable to less goods. But according to Castronova, players were not happy about their increased affluence: instead, they expressed dissatisfaction about it. If such dissatisfaction reached a certain level, players would presumably leave the game and stop consuming the virtual goods altogether.

The same phenomenon in its various forms was identified already by the operators of so-called "multi-user dungeons", early text-based online games also known as "MUDs". For this reason, it is frequently termed "mudflation". It could be defined roughly as "a situation where the aggregate amount of goods in circulation increases faster than the number of consumers" (Lehdonvirta & Lehtiniemi 2008, p. 345). In the real economy, this is called economic growth, and generally considered a positive thing, in line with economic theory. But in a "virtual economy", as conceptualised by Castronova, growth can be a very undesirable thing – a result that seems to run counter to the economic theory.

This is of course not the first time an economic theory fails to explain some set of empirical observations it is applied to. Basic consumer theory may be adequate to explain with reasonable accuracy the demand characteristics of potatoes in an agrarian economy, but in other situations, radical expansion or elaboration has been necessary to obtain a reasonable match. Decision making under conditions of uncertainty and asymmetric information are two common variations of consumer theory (Jehle & Reny 2001, p. 92). In marketing, where predicting consumer behaviour is a key concern, a wide variety of extended models have been developed (e.g., Kotler 2003). Thus the fact that basic microeconomic models are not able to account for the undesirability of mudflation is not necessarily an invalidation of the economic model-driven approach to analysing virtual consumption, or an indication that virtual consumption is economically irrational. Instead, it suggests that a different way of modeling the situation is necessary.

Castronova must have recognised this, because in his second paper on virtual economies, he no longer applied standard microeconomic theory. Instead, he developed a new a model of game consumption that explicitly

accounts for the undesirability of mudflation (Castronova 2002). In the model, MMORPGs such as EverQuest are cast as puzzles with two attributes: challenge and reward. A player's emotional satisfaction from a game is modeled as a function of these attributes. Each player is furthermore assumed to have an optimum level of challenge which they prefer over insufficiently challenging games. The effect of economic growth in this model is to reduce the challenge level of the game, resulting in a decrease in emotional satisfaction. As a consequence, players begin to prefer other games and activities, prompting them to reduce their consumption of the "wealthier", mudflated game.

Models must necessarily paint a simplified picture of reality, especially rigorous ones that are intended to facilitate mathematical reasoning. Castronova's puzzle model has not been empirically tested, so we do not know how well is explains player behaviour. Nevertheless, the puzzle model is arguably a poor attempt to formalise player motivations. For one, it does not take social factors into account in any way, treating MMORPGs as if they were single-player games. The undesirability of mudflation could well be seen as a result of the deflation of the status value of virtual goods as they become over-abundant and available to everyone, for example. Castronova must be commended for seeking to find a better model, but the underlying theory of human action encapsulated in the model is an ad-hoc one, and does not represent the best understanding of human action achieved in any discipline. In this sense, I am tempted to use Mark Granovetter's words to suggest that those who specialise in formal models may sometimes be "sociological babes in the woods" when it comes to theories of social action (Granovetter 1995, p. 232). In this study, I will not attempt to provide rigorous economic models of virtual consumption, but I do attempt to provide a rather thorough account of sociological mechanisms that could be used as bases for such.

2.2 Substantive approaches to consumption: why do people buy?

If economic consumer theory assumes that consumers behave according to their individual preferences over goods, then the sociological (and sometimes psychological) theories outlined in this section provide substance to that theory, by explaining *where* the preferences come from, and how they are shaped. On the other hand, some of the theories in this section also question the economic theory's behavioral assumption, positing that consumers are driven not so much by their own rational calculations but by structures of the surrounding environment. In the later sections of this dissertation, these

substantive theories of consumption will be used as a background for understanding real-money purchases of virtual goods.

2.2.1 Consumption as satisfaction of needs

I will start with a substantive approach that is the least sociological of the set, being more of a substantive elaboration of the economic model. It comes from the little half-sister of economics, marketing. In accordance with the microeconomic theory of consumption, marketing frequently assumes that preferences are something that exist prior to and independently of their possible satisfaction: they are "latent wants" that become realised in the act of consumption (Campbell 2004, p. 37). But as marketing has a more practical interest in the behaviour of consumers than economics has, it also requires a theory of where these wants come from. Most commonly, their source is located in notions of "basic human needs" borrowed from psychology and physiology.

According to a classic marketing textbook by Philip Kotler, "[n]eeds are the basic human requirements. People need food, air, water, clothing, and shelter to survive. People also have strong needs for recreation, education, and entertainment." (Kotler 2003, p. 11) Following Maslow, these needs are moreover thought to adhere to a hierarchy of importance that determines the order in which they must be satisfied, with physiological needs coming first and psychological or cultural needs after (Kotler 2003, p. 196). Wants are the culturally specific manifestations of basic needs: "An American needs food but wants a hamburger [...] A person in Mauritius needs food but wants a mango" (Kotler 2003, p. 196). Marketers influence the way in which needs are realised as concrete wants, but take no responsibility for needs, which are seen as natural and inborn.

Sociologists have criticised the idea of all consumer behaviour emanating from a set of inborn needs (e.g., Baudrillard 1988; Campbell 1998; Slater 1997, pp. 133-136; Belk 2004). In extreme conditions such as famine-era Ireland, it is clear that knowledge of physiological needs can be useful in predicting consumer behaviour. Even so, people frequently act in ways that seem to violate the supposed natural hierarchy of needs, and in the most extreme case "starve to death in their own culturally specific ways (Slater 1997, p. 134). While it is a biological fact that a person needs nutrition to survive and live as an organism, culture defines what the person needs to survive and live as a human. The wants that people pursue in more affluent societies can be seemingly pointless or even counterproductive from a physiological or psychological perspective. Any consumption decision, such

as the purchase of virtual furniture, can always be explained after the fact as the pursuit of a suitably abstract need, such as the need for self-actualisation. But if the only evidence for such an abstract need is the behaviour it is supposed to explain, then the theory is a simple tautology.

An alternative to viewing needs as natural and inborn is the idea of needs as a culturally defined category of the minimum level of consumption considered necessary for living (Belk 2004; Bauman & May 2001, p. 147-162). Needs conceived as entirely physiological may be revealed as suprisingly culturally relative, as Darwin realised when he saw snow melting on the skins of the natives of Tierra del Fuego (Barnard 2002, p. 52). Wants are understood as desires for such goods that fall outside these needs, also known as luxuries. Wants and whims may be morally judged as vice and excess, although in other contexts luxury can also be a status symbol. The consumption of goods that are considered necessities is socially acceptable and can even be desirable to the extent of being compulsory (Belk 2004, p. 80). According to Belk, increasing affluence and the continuous introduction of new goods into society results in classificatory shifts, where goods that were previously considered luxuries are redefined as as decencies and eventually as necessities (Belk 2004, p. 71-72). Information technology is currently undergoing such a shift. For example, the mobile phone that used to be a luxury of top executives is now an everyday necessity for Finnish and Japanese teenagers (Wilska 2003; Rantavuo 2006).

2.2.2 Consumption and social status

The needs-based account seems tempting at first, but can quickly become a tautology that fails to provide a useful theory of why consumption patterns differ between individuals. An influential sociological stream of thought that fares better in providing such explanations is based on the relationship between possessions and social status.

Anthropologists have observed that in a traditional economy, the distribution of goods that results from the flows and exchanges of goods tends to be such that it more or less reflects the stratification prevalent in the society, the different levels of social status. For example, rare copper shields that were produced by natives of the American Northwest ended up in the hands of chiefs and nobles, not in the hands of beggars and paupers (Mauss 1990, pp. 44-46, 134). That someone owned such a copper object was therefore a sure indication that they were a person of high standing. This way, goods become markers that allow an individual's social status to be "read" from their possessions (Douglas & Isherwood 1978).

A classic example of a theory that presents consumption as a sign of social status is Thorsten Veblen's The Theory of the Leisure Class (2008[1899]). Drawing from his own experiences in late nineteenth century America as well as his unreferenced, somewhat idiosyncratic descriptions of other ages and cultures, Veblen traces the rise to prominence of a leisure class that holds as its core value the avoidance of menial work. The origins of the leisure class are found in the hunters and warriors of early "barbarian communities" that were exempted from gathering and farming activities so they could be ready to execute their duties. Indeed, participation in the menial activities was a sign that a man was not fit for hunting and fighting. Veblen's modern day leisure class, the rich and the affluent, continue to distinguish themselves from the lower classes by highlighting their exemption from productive work. They do so by engaging in conspicuous consumption: the study, purchase and application of goods that cannot possibly be useful for any work. Such consumption is not merely useless, but can even be harmful in order to prove the point:

> [P]eople will undergo a very considerable degree of privation in the comforts or the necessaries of life in order to afford what is considered a decent amount of wasteful consumption; so that it is by no means an uncommon occurrence, in an inclement climate, for people to go ill clad in order to appear well dressed. (Veblen 2008[1899])

Veblen also notes that the lower classes, wishing to partake in some of the honour and elegance of the leisure class, try their best to imitate the most conspicuous styles. Another classical theorist, Georg Simmel, used this notion of imitation or emulation as the basis of a theory of fashion (1957[1904]). As goods come to signify high status, they become available as pieces in a game of status competition. By acquiring such goods, members of the lower class can bring themselves closer to the class above them. But members of the higher class do their best to maintain the distance by constantly adopting new trends and consumption styles. In particular, they try to establish *positional goods*, goods over which an artificial scarcity of supply is imposed; but even these tend to be eventually imitated and inflated (Featherstone 1991, pp. 88-89). According to Simmel, this cyclical movement leads to diversity, constant change and expansion in the scope of fashion (from adult dress to children and pets, for example).

But as the availability of goods in the society increases and they become more attainable to lower classes, the lower classes' incursions into the domain of high-class consumption become so bold and frequent as to altogether threaten the link between possessions and social status: it starts to be

impossible to "read" a persons status by simply looking at their consumption style. The higher classes stand to lose if class distinctions are evened out in this way, so there may be moral panic and attempts to freeze the prevailing order through *sumptuary laws*: rules that determine what each social class is permitted to consume. For example, the Tudor English prescribed the permissible colours, cuts and materials of the clothes of different levels of nobility and bourgeoisie, as well as the length of their swords and daggers, "to the intent [that] there may be a difference of estates known by their apparel after the commendable custom in times past" (Secara 2001).[4]

Appadurai (1986, p. 25) sees sumptuary laws as a kind of intermediary phase: a half-way point in a transition from a "stable universe of commodities", where commodity flows are restricted (traditional economy), to an "ever-changing universe of commodities", where commodity flows are seemingly unrestricted (market economy). As consumption choices and affluence continued to grow in England, it eventually became impossible to control the sign system by means of laws. Did the link between consumption style and social class thus disappear forever?

Pierre Bourdieu's well-known theory posits that class remains very much a factor in consumption styles through the mechanism of *taste* (Bourdieu 1984). In a society where access to goods is not restricted, it is access to information regarding which goods are the "right ones" that becomes valuable. One's taste, the discernment that one shows when making consumption decisions or evaluating the consumption decisions of others, is what reveals one's social status. Factory workers may be knowledgeable about football and beer, while scholars might favour ballet and wine. But a factory worker cannot masquerade as a scholar by simply reading up on ballet and wines. One's preferences, dispositions and classification schemes are embodied in one's *habitus*: an unconscious, natural, almost physical aspect of one's being, that is the result of class breeding (Slater 1997, p. 162). The scholar's habitus is such that they can feel comfortable discussing ballet at a wine party, making distinctions at ease, whereas a factory worker might feel self-conscious and uncomfortable despite possessing the same information.

Bourdieu shows that even though access to goods is no longer coercively restricted, the ability to consume the "right" goods, the ones that bestow status upon their consumer, is restricted by class breeding, habitus. However, this opens up a new arena for struggle: the struggle for *cultural capital*, the right to determine which tastes and consumption styles count as the legitimate ones.

---

[4] And in the increasingly prosperous Tokugawa Japan, the shogunate was forced to enact sumptuary laws governing the consumption of such minute items as "elaborate hats and kites, costly children's toys, [and] certain brands of fireworks" (Hur 2008, p. 156).

Factory workers may not have the resources to challenge the primacy of the scholars' tastes, but as an example of an emerging group that is successfully redefining the boundaries of legitimate consumption, Featherstone (1991, p. 93) mentions a generation of newcomer-scholars that turned the legitimating gaze of academic scholarship to jazz and cinema. Today's young scholars seem to be turning it to video games, anime and the Internet. By challenging and reshaping the symbolic content of goods, they are transforming not only culture itself but consequently also the class structures and divisions dependent upon that culture (Slater 1997, p. 160).

2.2.3 Consumption and identity

The class-based approach to explaining differences between individuals' consumer behaviour has been influential among sociologists of consumption throughout the history of the field. In part thanks to Bourdieu's contributions, it also features prominently in contemporary theoretical discussions and is a living field more complex that was possible to convey in the previous section. However, in the past decades, the approach has also been seriously challenged. Often the claim is that society has changed in ways that necessitate a radical break with older theories of consumption. Most commonly this change is framed in terms of "modern" giving way to a "postmodern".

Postmodern is understood in a variety of different ways by different authors (or indeed, by the same author). For instance, it can be understood as a cultural and intellectual movement, visible in the arts and philosophy of the current period, or as a whole new era, characterised by concrete social changes and a new set of values and institutions, visible everywhere down to the level of everyday consumption (Baudrillard 1981, 1988; Jameson 1991; Featherstone 1991). For the purposes of this study, it is not necessary to dive deep into debates regarding the nature of postmodern and whether the movements ascribed to it are recent or part of more ancient undercurrents. Instead, we will simply note the criticisms leveled against the class-based explanations and examine what kind of an image of substantive rationality the new theories put forward.

A major criticism of the class-based theories of consumption is that they assume consumption style is concerned only with symbolising social class, when it is actually also a means to symbolise all kinds of other dimensions of identity: gender, generation, age group, ethnicity, religion and sexuality, among others (Barnard 2002, p. 131). Class-based differences are less pronounced in today's consumption styles than they were a century ago, whereas the role of other aspects of identity is claimed to have grown. In fact,

the whole concept of social class in contemporary society is de-emphasised and even questioned. According to Ekström and Brembeck, "merchandise increasingly turned into a language able to formulate subtler meanings. The primary focus was the way identity was expressed within different social groups." (2004, p. 1)

Psychological and social identity is seen as a uniquely modern problem (Gabriel & Lang 2006, p. 82). The anonymity of urban living, constant physical as well as social movement, and the proliferation of choices in life makes it difficult for an individual to assume a fixed identity. The collapse of what Lyotard calls "grand narratives" can also be seen as depriving individuals of any firm cultural anchoring points on which to base their identities (Campbell 2004, p. 30). As a result, individuals are constantly seeking to define themselves, working on the "reflexive project of the self, which consists in the sustaining of coherent, yet continuously revised, biographical narratives" (Giddens 1991, p. 5).

The most mechanistic views concerning how identity relates to consumption posit that shopping is a way to acquire identity: images and meanings from consumed goods are simply transferred onto the consumer (Gabriel & Lang 2004, p. 84). But this fails to explain on what basis the goods are chosen, how the goods come to acquire their meanings, and what kind of interactions there may possibly be between identity and consumption. In the theories of Veblen and Simmel, most consumers simply adopted styles handed down to them from above; but to account for the diversity of contemporary styles, various scholars suggest that we need to look at how "consumers, if they may still be referred to as consumers and not as producers in some sense, [...] actively [use] fashion and clothing to construct and articulate [...] identities that are not those that are prevalent in society" (Barnard 2002, p. 132).

Many studies of cultural rebellion and subcultures could be brought to bear in illustrating how fashion has been used in the construction of new identities (e.g., Hebdige 1979). Barnard's (2002) account of jeans, punk and hip-hop will be followed here. Originally worn by farmers, miners and cowboys, jeans had a clear association with lower class. From 1930s onwards, different subcultural groups in North America began to adopt jeans: first artists, then bikers, and later leftist activists and hippies (Barnard 2002, pp. 133-134). Each of these groups, in their own way, "stood strongly in opposition to the dominant conservative, middle-class, consumer-oriented culture of America", and wearing jeans offered them a "visible means for announcing such anti-establishment sentiments" (Davis 1992, p. 70). Wearing jeans, all of the same colour and material, was used to reject and step outside class-based positions and identities, and establish new positions outside the dominant order.

The 1970s saw the rise of the punk phenomenon, which can be described as an attempt to challenge both middle-class culture as well as the capitalist system that mass-produced the goods of that culture (Barnard 2002, pp. 136-137). With their self-made styles and excessively crude tastes, participants renounced the role of an obedient consumer and established new positions supposedly rooted in more earthy, vulgar and authentic values. In the 1980s and 1990s, hip-hop music culture originated its own distinct consumption styles, beginning with expressions of defiance against perceived injustices and developing into a full-blown hip-hop fashion (Barnard 2002, pp. 138-141).

From the perspective presented above, fashion is no longer a matter of pure social performance, as it perhaps was in some earlier centuries, but a matter of personal truth and authenticity (Slater 1997, p. 16). If fashion for Veblen and Simmel was something that only the upper classes "do", from this perspective, fashion appears as something that any active consumer can do as part of creating and expressing identity and challenging the role assigned to them by the dominant order. It is, in fact, the ruling classes who, according to Barnard, stick to conservative fashion (or "anti-fashion"), because it remains constant and proclaims the message of continuity and un-change.

Some of the methods active consumers use to construct new styles and identities have been described as *pastiche* and *bricolage* (Hebdige 1979, pp. 102-106; Barnard 2002, pp. 176-181). The English word pastiche is rooted in the late Latin word *pasta*, meaning "paste". Here it means the direct imitation of the characteristic styles of past ages, rather than their creative combination or parody (for a theoretical discussion, see Jameson 1991). Perhaps the contemporary term would be "copy-paste". Bricolage, on the other hand, refers to the creative mixing and matching of odds and ends from other styles and ages to create new styles.

The end result is a constant flow of styles, goods, meanings, fashions and oppositions. The influence of one-dimensional social class on consumption decisions wanes, but the importance of belonging to social categories does not necessarily disappear: new *lifestyle groups* can be seen as forming around specific identity positions and their associated consumption styles. Typical rallying points for such groups are cultural icons such as musical artists, films, and more recently, some anime characters and video games (Nikunen 2006; Järvinen 2006).

To conclude this section, I will briefly introduce a slightly different angle into the relationship between consumption and identity. For Colin Campbell (1989; 1998; 2004), consumption is not so much a means to constructing identities as it is a means to *discovering* one's "true" self-identity. As a consumer exposes themself to different goods on the marketplace, they learn about their true identity by monitoring their own responses to different choices

and products. Through explorative consumption they discover what kinds of things they like, what kinds of things they hate, and how their mind and body react to different kinds of things. From this angle, consumption is less about acquisition and more about process: a quest to find and experience new and diverse consumption choices in order to become as acquainted with one's inner self as possible.

2.2.4 Consumption as art and experience

According to Featherstone, the developments outlined in the previous section have lead to an increasing "aestheticization" of everyday life (1991, p. 70). In search for order in the jumble of signs and styles, the consumer's identity project starts to involve a need to form life into an aesthetically pleasing whole: life as an artistic project. This entails, on one hand, the careful seeking out and cultivation of hedonic experiences. On the other hand, it also entails creativity and self-expression, such as the pastiche and bricolage described in the previous section, but as an end in itself, rather than as the conscious construction of countercultural identity positions. Identity turns into performance, then spectacle, and finally art (Barnard 2002, pp. 166-168).

If in previous times consumption was about social performance or personal authenticity, under this view, contemporary consumption is seen as a hedonistic hunt for experiences and sensations. "The pursuit of pleasure, untarnished by guilt or shame, becomes the bedrock of a new moral philosophy" (Gabriel & Lang 2007, p. 97). Campbell (1989) divides hedonism into two types: traditional, which involves the pursuit of sensations attached to the senses, and modern, which involves the pursuit of emotions attached to all kinds of experiences, even negative ones.

In traditional hedonism, aesthetic pleasure is derived directly from consumer goods through the senses: for example, from the touch and sight of attractive clothes (Barnard 2002, pp. 69-70). In modern hedonism, goods can be used as props in the construction of increasingly elaborate experiences (Pine & Gilmore 1999, p. 144). While traditional aesthetic pleasure relies on "socio-genetically" determined and thus somewhat shared aesthetic codes (Featherstone 1991, p. 71), more elaborate experiences can be very individualistic and constructed in a process resembling artistic pursuit.

What we might expect this rather "postmodern" view of consumption to entail in terms of practical observations is that it becomes difficult to explain consumption by reference to social structures or even lifestyle groups based around an identity position. Instead, consumer behaviour is highly individualised and linked to the playing out of dreams and fantasies. As such,

it is best explained by reference to the individual's psychological landscape, if it can be explained even then.

When consumption is discussed as a means towards emotional fulfillment, a question that is frequently raised is whether consumer goods can really deliver happiness. In the next section, I will consider such criticisms towards consumption and explore the suggestion that the benefits of consumption are, in fact, an illusion, and that consumption may even be harmful to consumers.

2.2.5 Production of consumption

In the sections above, I have outlined how consumption can be approached as the fulfilment of culturally defined needs; as the expression of one's social status and a means to affect it; as a way of constructing, expressing and discovering one's identity on a wider range of dimensions; and as a hedonic pursuit of experiences and artistic visions. Each of these systems of consumer behaviour can be thought of as emerging naturally or spontaneously from deeper structures of social life and human psychology. But it is also possible to see them, or some aspects of them, as the consequences of manipulation.

According to Kotler, "[m]arketers do not create needs: Needs preexist marketers" (Kotler 2003, p. 11). Even if we accept this view, according to which needs are inborn and marketers only affect their realisation as wants, marketing cannot be disregarded as an innocuous process of informing consumers about the available options. One example used to argue for this point is childhood obesity and the mismatch between desired dietary intake and what is targeted and advertised at children in the United States (Gabriel & Lang 1995, p. 115). By choosing to use children's desire for sweetness instead of some other need as the thrust of their marketing efforts, food producers are directly influencing realised consumption patterns.

Yet as argued in section 2.2.1 above, a better way to understand consumer behaviour is in terms of culturally-defined needs, the "necessities" of life. In 1950s, journalists and scholars begun to drawn attention to the ways in which marketing affects perceptions of necessity. Vance Packard (1981[1957]) describes how new sophisticated techniques of consumer psychology were being used to persuade Americans to buy goods that they would not have otherwise purchased. Yoshimi (2006) relates how the number of electric appliances that were considered sufficient for a Japanese household kept increasing throughout the postwar decades. Today, the process of educating consumers about the ever-growing necessities of life begins at an increasingly young age (Quart 2004; De Graaf, Wann & Naylor 2005).

The association of certain goods with high social status can be seen as a natural result of their rarity and exclusivity, and subsequent adoption by high-status individuals. But in the age of mass media, perceptions of rarity, exclusivity and celebrity endorsement can also be manufactured. In Simmel's account of fashion, members of the upper class spontaneously adopted new styles to maintain social distance, but in Fred Davis's account of the contemporary fashion system, international fashion conglomerates play the main role (Davis 1992, pp. 200-206). Women's clothing fashion in particular is designed in the fashion capitals of the West (and increasingly, in Tokyo), from whence it emanates radially to every hinterland on the wings of the conglomerates' global marketing power.

In opposition to mainstream fashion and the limited range of identity positions it affords, stands the use of consumption styles to create new and rebellious identities, from jeans-wearing hippies to consumption-critical punks and politically defiant hip-hoppers. In each of these cases, the popularity of the style eventually made it commercially attractive to start producing the symbols of the rebellion industrially. A side effect of such commercialisation, however, tends to be the subversion of the original meanings of the styles. Different kinds of jeans began to appear in the market, from Levi's classics to Chanel's luxury denim, introducing "precisely the sorts of distinctions between the classes of jean wearer that they had originally been used to counter" (Barnard 2002, p. 135). Punk styles were gentrified and disarmed when their styles were adopted into high-street fashion (Barnard 2002, p. 138). And the menacing ghetto styles of the hip-hop movement became a fashion of choice for middle-class youth from Los Angeles to Tokyo, almost in direct opposition to the identity they were originally developed to express (Barnard 2002, pp. 140-141). As long as there are discontents, activists, politically radical African Americans, they will find new consumption styles to position themselves brazenly outside the dominant order. But with the same certainty, if they succeed, entrepreneurs will never be far behind.

Today's marketers are also actively creating new commercialisable identities instead of simply waiting for them to emerge (Davis 1992; Quart 2004). Central to this activity is the concept of lifestyle, which is a new way of grouping consumers. If Fordist marketing grouped consumers according to socio-demographic segments, post-Fordist marketing groups them in terms of similar tastes, attitudes and consumption patterns (Slater 1997, p. 191). The rationale for this grouping is the idea, elaborated in section 2.2.3 above, that culturally defined lifestyle categories are now more powerful determinants of behaviour than social structures such as social class. According to Slater, "lifestyle marketing not only identifies and targets existing lifestyles but rather *produces* them by organizing consumers according to meaningful patterns,

constructed and distributed through design, advertising and the media" (Slater 1997, p. 191). According to this view, consumers associate with a lifestyle they see in advertising, magazines and movies, and turn it into reality by adopting the corresponding consumption behaviour.

As for the idea of consumption as the pursuit of experiences and artistic visions, the classic criticism, as expressed by Adorno and Horkheimer (1979[1947]), is that experiences produced by the capitalist culture industry are nothing but homogenous mass culture, empty and without any other meaning than the need to capture the audience. Moreover, this Marxist perspective sees the culture industry as being in service to other industries, programming people into consumers to fulfill the needs of the expanding production. According to this view, living out one's dreams through consumption is, in fact, an illusion.

Viewing consumption as an entirely "produced" phenomenon, where consumers are nothing but victims of manipulation, is a tempting way to try to explain away the whole question of consumer behaviour. In practice, however, it tends to overlook the diverse, even active roles that consumers adopt in markets. Consumers behave in unexpected ways (Gabriel & Lang 2006; Featherstone 1991, p. 15), share information, advocate and campaign (Zelizer 2002a, p. 116), take roles as producers and distributors (Lessig 2004), and as detailed in the previous sections, continue to play a role in the way fads and fashions come to being. I will therefore set this view aside for now, but invoke it later when a critical perspective is needed.

2.3 Consumption across cultures

The scope of this dissertation is not explicitly set to any specific geographical area. Instead, a relatively global perspective is attempted in the sense that empirical data is included from both of the two main market areas of virtual consumption (explained in section 3.2.3 below). To support this wide geographical scope on the theoretical level, it is necessary to briefly consider the role of *culture* in consumption and consumer behaviour.

The notion of a "culture" pertaining to a group of people can be defined by reference to its manifestations as practices and cultural objects, or by reference to values and other mental objects that are not directly observable. A definition used by Viviana Zelizer combines these two approaches by defining culture as "shared understandings and their representations in objects and practices" (Zelier 2002a, p. 105). Shared understandings include both values (what should be) as well as ontological beliefs regarding the world (what is). Culture is typically understood to be an attribute of a nation, geographial

region or ethnicity, but lately it has also been applied to other objects, such as corporations (Zelizer 2002a, p. 102) and most recently, online communities (Kim 2000; Lessig 2004). In each case, a connotation of shared understandings and their concrete manifestations is to some degree present.

As for how culture relates to consumption, two basic approaches can be identified in literature. The first is to consider culture as a structural variable, similar to social class, that explains systemic variations in people's consumption behaviour. Differences in behaviour between members of two different cultures are explained as reflections of "cultural differences": systematically different patterns of understandings that individuals adopt as a result of being socialised into a particular culture (Nisbett 2004). However, by adopting this kind of cultural explanations too earnestly, researchers run the risk of glossing over other possible mechanisms. For example, Horioka (2006) argues that before resorting to cultural explanations, it is important to consider whether simple economic realities might account for cross-national differences in consumption patterns. Culture is best used as an explanans when a mechanism through which an attribute of the culture could plausibly affect the behaviour in question is also proposed (e.g., Kimura & Saito 2006).

The second approach to the relationship between culture and consumption takes a wider view, recognising that even economic institutions such as the market are products of culture. Karl Polanyi's classic economic anthropology sees price-making markets as one possible model of allocation, and contrasts them with two other economic models, *reciprocity* and *redistribution* (Swedberg 2003, pp. 28-29). Reciprocity is understood as flows of goods within symmetrical groups such as families and neighbourhoods, while redistribution refers to centrally organised static allocation of goods, typically by the state. The actual economic model of an entity, such as a society, is a mixture of these ideal types. Which transactions belong within which sphere is also a matter of shared understanding. For example, Zelizer (2002b) notes that some social relationships are considered "intimate" and therefore outside the scope of markets, while other relationships are "professional" and open to price-making. There is ambiguity and fluctuation, as well as movement from category to category as a result of long-term cultural changes.

In this dissertation, both approaches to theorising the role of culture are utilised to some extent. In article four, culture is used as a structural variable in statistical models to explain national differences in virtual consumption behaviour, while article two is an account of the culturally constituted economic-social institutions of an online hangout. In section 3.5, I also explore the limits of the ability of users to culturally shape these institutions, considering the way in which operators necessarily pre-determine features of the economic landscape

3 VIRTUAL CONSUMPTION

In this section, I move from established theories of consumption to what I claim to be a novel mode of consumption: spending money on virtual goods. I begin with some background on the *sites* of virtual consumption, the virtual spaces that emerged as a result of the consumer Internet boom of the 1990s. I follow with an analysis of how digitalisation influenced consumption in three waves: first through online retail, then by enabling increasing consumer participation, and finally by giving rise to virtual consumption. I then proceed to the main contribution of this dissertation: applying established theoretical perspectives on consumption to virtual consumption to develop explanations for why people are spending money on virtual goods. This involves analysing how virtual consumption practices relate to social status, identity and experience, how they are shaped by the architectures of virtual space, and how they interact with the virtual consumers' life outside the screen.

3.1 Being social online

The emergence of virtual consumption is predicated on a larger consumption-related trend that has swept over industrialised countries in the past two decades: the massive adoption of the Internet and other digital communication technologies for everyday consumer use. This section is concerned with theorising the rise of online communication in a way that provides necessary context for the practices of virtual consumption that are detailed in the later sections.

Technology is defined as the application of sciences to solving practical problems. Ostensibly, then, the aim of technological consumer products, including computers and Internet services, is to help consumers overcome their problems and fulfil their needs. But technology consumption can be approached from other perspectives as well: as one more style, marker or trend in the pursuit of social status, identity or manufactured consumerism. Empirical studies show that socio-economically disadvantaged people tend to consume Internet services and other new technologies less than socio-economically advantaged people (Hsieh et al. 2008; Räsänen 2008; Räsänen 2006). This could be interpreted in a Veblenian fashion as a reflection of how higher classes are drawn to novel and expensive gadgets because of the

gadgets' ability to signal social status (Yoshimi 2006, p. 76). Recent empirical studies also suggest that people of the lower income and education brackets use the Internet for entertainment purposes rather than for information retrieval or learning (North, Snyder & Bulfin 2008; Räsänen 2006). This could be seen from a Bourdieuan perspective as reflecting differences in the distribution of cultural capital, or from a production of consumption perspective as an instance of the triumph of frivolous mass culture over more enlightened values.

In terms of identity, the consumption of new technologies carries with it connotations of youthfulness and masculinity as opposed to old age and femininity, which is reflected in empirical studies of technology consumers (Räsänen 2008; Räsänen 2006; Wilska 2003). Marketing associates technological devices with images of success and sophistication, although technology products and brands can evoke ideas of freedom and independence (e.g., Linux) as well as conformity and control (e.g., Windows).

But beyond this superficial analysis of communication technologies and Internet services as one more piece in the grand game of consumption, is the realisation that these technologies have also changed the way in which the game is played for many people, by extending the playfield into the online space. A large body of authorship is concerned with how identities are formed online, how people congregate in virtual communities, and how computer-mediated communication channels become to be perceived as concrete new *spaces*. In the following subsections, I will cover these ideas to the extent necessary to understand the context in which Internet users engage in virtual consumption.

3.1.1 Virtual identities in virtual bodies

As the use of computer-mediated communication technologies expanded from corporate groupware to hobbyist bulletin board systems, from academic data exchange to multi-user dungeons (MUDs), the issue of identity entered the scene in a big way. In professional use, identity had chiefly been an administrative and forensic matter, but in the new leisure-time oriented services, it turned back into the social and psychological question of the construction of self. Furthermore, the inability of the technologies to relay information about the participants' appearance, socio-demographic background and consumption style, also known as anonymity, freed the participants of early computer-mediated communication systems to make up their own descriptions regarding the same. This gave rise to pseudonymity,

acting under an assumed identity, as well as the notion of "disembodiment" and the idea of the digital representations of the self as "virtual bodies".

Together with "virtual communities", the question of identity and body online is one of the main topics of early Internet scholarship in the social sciences and humanities (e.g., Turkle 1995; Porter 1997; Holeton 1998; Kitchin 1998; Jordan 1999). A brief summary of the major claims follows. An assumed identity, whether it be simply an exaggeration of the person's actual attributes or a completely fabricated or even fantastical being, is to a certain extent made real and tangible by other participant's reactions to it. This enforces the identity in the mind of the person assuming it. In time, reputation, memories, roles, responsibilities and relationships will become pinned to the identity, further enhancing its reality. From the perspective of consumption, it is also interesting to note that textual descriptions of consumer goods can be used in place of actual goods to express identity: a character's self-description might reveal, for example, that the character is a "Marlboros rolled in the T-shirt sleeve kind of guy" (Turkle 1995, p. 13).

The ability to create identities can be used by the participants for experimentation and play: for trying on different identities to observe how others react to them and what kind of feelings they evoke in the self. It can also have emancipatory potential for people who feel that they are not able to express their "true" identity in their everyday environment, because of, for example, the limitations of their body or the attitudes of the surrounding society. Castronova sees that computer-mediated communication can therefore "give you a freedom that no one has on Earth: the freedom to be whomever you want to be" (2001, p. 17). On the other hand, the veil of anonymity also allows the more negative aspects of human personality, such as egotism, belligerence and rivalry, to be brought forward.[5]

Anonymity, together with multitasking and asynchronous modes of communication, permits the maintaining of multiple identities simultaneously. To make use of this ability, users must split their time and attention between their various computer-mediated identities, in addition to splitting their time and attention between computer use and other activities. This partitioning, coupled with the significance and value users invest in their computer-mediated identities and relationships, gives rise to the idea and experience of the physical body as just one facet of the self, to which there is not always willingness to assign primacy. "RL [real life] is just one more window [...] and

[5] A particularly succint artist's expression of this phenomenon is "John Gabriel's Greater Internet Fuckwad Theory", which posits that a "normal person + anonymity + audience = total fuckwad" (Holkins & Krahulik 2004).

it's not usually my best one", Sherry Turkle quotes one informant as saying (1995, p. 13).

3.1.2 Communities of interest

A common theme in the literature is how repeated discussions and interactions in a computer medium over an extended period of time result in meaningful relationships, even such where the participants' experience of trust an intimacy is comparable to or even exceeds their experiences in face-to-face relationships. But the relationships and the identities involved in them are never described as floating freely in some kind of a borderless cyberspace. Instead, each identity and relationship is framed by and defined in relation to an online social group: users of a particular MUD, participants in a particular Usenet discussion group, and so on. Such groups are frequently called "virtual communities".

The phrase "virtual community" was coined by Howard Rheingold and made popular as the title of his book on early computer-mediated social groups, first published in 1993 (Rheingold 2000). Rheingold himself traces the idea of viewing computer-mediated groups as "communities" to ARPA directors J. C. R. Licklider and Robert Taylor:

> 'What will on-line interactive communities be like?' Licklider and Taylor wrote in 1968: 'In most fields they will consist of geographically separated members, sometimes grouped in small clusters and sometimes working individually. They will be communities not of common location, but of common interest....' (Rheingold 2000, p. 9)

This prediction was shown to be insightful when groups matching the description appeared many years later and were described by authors such as Rheingold and Amy Bruckman (1998). The idea of a common interest, whether it be a hobby or profession or something as abstract as common tastes, became central in these descriptions and was elevated to the position of something of a constituting feature of virtual communities. Rheingold and especially Bruckman compare virtual communities to bars: each has its distinct clientele, from "Sportsman, a leather motorcycle bar" to "Maria's", a cozy Italian restaurant (Bruckman 1998, p. 171). The reason for coming to a particular virtual community are the like-minded individuals that gather there.

The membership of a virtual community is often discussed and analysed in terms of a simple structure of roles or status positions, which are usually

informal. Defining factors of such informal status can be, for instance, one's knowledgeability in the themes of the community, one's frequency of participating in discussions, one's manner of presentation, and one's length of membership. Amy Jo Kim's (2000) life cycle model consists of five phases through which a virtual community member might go through: 1) lurker, a person who merely observes the community; 2) novice, a person who begins to participate in the community's life; 3) a regular participant; 4) a leader in the community; and 5) an elder, a respected but less active participant.

In sociology, the concept of community has been given many different definitions in different ages and contexts. Virtual community, as described above, relates quite well to the classical notion of community as Tönnies' Gemeinschaft, which implies common interests and beliefs and strong personal relationships among its members (Tönnies 2001[1912]). Virtual community differs from Gemeinschaft mainly in that membership is somewhat fuzzy and status positions perhaps more flexible. Occasionally a distinction is made between "virtual community" and "online community", where the latter is understood as an Internet-mediated community, whereas the former can be mediated by any communication technology including, for example, telephony. Although the empirical parts of this dissertation pertain to the Internet, the overall notion of virtual consumption does not need to restricted to a particular medium. Due to technological convergence, this distinction is in any case loosing some of its importance.

3.1.3 From medium to space

Another common theme in works such as Rheingold (2000), Bruckman (1999) and Turkle (1995) is experiencing the computer medium through which the virtual community interacts as a place: a location rather than a channel. This happens in all kinds of virtual community platforms, but is particularly obvious in those that are built to simulate actual geographical space, such as many online games and hangouts (Neitzel 2007).

A term that will be used to refer to such games and hangouts in this dissertation is "MMO", which stands for "massively-multiplayer online". This indicates an online service with a large number of users interacting with each other synchronously, often through an avatar situated in a virtual space. For example, the use experience in MUDs (a subset of MMOs) involves navigating in a maze of "rooms", presented as textual descriptions, which together constitute a virtual terrain. Modern MMOs usually involve navigating an avatar in a virtual terrain rendered in three-dimensional graphics. The presentation style is not crucially important: the analyses in this dissertation

apply for the most part even in services that only feature metaphorical space, such as social networking sites. It is important, however, that the space and its objects are *persistent*: that they do not disappear or reset after every session, but continue to live and evolve even as the user logs off.

A "virtual place" can be seen as the vessel of an interest-based community, but it may also become an attraction in its own right, as Bruckman discovered when people unrelated to media research repeatedly attempted to enter her media researchers' discussion space MUD (1999). Following the bar analogy above, the people came because of the drinks and the pool table and not because of the other clients. From this perspective, the element that gathers users together can be the features and content of the platform as opposed to any particular relation to the other participants. Indeed, the term "virtual community" is today often used to describe any "bunch of people who happen to use the product that we as developers or researchers" are interested in (Johnson & Toiskallio 2007, p. 31). This use makes the term interchangeable with "user base" and therefore renders it redundant. The term is also sometimes used to describe the technological platform that mediates the community. This equates it with group-based communication technology, again rendering it redundant. In this dissertation, the term "virtual community" is reserved for situations where some kind of Gemeinschaft-like communality between a group of users is suggested.

Modern MMOs have user bases consisting of hundreds of thousands or even millions of active participants. Participants spend significant time exploring and interacting with the large and often intricately crafted game environments, in addition to and instead of interacting with other users (Williams, Yee & Caplan 2008). Not surprisingly, users can have widely varying ideas of what constitutes legitimate participation in an MMO (Lehdonvirta 2005; Whang & Chang 2004). For these reasons, even though the concept of virtual community has been historically important in laying the ground for understanding social forms in the online environment, it is not sufficient for understanding the complexity of social behaviour in MMOs. The question is important if virtual consumption in these environments is to be understood as social behaviour of some kind.

An easy way forward would be to consider large virtual spaces such as MMOs as vessels that act as the gathering places of several distinct virtual communities. For example, Williams et al. (2006) draw parallels between communities and MMO guilds. Guilds are a quintessential social grouping in many MMOs, and most active players belong to one. But viewing MMOs simply as collections of guild-communities would be insufficient for analysing phenomena such as inter-guild rivalry, recruitment of individuals from one guild to another, and institutions that exist outside the guild structure, such as

individual fame and social status related to virtual goods. Some larger theoretical framework is therefore necessary.

3.1.4 The fallacy of virtual society

Article one of this dissertation focuses on the problem of how to conceptualise MMOs in social scientific research. Scholars who write about MMOs frequently refer to the systems and their user bases using phrases such as "virtual world" (e.g., Lastowka & Hunter, 2004), "synthetic world" (e.g., Castronova 2005) and "virtual society" (e.g., Jankowich 2005). In many cases, these are just labels with no implied theoretical content. But for some, Castronova in particular, the naming signals a certain theoretical approach to the subject matter:

> The defining feature of a large game is that because of its sheer size and complexity, it can be categorized as a genuine human society. In other words, the society we all lived in before the advent of synthetic worlds was itself a large game. True, it was the only large game, but these days it is no longer unique in that sense. The large game of Earth society now competes for my time with the large game of Norrath society, Norrath being the world of the video game EverQuest, which at this writing hosts the attention of some 400,000 human minds on a daily basis. And so long as we focus on the core mechanics of a large game, there will be little in the way of significant difference between the behavior of individuals in one large game or another. (Castronova 2006b, p. 171)

In other words, if "virtual communities" are computer-mediated equivalents of conventional communities, then "virtual societies" are computer-mediated equivalents of conventional societies, complete with the same core rules that regulate human behaviour. From a research point of view, this would certainly be convenient. For example, it would allow us to use MMOs as the social science equivalent of petri dishes:

> Until now, it has not been possible to take all of society as a research object [...] Thus, although we might believe theoretically, historically, and ethnographically that society operates a certain way, and we might have small-scale experiments that support our beliefs, it has generally not been possible to observe whole societies under controlled conditions. Now however, with the advent of synthetic world

> technology, it is indeed possible to replicate entire societies and allow them to operate in parallel. (Castronova 2006b, p. 163)

There are serious problems with conceptualising MMOs as entire societies, however. As a practical empirical matter, the avatars that supposedly make up the "inhabitants" of such a society cannot be equated with the humans controlling them, because there is no simple one-to-one correspondence between avatars and users. More importantly, humans that participate in an MMO are already members of an Earthly society, and it is simply not the case that they can completely escape this identity by going online. Existing social structures, norms, institutions and even the physical layout of their surrounding space will continue to act on the online user's behaviour. The institutions and processes that are ostensibly internal to the virtual society itself, such as its economy and laws, are bound to larger institutions and processes, most visibly through the decisions and (commercial) interests of the entity operating the MMO. These issues and a number of other reasons for why it is misleading to label MMOs as "virtual worlds" or "virtual societies", and even more unsatisfactory to analyse them as such, are discussed in detail in article one of this dissertation.

Instead of attempting to theorise MMOs as communities or societies, they could perhaps be better analysed using some other social scientific constructs. In article one, I argue that such constructs include Anselm Strauss's *social world* perspective (Strauss 1978), Bourdieu's concept of *field* (Swedberg 2003, p. 127), as well as *social network* analysis, introduced to economic sociology by, among others, Granovetter (1973). Social networks –based perspectives postulate network structures consisting of ties between individual actors, but what exactly counts as a tie is a point of disagreement (Burt 2002, p. 150). In this dissertation, MMO users are theoretised using the interactionist notion social worlds, as described below.

The social world perspective allows us to analyse the boundaries and subdivisions in an MMO user base whilst recognising that the users are simultaneously members of other social worlds, such as family and workplace. The virtual space of the servers of an MMO is seen as the central site of a new social world; the world of *World of Warcraft*, for example. The activities programmed into the MMO constitute the world's central activities. The social world also extends beyond its central site to other sites such as discussion forums, instant messaging channels, offices and school yards. The borders of the world are not determined by formal membership or arbitrary techical boundaries, but by the limits of communication and discourse. Communication simply means being in touch with the central activities of the world as opposed to being isolated from them; cancelling one's World of

Warcraft account does not necessarily mean exclusion from the social world because of the existence of other sites of participation. The limits of discourse can be understood as the ability to speak about the activities in a way that classifies the person as a World of Warcraft player as opposed to, for example, a developer or a first-time visitor. This indicates that the social world has a degree of common culture, where culture is understood as a set of shared understandings. However, these only need to exist to the degree necessary to maintain discourse; there can be significant differences in core values, such as what kind of engagement constitutes legitimate participation.

The social world can contain subworlds that have a stronger set of shared beliefs; for example, World of Warcraft's hard-core raid players are convinced that World of Warcraft is about succeeding in extremely difficult raids and doing it better than competing guilds. The social world also contains communities, groups characterised by shared interests and strong personal relationships. For example, a serious raid guild might well amount to a community in Tönnies's sense (c.f. Williams et al. 2006).

The realisation that online hangouts are neither isolated silos nor independent realities, is, of course, not original. Manuel Castells (2000) argued for a vaguely network-based understanding of digital space in 1996, somewhat against the then-prevailing accounts of online activity taking place in relatively isolated virtual communities (e.g., Bruckman 1998; Rheingold 2000), although he maintained a strong distinction between real and virtual. Today's Internet scholars, such as Danah Boyd (2008), take an integrated view of online activity for granted. In essence, it entails recognising that people are always simultaneously members of many social groupings, which continue to exert influence on them even as they engage in online activities. In MMO related studies, this reality is sometimes still neglected in favour of an isolationist view, but in this dissertation, section 3.6 is dedicated to exploring it.

3.2 Digitalisation of consumption: three waves

Whereas the previous section dealt with identity, interaction and social aggregates in computer-mediated communication and virtual spaces, this section is an introduction to the practices of consumption online. The form of presentation is a simplified history of how the online medium has shaped consumption, culminating with the rise of virtual consumption. Discussions on production and commerce are also included where relevant. This form allows virtual consumption to be understood in context and to be contrasted with other modes of online consumption from which I will argue it is distinct.

The influence that the adoption of Internet in everyday life has had on the practices of consumption can be expressed as a sequence of three waves. The first wave was online shopping: ordering traditional goods and services over the Internet and having them delivered by mail. The paradigmatic service of the online shopping wave is *Amazon.com*, launched in 1995, and the paradigmatic product is a book. The second wave can be termed the participatory wave, and comprises a range of practices in consumption as well as in production that were set in motion by the spread of social media and social networking technologies. It involves both information goods as well as new ways of consuming material goods. The paradigmatic service of the participatory wave is *YouTube*, and the paradigmatic product is a video clip. The third wave is virtual consumption, the acquisition and use of virtual goods that are rivalrous by design. Paradigmatic services are *Habbo* and *Cyworld*, and the paradigmatic product is a virtual sofa.

3.2.1 Shopping online

The consumer Internet boom that started in the mid-1990s prompted retailers to start building facilities for online shopping. The basic model of online retailing was the same as with the existing modes of remote retailing, mail order catalogues and TV shopping, and utilised most of the same infrastructure: huge warehouses for stock and logistics, mail and delivery companies for distribution, and credit cards for payment. The only thing that was essentially new was the customer's search, selection and order placement process. Nevertheless, online retailing enabled a number of significant differences in consumption practices compared to brick-and-mortar stores and previous remote retailing methods.

Despite, it could be said, the whole world of new problems it introduced in the form of computer related problems and glitches, online shopping realised certain clear advantages in the areas of convenience and availability (Underhill 2000). Shopping at online stores is available at any time from any place with an Internet connection, allowing access for consumers who might otherwise be excluded due to distance, limited mobility or time constraints. Online shopping can also be fast and efficient compared to the process of selecting from a mail order catalogue and relaying the order to an operator over the phone. Web search tools enable much more efficient price comparisons than traditional modes of shopping do.

On the other hand, online shopping has been criticised for failing to provide some of the joys and benefits of traditional brick-and-mortar retail. Paco Underhill, a retail consultant writing in the late 1990s, identified "three big

things that [physical] stores alone can offer shoppers": "touch, trial or any other sensory stimuli", "immediate gratification", and "social interaction": the company of other shoppers as well as interactions with shop staff (2000, p. 218). According to Underhill, online shopping is more about "orderly, planned acquisition of goods" than the "sensual, experiential aspects of shopping" (2000, p. 218).

But perhaps the most celebrated feature of online shopping is the ability to reach a far wider selection than it is possible to find in even the largest superstores or mail order catalogues (Underhill 2000, Anderson 2006). For example, while a typical Borders bookstore offers a selection of 100 000 books, Amazon.com has an inventory of 3.7 million book titles (Anderson 2006). A similar situation prevails in several other industries and product categories. The massive selection is made possible by the low cost of listing products in an online store as well as efficient searching and browsing features that allow customers on the Web to find what they are looking for.

A consequence of the huge selection is that consumers' purchases can be distributed over a much wider range of products than what was previously possible, a *long tail*, enabling greater divergence and fragmentation in tastes and styles. According to Anderson (2006), this allows consumers much greater freedom to express their preferences, not being constrained by their local retailer's selections. Anderson contrasts manufactured "hit culture" engendered by limited shelf space with a "niche culture", where consumption patterns reflect the diversity of tastes set free by the movement from geographically defined communities to self-selected communities of interest. Anderson believes that this postmodernist "niche culture" is morally superior, because it reflects people's tastes in a purer and more natural way. In essence, it allows shoppers to realise "the true shape of demand in our culture, unfiltered by the economics of scarcity" (Anderson 2006, p. 9).

As demonstrated in section 2.2, the notion of "natural" preferences and "true" demand is quite problematic, as consumer demand is always a product of social institutions. In this context, "true" should perhaps be interpreted as "free from the influence of commercial institutions". Still, the mere availability of choice is obviously no guarantee that consumers can make informed choices. The significance of the first wave is therefore in the broadening of markets rather than in some kind of emancipation from them. The emancipatory potential of ICT becomes more apparent in the second wave, discussed next.

3.2.2 The participatory wave

What is termed here the participatory wave of Internet consumption has been the subject of much enthusiastic discussion and authorship in recent years, under such rubriks as *Web 2.0*, *remix culture* and *social media* (Benkler 2006; Hietanen, Oksanen & Välimäki 2007; Hietanen 2008; Lessig 2004; Scoble & Israel 2006; Surowiecki 2005; Tapscott & Williams 2006). The basic claim is that certain new technologies and, more importantly, new ways of designing online services have lead to a radical empowerment of the consumer in certain processes of production and consumption. Technologies and design techniques such as blogs, RSS feeds, tags, social networking, web applications, Creative Commons licensing and peer-to-peer networking have permitted users to emerge from uninformed shoppers into discerning connoisseurs, from passive consumers to active producer-consumers, and from isolated individuals to "carrot mobs". This paradigm shift, as it is portrayed in the literature, could be conceptualised as a shift from a model where vertical information flows originate at the producer and are mediated by marketing before terminating at the consumers, to a model where information is exchanged in networks between individuals and organisations.

The consequences of this shift have been most perceptible in the markets for information goods: computer software, music, movies, images, news and any other goods that can be represented in digital form. According to Shapiro and Varian (1999), information goods differ from ordinary goods in two ways. The first is that from a producer's point of view, information goods involve high fixed costs but low marginal costs. Creating the first copy may require substantial effort and investment, but once that is done, the cost of creating additional copies by duplicating the original is negligible. The second is that from a consumer's point of view, information goods are *experience goods*: their value cannot be directly assessed without first experiencing and thus consuming the good. Many goods are experience goods when they are still new, but information goods are *always* new (Shapiro & Varian 1999, p. 5). To overcome this hurdle, marketers have developed techniques such as trailers and testimonials to impress consumers of the value of their information without giving it away completely.

The first part of the value chain that was to be affected by the participatory wave was distribution. Starting from 1990s, peer-to-peer file sharing programs "empowered" users to duplicate and distribute software, music, movies and digital books to each other in a very efficient manner outside the official distribution channels and schedules. This gave rise to an ongoing conflict between "file sharers" and the entire copyright industry. Although authors of Web 2.0 –related literature would probably not see file sharing as having

anything to do with the participatory wave, it is a similar instance of technology changing the role of consumers. In the traditional copyright regime, the production of new information goods, especially "cultural content" such as music and movies, is based on high investment in production and marketing, which is recouped by monopoly profits allowed by copyright. In contrast, the political agenda of file sharers, as expressed by the Pirate Party of Sweden, involves scaling back the copyright regime in favour of free private copying and "culture-sharing". 51 percent of 16-24 year-old Finns say they have substituted CD purchases with downloading music from the Internet (Statistics Finland 2009, p. 59). At the elections of June 7, 2009, the Swedish Pirate Party won a seat at the European Parliament.

The second change brought about by the participatory wave concerns the value appraisal part of the chain. The web has been a platform for people to express their opinions and experiences regarding products since its popularisation in mid-1990s, but only the latest wave of the so-called "Web 2.0" techniques has allowed that information to be organised, ordered and filtered in ways that make it highly usable to individual consumers (Scoble & Israel 2006). As a result, consumers now have more powerful means and varied angles at their disposal when they seek to assess and compare the value of information goods (Benkler 2006).

The third change brought about by the participatory wave links the terminal part of the traditional value chain, consumption, to its initial part, production. The varied voices on the Internet question not only marketers' images of what to consume, but also how to consume it. New technologies allow users to move from passively experiencing information goods to actively participating in the experience, appropriating the goods to new uses, and combining and altering the goods to create entirely new experiences. For instance, new software for editing videos, sampling music and touching photographs (often acquired from peer-to-peer networks without paying for a license) has enabled suitably skilled participants to create "remix culture" on the basis of industrially produced cultural products (Lessig 2004). Open-source software and web application mashups represent analogous processes in the technology field. The terms *user-created content*, *prosumerism* and *peer production* are used in the literature to denote consumers' increased participation in the production of information goods and the blurring of distinctions between consumers and producers (Hietanen, Oksanen & Välimäki 2007; Hietanen 2008; Tapscott & Williams 2006). All of the shifts described above, from distribution through value apprisal to consumption and re-production, are epitomised in the video sharing site YouTube, which allows users to distribute (commercially produced) videos, rate them, comment on them, augment them

with captions and annotations, and upload remixes, derivative works and original amateur content.

It is possible to identify similar if less extensive reflections of the participatory wave in the consumption of material goods. Internet auction sites challenge the rigidities of official distribution channels. Efficient methods of information sharing have made connected consumers less reliant on views provided by marketers and word-of-mouth in their geographical community. They have perhaps also contributed to an increasing awareness in the ecological and ethical implications of one's consumption. Moreover, social networking and mobile communication technologies allow individual consumers to self-organise in ways that improve their traditionally weak bargaining position against vendors. In China, groups formed for the purpose of *tuángòu* or team buying aim to negotiate lower prices (Montlake 2007), while in United States and Finland, "carrot mobs" persuade businesses towards eco-friendliness (Leivonniemi 2008). In many ways, the participatory wave has enabled onlined consumption to regain much of the sociability, sensuality and experiential aspects of consumption that the first wave of online shopping was said to lack.

In all of the literature referred to above, the new "participatory" consumption behaviours are portrayed as being enabled by new technologies, but by no means determined by them. Rational choice and efficiency considerations are sometimes invoked as the explanans of the behaviour, but as discussed in section 2.1.5, rational choice without a substantive theory of preferences does not explain any behaviour. A set of values, manifesting as the guiding force of the participant-consumer's actions, can be found implicit in much of the literature. They are clearly not the values of appropriation, accumulation and exclusivity, as found in the traditional status games of consumption, but a restatement of the *hacker ethic* articulated by Steven Levy (1984): freedom of access, sharing to the benefit of others, using technology to improve the world, creativity as an end in itself and valuing people based on their mental abilities rather than on their material possessions. In other words, the participatory wave of consumption is portrayed as ushering in a new, enlightened, post-materialistic consumer, in comparison to which the petty status games of the material consumer seem positively benighted.

3.2.3 The third wave: virtual consumption

The online shopping wave and the participatory wave are well established in consumption-related literature. In this dissertation, I argue that it is possible to distinguish a third wave of online consumption, virtual consumption. Isolated

cases of virtual assets being traded for real money can be traced back to the MUDs of the 1980s. Organised real-money trading began around 1999, when players of *Ultima Online*, *EverQuest* and *Lineage* began to trade their game possessions with other players on Internet auction sites. *Habbo*, a popular online hangout aimed at teenagers, has been selling virtual goods to its Western users since 2000. Korean hangout *Cyworld* opened in 1999 with a similar revenue model. In this sense, it could be said that virtual consumption predates both online shopping and the participatory wave. However, it is not until the last few years that virtual consumption has become a mainstream phenomenon in the sense that mainstream Internet users can buy virtual goods in mainstream Internet services such as Facebook.

The distinguishing features of this new wave of consumption are outlined in articles two and three of this dissertation. The biggest difference is in the nature of the goods being consumed. They are digital, but from the consumers' point of view, their characteristics are almost opposite to the characteristics of information goods. Firstly, they are not abundant, but scarce. Every copy of a virtual good is rivalrous: only one person can "own" it at a time, in contrast to information, which can be shared endlessly (Fairfield 2005). Operators can duplicate virtual goods at will, but to the consumer they are as indivisible as ordinary material commodities. Secondly, the value consumers obtain from virtual goods seems to be primarily related to something else than information and experience. This is suggested by virtual goods' lesser emphasis on visual, aesthetic and informational qualities in comparison to information goods. Why are consumers nevertheless attracted to these uncopyable and aesthetically modest digital objects is a question that will be the main focus of the following sections. I will first briefly set the scene by outlining the global commercial significance of this new wave of consumption.

To get a sense of the commercial significance of virtual consumption, let us place it in context on two dimensions. The first dimension is its market size compared to the two previous waves of online consumption. The second dimension is geographical area. In industry discussions, the global virtual goods market is usually framed in terms of two major market areas: the "Western market" and the "Asian market" (Allison 2008; Lehtiniemi & Lehdonvirta 2007). The Western market is understood to include North America and Europe, while the Asian market usually mainly refers to Korea, China and Japan. Virtual consumer behaviour is seen as differing considerably between these areas due to technological, cultural and historical factors (Allison 2008).

To illustrate the relative sizes of the three waves of online consumption in these two market areas, Table 1 presents total revenue figures from virtual goods sales, online advertising and online retail in Korea, China and the

United States. For the purposes of this illustration, online advertising is considered as a proxy for the participatory wave.[6] Two points are apparent in these figures. The first is that compared to traditional online shopping, virtual consumption is a significantly smaller market. This is particularly the case in the United States, home of the Internet and the leading market in the two previous waves of online consumption. The second point of note is that in Korea and China, virtual goods sales actually exceed those of the United States, despite them being smaller economies. Moreover, in Korea and China, virtual goods sales exceed online advertising revenues and are not quite as dwarfed by online retail revenues as they are in the United States.

Table 1. 2006 total revenues from virtual goods, online advertising and online retail in Korea, China and the U.S. (billions of U.S. Dollars)[7]

	Korea	*China*	*U.S.*
Virtual goods	1.1 *a*	0.9 *a*	0.3 *a*
Online advertising	0.7 *b*	0.6 *c*	16.8 *d*
Online retail	14.3 *e*	2.5 *f*	146.4 *g*

These observations support the thesis, common among observers of virtual goods trade (e.g., Castronova 2005, p. 122), that the third wave of online consumption sees Asia in the leading role while the Western market follows. The figures in Table 1 are for 2006, which is the most recent year for which full data was available, but more recent industry estimates suggest that virtual goods sales have grown while maintaining the East-West pattern (Plus Eight Star 2009). Currently being pioneered in the Asian market is the idea of accessing virtual goods through mobile devices, which presents a first step in taking virtual goods out of the online context and into physical social

[6] The rationale behind this proxy is that advertising is the main revenue model used by Web 2.0 and social media services, although advertising is of course widely used elsewhere as well, including online shopping sites and virtual consumption sites. The figures are thus only illustrative.

[7] Sources for the revenue figures:
a: Lehtiniemi & Lehdonvirta (2007) (estimates). *b:* Internet Marketing Council of Korea *(http://www.highbeam.com/doc/1G1-158576302.html)*. *c:* Analysys International *(http://www.imnewswatch.com/archives/2006/09/analysys_intern_2.html)* (estimate). *d:* IAB & PwC *(http://www.iab.net/press_release/5124)*. *e:* Korean National Statistical Office *(http://www.gobizkorea.com/popup/notice_view.jsp?id=1175583701864)*. *f:* eMarketer *(http://www.emarketer.com/Reports/All/Em_b2c_ecom_asia_feb07.aspx)*. *g:* Forrester Research *(http://blogs.zdnet.com/ITFacts/?p=12787)*.

situations. According to Nojima, Japanese DeNA Corporation sells approximately 8 million U.S. Dollars worth of virtual items for mobile phones per month (Nojima 2008, p. 7). In attempting to provide a comprehensive picture of the structures of virtual consumption, it is thus wise for a "Western" scholar to be as mindful as possible of the Asian market.

3.3 Virtual consumption and social status

As discussed above in section 2.2.2, many theorists have seen consumption as a type of social behaviour that is linked to social status within the bounds of some social aggregate. In section 3.1, I examined how social aggregates can exist in computer-mediated spaces, from small virtual communities to massive online social worlds. In this section, I analyse results from empirical studies to show how virtual consumption can be seen as social behaviour within these computer-mediated social aggregates, and how it displays many of the same forms and patterns that conventional modes of consumption have been seen to follow in offline social worlds. The results provide answers to *RQ 2: What kind of social structures promote and regulate virtual consumption?* and preliminary insights to *RQ 1: What kind of benefits do virtual consumers experience from virtual goods?*

The analysis is divided into two parts. The first part focuses on relationships between virtual goods and status hierarchies in traditional fantasy MMORPGs, while the second part focuses on virtual consumption in a more open-ended online hangout. I have titled the former as a "traditional economy" to invoke notions of fixed, formal redistribution of goods according to rank, while the latter is titled as a "market economy" to highlight the dominance of market-based exchanges.

3.3.1 Crisis in a traditional online economy

The first genre of online services where real-money trading began in a significant volume were so-called massively-multiplayer online role-playing games (MMORPGs) launched in the late 1990s, described in article five of this dissertation. In the Western market, the leading titles in this sense were Ultima Online and EverQuest, whereas in the Asian market, the leading title was Lineage followed by Ragnarok Online. All these games are set in a medieval fantasy world, and in each game, the player's task, in very simple terms, is to undertake a "heroic journey" (Bartle 2003, p. 434): a classic story of struggle and personal growth where the protagonist, the player's avatar,

starts from almost nothing and gradually, over many months of gameplay, fights their way to wealth and superhuman prowess. A key game mechanic in these games is that the avatar's possessions and prowess increase in proportion to the amount of time the player spends in active engagement with the game environment. This results in a pattern of play known as grinding: undertaking repetitive tasks over and over again, for dozens of hours, in order to obtain gradual increases in items and skill points. It is perhaps not surprising that many commentators as well as players themselves compare this aspect of MMORPG gameplay to work (e.g., Yee 2006a; Grimes 2006, pp. 982-985).

By obtaining virtual wealth and prowess players reap "material" benefits such as the ability to dominate in fights against other players. But the most interesting consequence of this design is that it becomes possible to "read" whether a player is a casual adventurer or a dedicated fan who "works" the game for dozens of hours per week simply by looking at the strength and possessions of the avatar they are controlling. In other words, the avatar is a sign that points to the player's position in what has been termed the "achievement hierarchy" (Lehdonvirta 2005). Those at the top of the hierarchy not only enjoy the "material" benefits of their possessions, but also claim competence and authority in forum discussions and debates touching on topics such as what constitutes legitimate play and how should the game be developed in the future.

The usual moral interpretation of the achievement hierarchy is that players who have "worked" the game so intensely obviously deserve the virtual fruits of their labour, in analogy to the Lockean labour-desert theory (Lehdonvirta 2005). Furthermore, that they and their opinions should deserve the respect and esteem of other players and perhaps even developers is not simply a bid for seniocracy but a reasoned argument for meritocracy: as the most experienced of the players, they should be the most knowledgeable and therefore in the best position to offer guidance. Thus legitimised, the achievement hierarchy along which players must work to climb was the stable backbone of the economy and social structure of the early MMORPGs.

But very soon, or in some cases from the very start of the game, this idyll was unsettled by so-called secondary markets. Some of the high-ranking individuals, tired of the game or in need to money, decided to offer their virtual possessions and avatars for sale at sites like eBay. This evolved to a veritable cottage industry of brokers, dealers and producers, many of them professional, vividly described in Julian Dibbell's Play Money (2006). As a result, it was now possible for any player, no matter how experienced or inexperienced, dedicated or casual, to obtain high-ranking avatars and possessions simply by purchasing them from a website. Virtual goods were commodified.

Many players expressed horror at this situation (Lehdonvirta 2005): markets were seen as "cheating", because they allowed anyone to enjoy the benefits of rank without first going through the necessary hardships; moreover, when this happens in a large scale, the traditional link between achievement and avatar is broken, and it becomes impossible to "read" a persons social status from their possessions. While commodification preserved the material function of virtual goods, it was stripping them of their meaning. Thus many players demanded, and many of the developers granted, rules against the purchasing of virtual goods. Trading remained permissible in Ultima Online, but in EverQuest became an offense for which one's account could be terminated. This prohibition remains, and is to varying degrees enforced, in many of today's popular MMO games.

The events described above read like a classic story of the destructive effects of markets on traditional social order, recalling Marxist criticisms of commodification as well as Adorno's longing for original values. The strict prohibition of real-money trading presents itself as a brave stand against colonisation by markets and for the conservation of better, more original values. But the story described above also facilitates an alternative interpretation, one with almost opposite moral implications. Legal scholar Joshua Fairfield has used the phrase "time aristocracy" to refer to players in the upper strata of the achievement hierarchy, drawing attention to the fact that they are privileged in the sense of being able to spend a lot of time in the game environment (Lehdonvirta 2007). This can be contrasted with "money aristocracy", individuals with more money but less time at their disposal. The traditional MMORPG is ruled by the time aristocracy, because they are the only ones with the necessary resources to reach the top of the hierarchy. The introduction of markets has a democratising effect, as it allows access to those resources by the money aristocracy. From this perspective, the prohibition against virtual goods purchases presents itself as a sumptuary law designed to uphold traditional order by controlling lower classes' consumption.

The idea of the real-money trading controversy as a struggle between time aristocracy and money aristocracy is lent some support by an unpublished survey-based study of MMORPG players, where it was found that older respondents were much more likely to purchase virtual goods than younger respondents (Yee 2005). The most traditional computer game players are young people and students who are able to dedicate significant time to their hobby, but gaming is also increasingy popular among the working adult population. In a series of surveys of MMORPG players, the players' median age was found to be 25 years and upper quartile 32 years (Yee 2006). On the other hand, phrasing the situation in terms of class struggle perhaps makes it sound more consequential than it really is. MMORPGs are usually designed in

such a way that players who wish to play together have to have avatars of approximately the same level of prowess. If working adults wish to spend time playing with their children (as described by e.g., Taylor 2006, pp. 52-56), they must make purchases to keep up with the youngers' pace.

Finally, it is interesting to note that the conflict over virtual goods markets is more of an issue in the Western market than it is in the East-Asian market. In China, Korea and Japan, virtual goods transactions are not uncontroversial, but they are more commonplace and developers have adapted their game designs and business models around the practice (Huhh 2008; Nojima 2007). Virtual goods transactions are also sometimes embedded in other social and business relationships. Article one of this dissertation describes Chinese "trans-game megaguilds" that feud over such things as market shares in the mass-production of MMORPG goods. In Korea, Huhh (2008) traces virtual goods transactions to small businesses' marketing practices:

> [R]eal-money trading [...] originated from the promotional strategies of PC bangs [gaming cafés]. In 2000, as the competition among PC bangs increasingly intensified, some invented promotional tools for attracting customers. One such promotional activity was the purchase of in-game items from their expert customers to entice new customers. Thus the birth and rise of RMT in Korea directly resulted from local trading between PC bang owners and their visitors. [...] Around 2001, some PC bangs started turning themselves into so-called gold farming shops that specialized in making in-game items for RMT. Because many players were on the receiving end of RMT, the trend was viewed favorably, which undoubtedly ensured the prospering of RMT. (Huhh 2008, pp. 31-32)

In recent years, Western MMO operators have increasingly warmed up to the idea of markets where virtual goods can be purchased for real money. World of Warcraft remains strictly against real-money trading, but the sequel to EverQuest has an official marketplace for such transactions on some servers. Moreover, many MMOs, casual gaming sites and social games are now selling virtual goods to their users themselves, as an alternative to the old subscription fee -based method of reaping revenues. In these services, the traditional economy of the MMORPGs is largely replaced by the market economy. The next section examines what implications this has for the social meaning of virtual goods.

3.3.2 Jockeying for positions in an online market economy

Article two of this dissertation presents an empirical study of *Habbo*, an online service maintained by Finnish company Sulake that earns most of its revenues by selling virtual goods to its users. The main feature of the service is a virtual environment resembling a giant contemporary Western indoor space, presented in isometric "retro style" 3D graphics and populated by blocky avatars, each controlled by a user. In addition, it contains user homepages, group homepages, group discussion forums and social networking style features. According to Sulake, Habbo is visited by a total of 9.5 million different users each month, which would make it one of the most popular MMOs, about ten times as popular as Second Life. A localised version of Habbo is available in 32 countries. In addition to these official Habbo sites, there are a large number of so-called "fansites": websites maintained by users independently of Sulake that chronicle events taking place in the service, host discussions and interviews of notable users, present stories and art that extend Habbo's official fiction, and analyse information such as observed trading prices of virtual goods.

Using the concepts discussed in section 3.1, each of the localised instances of Habbo can be described as a separate virtual space and the central site of a social world; for instance, the world of Finnish Habbo or the world of Spanish-speaking Habbo. Each of these social worlds also extends beyond their commercially-maintained central site to user-maintained sites and mediums. On the other hand, it can be asked whether a very open-ended environment such as Habbo contains a degree of shared culture sufficient to be described as a single social world, or whether the membership of each localised instance instead breaks down into several social worlds that have little to do with each other. In article two, the observations speak for a degree of commonality of beliefs, particularly regarding virtual items.

A major feature of Habbo's virtual space are virtual items, of which there is a staggering variety, from "rubber ducks" to "festive red pillows" and from "black laser portals" to "victorian streetlights". Each item is owned by an avatar, and can be held in storage or deployed in one of the avatar's rooms for use and display. In contrast to MMORPG economies, access to most goods in Habbo is not regulated based on the individual's achievements, time served or any other such factor. Instead, goods are available for purchase to anyone using a virtual currency that is obtained using the local national currency. In slightly simplified terms, each item is first purchased from Sulake, after which users trade them between each other in the course of their activities.

Due to the way goods in Habbo are purchased instead of earned, they do not have any inherent link to time served in the way they did in traditional

MMORPG economies. However, article four of this dissertation indicates that users who visit Habbo every day are nevertheless much more likely to purchase virtual goods than infrequent visitors. Significant virtual possessions probably continue to be a mark of dedicated participation even in a market-based economy, although the connection is less straightforward.

In article two, a somewhat Veblenian pattern of the use of rare and expensive items to speak for one's wealth and social status was identified. For some users, acquiring and displaying such status items and comparing them to the possessions of other users is a central way of participating in the Habbo world. According to statistical analyses of survey data presented in article four of this dissertation, virtual wealth reflects to some extent the person's real income. It is also interesting to note in this context that male users spend significantly more money in Habbo than female users, even though both genders are equally represented in the user base. Being considered "rich" by other Habbo users can confer tangible powers, such as access to private locations.

Wealth is not the only axis along which members of the Habbo world seek to stratify themselves and each other. Knowledge of Habbo culture is another such axis. If one shows a lack of knowledge regarding conversational conventions, the celebrity canon, popular venues, or the value and history of various virtual items, one risks being marginalised as a "newbie". Some "experienced" users claimed to be able to recognise new users based on their clothing style alone. Furthermore, it is possible to earn significant recognition, even the aforementioned celebrity status, by hosting a popular activity or venue, such as a soccer game or a match making club. Celebrities receive a lot of attention from other users: they are interviewed on fansites and their consumption styles are sometimes imitated by other users. Having such celebrities as friends is also a positive status sign.

It is easy to see the above observations in the framework of a Bourdieuan capital system: financial, cultural and social capital as parallel resources in a game where participants seek to position themselves favourably in the field constituted by the Habbo world. The statistical analyses in article four allow us to make some interesting conjectures regarding the convertibility of these capitals. Firstly, users who report doing a lot of organising games and events are twice as likely to have spent money in the service during the past month compared to those users who report doing little or no organising. Observations suggest that this reflects a need to spend money on components from which to construct attractive and functional venues as well as to buy prizes that can be handed out to winners in order to attract popularity. In other words, users who are attempting to establish themselves as cultural leaders or perhaps maintain their existing cultural capital are investing a significant amount of financial

capital in doing so. In principle, mechanisms exist in Habbo through which cultural capital can also translate back into financial capital; for example, some organisers are requesting admission or membership fees from their participants. The data does not permit a quantitative assessment of this payback, however.

Secondly, the analyses indicate a relationship between spending money and having a large number of contacts in one's friends list. A more tentative result is that there is a relationship between spending money and the activity of making new friends. In the United Kingdom version of Habbo, spending money is positively associated with making new friends, whereas among Spanish and Mexican Habbo users, spending is negatively associated with making new friends. In the fourth country included in the study, Japan, no relationship could be observed. This could reflect differences in the way financial capital translates to social capital in different Habbo worlds, although more research is necessary before strong conclusions can be drawn.

In conclusion, if almost all virtual goods in the worlds of Habbo can be obtained by anyone who is willing to pay for them, does this not mean that the goods can have no inherent link to the individual's status or dedication in the way they did in traditional MMORPG economies? If so, the only thing the goods would seem to be able to signify is the wealth of the player who purchased them, making them a kind of conspicuously meaningless form of consumption. But there are two objections to this view. Firstly, the evidence suggests that it is the most dedicated users who obtain the greatest possessions in both types of virtual economies, whether it is accomplished through gameplay (MMORPG) or through direct purchases (Habbo). Secondly, when the dynamics of cultural and social capital are added into the analysis, it becomes apparent that in Habbo's market economy, the different types and shapes of virtual goods also become subjects of taste and the ability to make distinctions. Besides the usual labels of "rare" and "common", additional connotations such as fashionable, sophisticated, old-fashioned and vulgar are attached to the commodities, and knowledge of these values becomes a basis for classifying individuals within the social world. Thus it can be said that goods are certaingly not meaningless even in Habbo's market-based virtual economy.

Finally, it is worth noting that in both MMORPG and Habbo worlds, goods are also used in the performance of social relationships: virtual items are presented as gifts to other participants and used to pay for favours. This flow of virtual items can be seen as making visible the "ley lines" of social relationships, as well as reproducing and strengthening them.

3.4 Virtual consumption, identity and experience

In the previous section, virtual goods were discussed in their capacity to act as markers of social status, and in the performance of social relationships. Although statistical analyses presented in article four of this dissertation lend some support to this perspective, they also suggest that a greater proportion of users' consumption behaviour is not explained by the intensity of their participation, the extent of their social behaviour or their real-life socio-demographic background. Explanations for this variance should be sought in other directions. Sections 2.2.3 and 2.2.4, above, presented approaches to consumption that view it as a matter of individual self-identity, emotional experience and even art. In this section, I discuss observations from articles two and three that link these perspectives to virtual consumption. The results provide answers to *RQ 1: What kind of benefits do virtual consumers experience from virtual goods?* as well as additional answers to *RQ 2*.

Article two discusses various ways in which the users of Habbo can shape their "virtual bodies", the way they appear to other users, by means of consumption choices. If this body is understood broadly, it can include not only the avatar but the rooms and distinctive arrangements of virtual items and furniture through which the user can, in principle at least, express themselves. Each user can also have more than one avatar, each of which can represent either a different social identity or another "face" of what is known to be the same person. Users can also use a different body/social identity to participate in different subworlds and communities of the Habbo world.

In practice, users construct their overall appearance by making selections from a large and constantly expanding variety of virtual body parts, clothes, wallpapers, items and furniture. The design and appearance of these building blocks echoes bygone eras, national cultural symbols, fantasy and science fiction canons, contemporary fashions, and other sources the designers at Sulake draw their inspirations from. Users combine these blocks in numerous ways in a process that could be likened to creative bricolage. The results are not only variations and mixtures of the styles pre-programmed by designers, but also call into existence completely new styles that the designers had not thought of. An example of this, given in article two, is the way a user has combined items to convey the appearance of a doctor in a hospital room, even though no notions related to hospitals or doctors were programmed in by the designers. Similar creative combining of virtual items in order to convey an idea completely different from the items' intended meaning has also been documented in Ultima Online (Ondrejka 2004).

"Innovations" such as the way to construct a hospital and dress as a doctor can spread, and become more or less canonical styles. Styles can act as a

means of establishing group identity. Article two mentions two cases where a certain type of dress is a formal requirement of belonging to a certain group. This could be related to discussions of discipline, uniform and power relationships (Davis 1992, pp. 65-65; Barnard 2002, pp. 112-113), but in the context of voluntary and fairly informal Habbo associations, it is easier to interpret it in terms of communicating and strengthening group identity and the feeling of belonging.

Above these groups and communities in terms of both scale and informality are aggregates that could be termed lifestyle groups: groups characterised by their tastes and virtual consumption choices, rather than, for example, strong personal relationships. According to the discussion on lifestyle groups in section 2.2.3, they can be seen as an alternative or orthogonal classification to traditional socio-economic strata or status groups characterised by the possession of various types of capital. One such lifestyle group, identified in article two and described in more detail in Johnson and Sihvonen (2009), are goths: a style characterised by dark, gloomy, Victorian looks, horror themes and a sense of irony.

In the virtual space of Habbo, the goth style takes very similar forms as in physical spaces, but it also shows differences. The differences can be due to the limitations and possibilities of the medium, but can also represent idiosyncrasies of the goth culture inside the world of Habbo. This highlights the question of the relationship between offline identities and identities in virtual spaces. A goth body in Habbo could be an extension of a goth identity at school and leisure time, or it could be playful experimentation with an identity that is alien to oneself in other contexts. I return to this issue below in section 3.6.

The above discussions have not yet strayed far from the notion of goods as social markers insofar as all meaning and value of the goods is attributed to social reality, extrinsic to the goods themselves. In article two it is pointed out that when queried about why they chose a particular virtual attire, users do not usually respond by referring to social status or lifestyle groups, but by using aesthetic argumentation: it pleases the eye. To what extent is it possible to distinguish between “genuine” aesthetic and hedonic sensations as opposed to subconscious social and emulative motivations is a difficult question both theoretically and empirically, but article three of this dissertation examines the issue on a very practical level. Using a wide variety of qualitative data, a number of concrete attributes are identified that users pay attention to when choosing a virtual item. Some of these attributes, it is argued, lend themselves better to establishing social distinctions, while others are more easily seen as delivering individual psychological benefits, such as aesthetic experiences or

emotional sensations. Article three thus provides a concrete view to what kind of benefits users seek from virtual goods.

For instance, one socially significant item attribute that relates to the prestige of the virtual item is *provenance*. This term is usually associated with art and antique, and refers to their place of origin, earliest known history or previous owners (New Oxford American Dictionary). The concept of "virtual antique" may sound oxymoronic, because digital objects do not physically age and in general do not accumulate any sort of changes to their shape that would attest of past events. One instance of a virtual item is generally identical to another. But observations in article three and article two suggest that if a virtual good can be distinguished from other similar ones, it can take up a "social life" of its own, wherein events such as remarkable past owners become valuable distinctions that are added to is reputation. Individual users also attach personal meanings and feelings of nostalgia to virtual goods with which they have shared memorable times. The oldest Habbo furniture is soon a decade old, and some castles in Ultima Online are even older, so they potentially have a lot of stories to tell. Thus the notions of provenance and authenticity can be important in understanding the social as well as psychological value of virtual goods.

Another socially significant item attribute is rarity: rare items are better at establishing social distance than common ones. But the hunt for rare objects can also be described as an individualistic hedonic experience: a thrilling psychological pursuit that exists in isolation from any social meaning the objects may possibly have (c.f. Belk 1995). Other hedonic experiences that virtual goods can give rise to include sexual arousal, the excitement of discovering new places and vistas, and the joy of playful creation. In order not to over-emphasise social uses of virtual goods at the expense neglecting individual experiential ones, it is useful to remember that in many ways the historical roots of these graphical virtual spaces and virtual goods are in single-player video games. Habbo's distinctive design borrows much from old Commodore 64 games, while Ultima Online is the first multiplayer title in an illustrious series of single player games spanning two decades. Whatever joys could be derived from virtual goods in these games must have been primarly hedonic and experiential, and only secondarily, if at all, social. Article two traces a brief history of digital "consumption games" from single-player to massively multiplayer online.

3.5 Designing spaces, producing needs

In the sections above, I have described how spending on virtual goods is motivated and structured by social status games, construction and expression of identity, and the pursuit of hedonic experiences and art. In each of these discussions, the environment in which the activity takes place, the virtual space with its various features, including the virtual goods themselves, has remained on the background. Yet it is obvious that by essentially determining the range of possible as well as impossible courses of action within an MMO or other online hangout, this architecture influences virtual consumption behaviour. In this section, I seek to outline the main mechanisms of this influence as well as the role of the operator more generally, based on findings from the articles constituting this dissertation. The results provide answers to *RQ 3: What is the role of the operators in promoting and regulating virtual consumption?* as well as an additional answer to *RQ 1*, namely, the perceived usefulness of virtual goods.

In previous sections, the desirability of virtual goods has been located in their symbolic and aesthetic qualities. The idea of use-value or practical usefulness seems far removed from these tiny figures on the screen. But if usefulness is understood instrumentally, as the capacity to achieve some separately defined end, then virtual goods can be useful in their own environments, in the same way as the rake is a useful tool in the garden but not much elsewhere.

In article three, some uses to which virtual goods can be put are discussed. The archetypal example is the use of virtual swords and shields to vanquish computer-controlled monsters generated by the environment in MMORPGs. The operator makes the swords and shields desirable by first programming a challenging environment and then trying to convince players that overcoming these challenges is a worthwhile goal. All the other examples follow essentially the same pattern, where the operator is ultimately responsible for creating both the problem as well as its proposed solution, the latter sometimes costing money.

Though the tendency to compete for status positions is something that participants most likely bring to the MMO with them, the operator provides the means for its realisation and has ways to adjust its intensity. This is described in article three and article two. Firstly, the operator defines the "frame of fashion", the range of surfaces and behaviours over which it is possible to exercise choice. Secondly, within that frame, the operator can manufacture "artificial scarcity", providing participants with lines of rare and exclusive collectibles that are ideal material for status competition. Thirdly, providing participants with more ways to flaunt their status or possessions is

likely to intensify this competition. Finally, the operator can destroy existing status positions by flooding the market, so that what were once exclusive rarities are suddenly at the reach of everyone. New rarities can then be sold to fill the vacuum.

Article two discusses the use of virtual goods to construct roles or identity positions in Habbo, of which goths are the most prominent example. As with the rebellious styles described above in section 2.2.3, the goth style initially involved the creative re-appropriation of mainstream Habbo goods, but was eventually commercialised as its constituency grew. According to Johnson and Sihvonen,

> gothic players started out by using the 'Halloween' furniture line of candles, skulls, and bats for their own purposes. The developers noted the popularity of the 'Halloween' line, and in 2007, they incorporated parts of the gothic subculture into the core of Habbo. A gothic line of furniture emerged as a set of its own (Johnson & Sihvonen 2009, p. 19)

Habbo's operator also actively constructs and promotes new roles and styles by introducing and advertising sets of goods designed around a theme. For example, at the time of writing, a set of countryside-themed items is being promoted, along with suggestions to assume the role of a relaxed farmer.

Finally, article two examines virtual consumption as a creative or even artistic activity, where goods offered by the Habbo platform act as building blocks. The operator encourages this creative activity by organising design competitions and promoting the works of creative individuals. Whether, then, the desire to create ultimately stems from the individuals' artistic visions or from the status game into which the commercial structure turns it, is a question common in many fields of creativity.

On the surface it would therefore seem that by designing every detail of the architecture within which interactions in an MMO take place, the operator has nearly limitless power to shape the practices of virtual consumption within its service, and can harness it as a mechanism to relieve committed users of all their disposable income. In a digital environment, code is stronger than law (Lessig 1999). But there is a simple mechanism that considerably limits the operator's power: if users begin to feel that the challenges are not worth their time and money, that obtaining social status and expressing identity costs more in this world than it is worth, and that the building blocks of creativity are too expensive on this platform, then they may take the step to migrate to a new arena, either as individuals or as parts of the whole social world. This might mean moving to another MMO that is easier to commit to, or quitting MMOs altogether and replacing them with another pastime or a new job. And

even if users do stay in the MMO, the social world as a whole may end up not recognising and not using mechanisms of status gaming that the operator has built into the platform. We do not know how "susceptible" to the operator's marketing users are, but surveys suggest that most MMO users are almost certaingly not children (Yee 2006b; 2007) and that the users who are most likely to purchase virtual goods are adults rather than children (article four of this dissertation).

3.6 Social networks and the offline impact of virtual consumption

So far the model under which I have analysed virtual consumption has more or less assumed an online social world that is largely isolated from the rest of the world and functions according to its own internal structure and dynamics. This ideal type permits the clear exposition of status strata and mechanics of cultural capital and social identity as drivers of virtual consumption. It also affords a clear view into the way in which the operator of the service promotes and shapes virtual consumption by designing the most important aspects of the technical architecture on which the world functions. However, as argued in section 3.1.4 above, in order to obtain a full picture of the forces that shape participants' behaviour inside an MMO, it is also necessary to consider how the online social world overlaps with other, established worlds such as family, school, workplace and consumption. In this section, I summarise evidence from different articles of this dissertation to examine how the overlap influences virtual consumption. The results provide additional answers to *RQ 2: What kind of social structures promote and regulate virtual consumption?* by describing the influence of real-world social structures. The results also provide additional insights to *RQ 3* concerning operators' inclusion of real-world symbols into virtual goods, as well as to *RQ 1* concerning real-world social uses of virtual goods.

The claim that MMOs allow participants to completely break free from their previous identity and form a new "virtual identity" in an online social world is criticised in article one. Observations suggest that people bring their values, attitudes and cultural resources to the new environment and that these have an influence on the way participants present themselves. At the same time, participation is shaped by constraints imposed to the body in the physical environment; for instance, gender-differentiated responses from parents (Lin 2008). The notion of disembodiment is criticised on the basis that these "real-world" structures are to some degree reflected in the user's virtual body. For example, Yee (2007) reports that certain character creation choices in MMORPGs correlate with age and gender. From here, it is a small step to

hypothesise that the influence of socio-demographic structures is also carried through to virtual consumption behaviour. Indeed, in article four of this dissertation, statistical analyses of survey data from three Habbo worlds indicate that respondents' virtual consumption behaviour is significantly influenced by personal income and in some countries also by gender and age.

The influence of outside social structures on activities inside an MMO can be organised conceptually using the concept of social worlds, as argued in article one. Separating the technological platform of the MMO (the virtual space) from the users of the MMO (the social world) makes it easy to understand how "outside" social worlds can extend into and share a virtual space with its "core" social world centering around gaming activity. For example, the goth identity discussed in article two has significant impact on its adherents' virtual consumption decisions. Johnson and Sihvonen (2009) show that this Habbo goth phenomenon is linked to the global gothic youth subculture. The "world of goth" has thus entered the virtual space of Habbo. It overlaps with the core Habbo world, leaving individuals caught in the overlap to negotiate between the cultures and structures of two different worlds. Other prominent examples are the penetration of family and business circles into virtual spaces. And as the previous paragraph suggests, even if the individual finds themselves the only representative of such a group in a virtual space, they carry the influence of that group with them: it is doubtful if such memberships are ever left behind completely.

Responding to what they see as market demand from various offline subcultures and social worlds crisscrossing their virtual spaces, some virtual goods vendors have begun to sell goods that are specifically designed to appeal to those groups by incorporating their favoured styles and symbols. In the previous section, it was described how a gothic line of furniture emerged in Habbo. Article three of this dissertation describes a number of similar cases where outside cultural symbols are incorporated into virtual goods. Some of these are quite mainstream, such as Christmas trees and Halloween costumes. Others are more subcultural: football team colours, popular anime characters, and virtual merchandise for artists, movies and television shows. Thus the world of football, for example, obtains a firm standing in that particular virtual space. The area where football fans can spend on football merchandise expands, affecting the spending patterns of individuals caught in the overlap.

Thus far the discussion has dwelled on mechanisms through which positions in real-world structures affect virtual consumption. A more remarkable claim, suggested in article two, is that individuals may attempt to use virtual consumption to affect their positions in real-world structures. Consider the following examples: Pinckard (2006) describes business acquaintances gathering in World of Warcraft to enjoy their free time, discuss

business matters and build networks, much in the same way as some businessmen do on golf courses. James Gorman describes a situation that can happen when family members play MMOs together:

> This one I'll buy for you,' he [his son] said, pointing out the Plated Belt of Thorns (which I now wear), 'but if you go for the more expensive one, you'll have to pay yourself.' I could hear my own voice, in the aisles of Toys'R'Us, urging moderation in the purchase of Beast War transformers. (quoted in Taylor 2006, p. 53)

These examples suggest that as social worlds extend themselves into virtual spaces, the structures and dynamics of the virtual spaces start playing a part in those social worlds. Article one of this dissertation contains more examples to support this claim. As virtual consumption is connected to the dynamics of status and identity in virtual spaces, the result is that virtual consumption could also begin to play a part in these social worlds, as hinted by Gorman in the quote above. Another way to phrase this idea is that social worlds based entirely in virtual spaces (e.g., the world of Habbo) involve only virtual goods in their status games, while social worlds based entirely on face-to-face interactions involve only material goods; social worlds that fall somewhere in between involve both material goods as well as virtual goods in their games of status and identity. More research is necessary to fully substantiate this claim, however.

To conclude this section, I will briefly consider social networking sites in light of the above discussion. The notion that a virtual space begets its own "core social world" is based on observing old-fashioned virtual communities, MUDs and MMORPGs. In more open-ended MMOs such as Habbo, a single, coherent social world becomes somewhat more difficult to identify, and the influence of outside social worlds becomes more apparent. In social networking sites, such as *Facebook* and *IRC-Galleria* (discussed in article three of this dissertation), it is difficult to perceive almost any signs of a core social world. Ishii and Ogasahara (2007) distinguish between "virtual network -based" and "real group -based" online communities. In accordance with their design, social networking sites act primarily as the virtual dimension of existing social networks. It is therefore interesting to note that both Facebook and IRC-Galleria sell virtual goods to their users. Whatever social uses those goods have, they must be oriented mainly towards existing social relationships as opposed to being a way to impress virtual friends in a fictional universe.

4 CONCLUSIONS AND DISCUSSION

The primary research question of this study is, why do people spend real money on virtual goods? This why-question was separated into three what-questions that asked us to provide details on different kinds of mechanisms that can explain virtual consumption behaviour. In the sections above, I provided such details by presenting syntheses and analyses of the results of the articles constituting this dissertation. It was found that participants experience social, hedonic and instrumental benefits from the consumption of virtual goods. It was moreover found that social structures, including in particular hierarchies of social status, cultural capital, performance of identity positions, and group memberships, promote and regulate virtual consumption behaviour, so that differences in individuals' virtual consumption choices can in many cases be explained by referring to differing positions within these structures. The operator was found to be in a position to facilitate and exercise influence over all of these mechanisms. In the following sections, I consider what can be said about the why-question on the basis of these findings while relating them to the larger context of how virtual consumption is conceived of as a field human activity. In the final section, I take a normative view on virtual consumption and consider its role in the world of economic crises, technological alienation and ecological catastrophe.

4.1 Virtual goods are real

The first thing that can be concluded from all that has been presented above is this: the position according to which spending real money on virtual goods is insane because the goods "do not really exist" is untenable. Despite their name, virtual goods are "real" in the ontological sense that they exist in the same reality as other goods. They have a physical manifestation, often a visual form, which can be experienced by many people. They also make their presence felt through other mechanisms. Virtual goods are not figments of imagination, although they can give rise to a strong emotional or dream component in the mind of a consumer, in the same way that many brands and consumer goods seek to do.

On the other hand, those who assert that virtual goods are not "real" are probably not meaning it in the ontological sense, but rather in a more practical

and colloquial sense. Virtual goods are digital and limited to digital spaces only. Even if we accept that virtual goods are technically part of the same reality as everything else, it can be argued that in practice they are not present in most situations or their impact is so insubstantial that they are more like fantasy than actual goods. Turn the computer off, and their thin link to reality disappears. Thus virtual goods "do not really exist" in the way the living room sofa does.

This study challenges the view presented above in two ways. Firstly, it questions the assumption that the "material world" always has primacy over the "digital world". Studies of media use show that the proportion of time spent with electronic media continues to increase even in countries where it is already high (Räsänen 2008; Dentsu et al. 2009). For people who interact mostly in the digital world, it is the living room sofa that lacks presence and impact in most situations. If presence and impact are the measures of reality, it is the sofa that must be termed "unreal" in such a case. Furthermore, the digital world is increasingly penetrating into face-to-face social situations. Mobile devices, public display screens, and in the near future, wearable computing and augmented reality applications make it possible for virtual objects to have presence and impact in social situations of the material world (Montola & Stenros 2009; Nojima 2008). I have participated in research where ubiquitous computing technologies are used to superimpose digital game mechanics and virtual objects on top of day-to-day activities, with the result that these objects start to influence the way people conduct their daily lives (Nakajima et al. 2008; Shiraishi et al. 2009).

Secondly, this study joins several others in advocating a move beyond the dichotomous "real world" vs. "digital world" model in favour of a more realistic understanding of the role of digital communication in everyday life. Immersive 3D environments and other massively-multiuser online services are impressive hubs of human activity, so much so that it can be tempting to compare them to whole new worlds, countries or city-states, and to contrast them with the "real life" which they supposedly stand apart from. But upon closer observation, two things become apparent: One, that actions, interests, norms and networks overlap and intersect freely between different arenas, whether physical places or virtual spaces. Two, that "real life" is not the monolithic and rational whole it is implied in these discussions to be. Strauss's social worlds, Bourdieu's concept of fields and social network analysis are some of the attempts to conceptualise the fragmentation inherent in society and everyday experience. In many cases, the difference between face-to-face communication and digital communication does not represent a significant dividing line, certainly not as significant as the difference between family, colleagues and gaming friends, for example.

From this perspective, the position of the living room sofa and the virtual sofa depend not so much on whether one is "in the digital world" or in "real life", but on which of many worlds one is addressing, regardless of the channel of communication. How virtual goods are regarded in a given world has some relation to whether the members of that world usually convene face-to-face or in online spaces, but is by no means determined by it. It is time to give up the idea that virtual goods exist in a separate "digital world" and recognise that they are part of the world of consumption. One answer to the primary research question of this study is therefore that people buy virtual goods for the very same reasons as they buy other goods.

4.2 Consumption as a game

In this section, I will elaborate briefly on the different factors that lead people to buy virtual goods, and outline a model of consumption with some wider applicability.

According to the assumptions of rational choice theory, people who spend money on virtual goods must experience some sort of benefit from those goods that exceeds the perceived benefit obtainable by spending the money elsewhere. This study identified several ways in which individuals can experience benefits from virtual goods: virtual goods can have functional properties that help the individual realise their goals; virtual goods can deliver emotional and aesthetic sensations; and virtual goods can contribute to self-identity and enhance social status.

However, as suggested in the previous section, these benefits must always be defined against the backdrop of a field in which the individual operates. Some of the most important playfields in contemporary life are school, career and family. In all of these, traditional consumption plays a part as individuals make their moves. When virtual consumption first emerged, it bore no influence on these big games. Today, there is evidence suggesting that virtual goods are involved in the daily activities of some families and workplaces. In fact, it is probably a reality in many neighbourhoods that the coolest kid on the block is no longer the one with the toughest plastic action figure, but the strongest World of Warcraft character. For the most part, though, the utility of virtual goods most likely continues to be realised within the new social worlds that have emerged online. Depending on which of life's games the individual is participating in, a virtual sofa may or may not deliver more value for money than the living room sofa.

Moreover, a central theme in this dissertation has been the way in which social structures influence the individual's perception of what goods are

desirable and what goods are available for consumption in the first place. One example of the latter is the norm against real-money purchases in many competitive MMORPGs. This study also revealed gender-based differences in virtual consumption, which can possibly be traced to norms regarding appropriate consumption styles for girls and boys. Young consumers' decisions are constrained by parents, who have different ideas about what games their offspring should be playing. Lack of agency may extend to older family members as well, especially in more collectivist cultures. Examples of positive consumption norms are found in the way consumption is associated with social status and membership in lifestyle groups.

A third aspect of virtual consumption is the role of the operator. On one hand, it was recognised that by designing every detail of the architecture within which interactions in an MMO take place, the operator has considerable power to shape the practices of virtual consumption, and can certainly build the consumption of "useless" virtual goods as a near-necessity into its service. On the other hand, it was recognised that if users find themselves frustrated by the apparently meaningless need to consume, they may leave the MMO in favour of another MMO, or even some completely different social world, such as a new hobby. The key task of the operator is to ensure that users maintain *interest* in the service, or rather, in the stakes that are in play in the social worlds that live on it. Bourdieu has defined interest as follows:

> *Interest* is […] to participate, to admit that the game is worth playing and that the stakes created in and through the fact of playing are worth pursuing; it is to recognize the game and to recognize its stakes. (Bourdieu 1998, p. 77)

The games that Bourdieu refers to are not MMOs or even table-top role-playing games, but "social games" played on every field from academia to politics (Bourdieu 1998, p. 78). Those who have interest, who have bought into the game and internalised its rules, the game is self-evident: the question of whether it makes sense does not even arise. Thus for example in the field of gardening, one encounters numerous problems as well as established solutions to them that frequently involve the application of commercial products; possibilities for social one-upmanship that most probably involve additional spending; and possibilities for self-expression that likewise require effort and spending. Those who partake in it as a hobby are unlikely to ask why the struggle to shape vegetation against its natural tendencies is seen as an important pursuit among contemporary Western middle class, but they are probably more than willing to question the idea of stacking virtual pieces of furniture on top of each other. Similar ideas regarding the cultural construction

of consumption are expressed by, for instance, Featherstone (1991), Bauman and May (2001), and Zelizer (2002b).

Based on the ideas above, it is possible to combine the three explanans of consumption outlined above – rational benefit calculations, social structures and marketing-architectures – into a single model of consumption as a game. A game has participants, rules, objectives and organisers. The task of the organisers is to convince people into joining the game as participants, who accept the objectives of the game and learn the rules through which it is played. In the case of consumption games, the organisers are frequently marketers, and the rules involve goods and spending as instruments in the advancement towards the objectives. Participants can also develop new rules and drop old ones, but if a resulting ruleset becomes incompatible with the original rules, it branches into a separate game with the rulemaker-participant as its organiser. At stake in each game is nothing more and nothing less than power and influence inside the game, but through individuals who participate in several games, as well as through shared gamepieces such as money, the outcomes of one game can affect the outcomes of other games.[8]

From this perspective, marketing is about recruiting participants to a game as well as establishing its rules. Designing physical architectures, from online hangouts to golf clubs and suburbs, is likewise about establishing playfields and tangible aspects of the rules. Social structures define different positions that it is possible to occupy in a game, as well as the rules for moving between these positions. Calculations of rational benefit are simply assessments of which move to make next. The set of possible moves depends on the participant's current position and the surrounding landscape. The relative preferabilities of the moves ultimately depend on the objectives of the game. Different strategies and routes can be chosen, as the ambiguous nature of the rules makes it impossible to determine an optimal path.

It is obviously easier to succeed in smaller games than in large games with many participants, but the perceived rewards of success are also smaller. In the largest games, the fields are almost limitless, but difficult to navigate far. In any case, if one reaches the far end of a field and "wins" the game, the only reward is seeing beyond the playfield and realising the game for what it was, instantly loosing interest in its stakes and all that has been gained. On a very abstract level, this is what happens in "mudflation".

The wish to escape the eventuality of reaching the limits of a game also explains our desire to adopt new games. In the next section, I will argue that

---

[8] Game as a metaphor for life is hardly original, as shown by Bourdieu (1998) and, for example, Malaby (2007). The aim here is to elaborate on that metaphor in a way that makes it practically usable for analyses of consumption.

what is new about virtual consumption is that it enables materialist games in virtual spaces. As a small counterpoint to the rather nihilist view of consumption articulated in this section, I will also touch on the *personal meaning* of virtual goods.

4.3 Digital post-materialism versus virtual matter

The adoption of online consumption can be seen as a series of three waves: traditional online shopping, participatory consumption, and virtual consumption (section 3.2, above). Each of these waves can be seen as a social innovation made possible by key enabling technologies, without which they could not have emerged. We can therefore offer a different angle into the question of why people buy virtual commodities by considering the enabling technological innovations and asking, why did people adopt this technology? What is the new benefit it ostensibly offers beyond earlier technologies?

The picture that emerges in this dissertation is the following. The first wave of online shopping no doubt attracted pioneering consumers because of its novelty and positive aura of being modern, but its main value proposal is in the convenience, availability, efficiency and ease of selecting and purchasing goods, as well as in the extremely wide selection available. In short, the innovations are in the site of consumption: a new kind of *marketplace*. In the participatory wave, the key innovations are in involving and empowering consumers in the processes of consumption: a new role for the individual, a new *consumer*.

Virtual consumption started out on some of the same marketplaces as online shopping, particularly eBay. Virtual consumption also involves aspects of participatory consumption, from consumption in communities to user-generated content, but in many ways follows a very traditional producer-consumer value chain, with operators having considerable power. What, then, is the new feature or ability that attracts consumers to the virtual mode of consumption?

The key innovations in virtual consumption can be traced to the nature of the *good*s. Consumers are attracted to virtual consumption because the benefits offered by these new types of digital goods differ from the benefits of earlier digital goods, namely digital information goods. To support this claim, I will next analyse how virtual goods differ from digital information goods.

In section 3.2.3, two key differences were identified between virtual goods and traditional digital information goods. Firstly, virtual goods are rivalrous, while digital information is abundant. Secondly, the primary way of deriving value from information goods is through experiencing them (for example,

listening to a song), while for virtual goods, the main source of value seems to be elsewhere. Based on the results of the empirical part of this study, we are now in the position to elaborate on these distinctions.

If the main benefit derived from information goods is experience (including knowledge), for virtual goods the benefits consists not only of experience but also instrumental benefits and social benefits. The instrumental benefits are due to the way virtual goods are programmed to function as components of their surrounding architecture, bestowing power and ability within that environment on any person controlling them. The social benefits are due to virtual goods' ability to act as vessels of symbolic meaning. But digital information goods come laden with meanings and symbolisms also. Listening to a certain musical artist, watching certain types of movies or reading news from a certain brand of website conveys many things about the consumer. Are virtual goods any different in this respect?

The most obvious difference is the one reflected in the concepts of rarity and artificial scarcity. Information goods are able to convey momentary distinctions of taste in never-ending cycles of fashion, differentiation, imitation and opposition, but since the goods are abundant and available to anyone, these distinctions are rarely lasting. In contrast, artificially scarce virtual goods are by definition not available to everyone, and are therefore able to create lasting distinctions between positions. In industry discussions, this social value of exclusivity is frequently highlighted as the main source of value for virtual goods, besides the aforementioned instrumental value.

In practice, however, not all virtual goods are very scarce at all: some exist in great numbers, and some are distributed freely to every participant as part of a promotion or celebration. Digital information goods can sometimes be very scarce in the sense of being difficult to find or costly to obtain, and being in possession of information that others do not yet have can have significant implications for social status. The distinction between "artificially scarce" virtual goods and "abundant" information goods therefore does not seem as clear and unambiguous as was first thought. Is there some other way of distinguishing between these two categories?

My conclusion is that the key difference between virtual goods and digital information goods is revealed in the discussion in section 3.4, above, on the concepts of provenance and social life of goods. For digital information goods, every copy is a manifestation of the same, abstract, singular information good. Symbolic meanings such as being fashionable, avant-garde, old-fashioned or vulgar can be attached to the information good, but the meanings are attached to its abstract idea, not to any specific manifestation. One copy of a file containing a Hollywood movie is semiotically no different from another copy

containing the same information. They are both the same signifier, pointing to meanings attached to that movie.

In contrast, for virtual goods, every copy is distinct from other copies. Each copy is a different signifier, and can therefore point to different meanings. The notion of provenance and social life refer to the way in which individual virtual goods, through the course of their life, can pick up different kinds of personal associations, and even a social "reputation" of their own. Thus one virtual sofa can be quite meaningful to someone, while another visually identical sofa can seem empty and hollow. The result corresponds with Scott Lash and Celia Lury's analysis of what happens when media become thingified as commodities: they become Leibniz's monads, "all different from each other, because each carries its own trace" (Lash & Lury 2007, p. 12).

Table 2. Goods in physical space and virtual space

	Physical space	*Virtual space*
Matter	Material goods	Virtual goods
Representation	Images, media	Images, media

Miyamoto Shigeru of Nintendo has used the phrase "touchable images" to describe video games (Fukuda 2000, p. 6). Virtual goods are "touchable images": not just images with meanings, but images that one can appropriate, make one's own, and attach personal meaning to. Unlike the objects in Nintendo's traditional video games, these images moreover exist not just on one screen, but in a virtual space where they can touch the lives of many people, and obtain a social life. In many ways, therefore, virtual goods are more similar to material goods than information goods: they are the matter of the virtual space, distinct from images or representations in the virtual space (Table 2). On this observation we can base the idea that the key innovation in virtual consumption is a new type of commodity, "virtual matter".

To conclude this section, I will briefly consider what this perspective implies for our understanding of the consumer. The first-generation online shopper was decidedly materialist, driven by a desire to accumulate, although perhaps also to explore the new frontier. The second-generation participant-consumer, in contrast, is painted as a very different creature, being not so much interested in material distinctions but in creativity and the fruits of mental effort: a true post-materialist "non-sumer". Virtual consumption,

however, seems to represent yet again a return to materialism, this time through the accumulation of virtual matter. Why such big differences in ethos?

The "enabling technologies" perspective suggests that participant-consumers were perhaps never as revolutionarily post-materialist as their reputation leads us to believe. The idea of obediently obtaining and consuming each new good in the order and manner prescribed by marketing has obviously been questioned many times before in material culture by youth subcultures (e.g., Hebdige 1979). And the hacker ethic is by no means hierarchy-free. Individuals are still intensely assessed, valuated and ordered by those few measures that are visible through the mediating layer: intellect, creative output, the whole "virtual body" constituted by the words and images the individual puts out. Games of taste and cultural competence have not disappeared. From this perspective, it is not surprising that if matter is then re-introduced, people fall back into full-fledged "materialism".

4.4 Ethical perspectives on virtual consumption

Having used empirical studies to conclude that virtual consumption is driven by the same kinds of social structures and offers the same kinds of benefits as material consumption, only in the context of virtual spaces and usually in different, more marginalised social worlds, we are now in the position to compare virtual consumption with more traditional modes of consumption in a normative fashion. As discussed in section 2.1.1 above, consumption has come to be seen as a crucial component in the functioning of the economy: only by consuming more can we grow the economy and increase global welfare. On the other hand, consumption is facing crises: it is blamed for an increasing disintegration of social life, and worse yet, an ecological crisis that threatens the future of the whole planet. In this section, I will speculate about what virtual consumption could entail in these three dimensions.

4.4.1 Economic prosperity

Do virtual goods have "real" economic value? Can businesses based on selling virtual goods contribute to the growth of national economies in the same way as their more material counterparts, leading to increased economic welfare in the society? Castronova notes that under the consumption-based notion of value used in economics, this is possible:

> The mere fact that the goods and spaces are digital, and are part of something that has been given the label "game," is irrelevant. Willingness to pay, to sacrifice time and effort, is the ultimate arbiter of significance when it comes to assessments of economic value. (Castronova 2002, p. 15)

Virtual goods represent real economic value insofar as there are people who are willing to spend time and money to obtain them. If more and more people become interested in obtaining virtual goods, the virtual goods business will contribute more and more value to the economy. The same applies to any goods, from furniture to cinema tickets. Virtual goods can perhaps be more ephemeral than some material goods, because they might, for example, disappear suddenly if the operator goes out of business. But in today's economy, economic prosperity is not measured by the amount of durable goods hoarded in vaults, but by GDP: the total spending on final goods and services produced in a country (Burda & Wyplosz 1997, p. 21). Thus lack of durability can even be a virtue if it leads to repeated spending.

A problem in the consumption-based notion of value is that by equating value with consumption, it assumes that consumers can never go wrong: whatever consumers purchase, it is always good (Slater 1997, p. 49). The supposed economic contribution of a business is understood as its ability to fulfil consumers' desires. But what if the business itself generates those desires? Is it still an economic contribution? According to Galbraith,

> [i]f the individual's wants are to be urgent, they must be original with himself. They cannot be urgent if they are contrived for him. Above all they must not be contrived by the process of production by which they are satisfied [...] One cannot define production as satisfying wants if that production creates the wants [...] (Galbraith 1969, pp. 146-147, quoted in Slater 1997, pp. 49-50)

But is satisfaction even the aim of real economic activity, or simply a theoretical construct? In January 2009, a group of Finnish companies launched an anti-recession campaign aimed at Finnish consumers.[9] The message of the campaign is that if Finnish consumers reduce their consumption in response to recession fears, this will only deepen the recession. Instead, it is suggested that consumers should keep on shopping as before, so that jobs may be saved and the economy continue on its course.

---

[9] The campaign is titled "Don't feed the recession" and organised by advertising agency Bob Helsinki. The campaign's homepage is at *http://www.alaruokilamaa.fi.*

In other words, the message of the campaign is that consumption is not simply about the satisfaction of private indulgences: it is a duty we owe to the society. In economic theories it may be postulated that consumption leads to welfare, but for the functioning of the economy, it is completely irrelevant whether we really derive some sort of pleasure out of the goods we purchase or not. The axiom of strict monotonicity is an approximation of human decision making in theory, but a norm imposed upon the consumer in practice. The consumer must keep on buying more in order to maintain society. Yet what the consumer buys the rule is indifferent about. For economic prosperity, a set of furniture from Ikea is just as good as an equally priced set from Habbo; as is the old native North American custom of throwing food and crafted objects into the sea (Mauss 1990, pp. 15-16).

In summary, virtual consumption can contribute to economic prosperity, so in this respect it is not different from its more established alternatives. The business that virtual goods companies generate is no less real than other businesses. However, economic value is not a very useful ethical measure of value, because under the consumption-based notion of value, any activity at all is considered valuable if someone will pay money for it. In the following sections, I try to seek other standards for assessing the ethical value of virtual consumption.

4.4.2 Dematerialisation and social integrity

The notion of dematerialisation of consumption is prominent in contemporary sociological and cultural accounts of consumption, especially those tending towards the postmodern. Dematerialisation has an ambiguous ethical colour: it can be seen as both emancipatory and anti-social. As virtual consumption literally seems to be a very "dematerialised" form of consumption, it is worth examining what those accounts can say about virtual consumption, and at the same time, what virtual consumption can say about dematerialisation.

The concept of dematerialisation has several meanings. Slater (1997, pp. 193-195) identifies four distinct developments that dematerialisation can refer to. One, that non-material goods, such as services, account for an increasing share of consumption. Two, that even material goods appear to have an ever greater non-material component, such as design, aesthetics and experience. Three, that the goods constituted in this way are increasingly mediated: delivered to consumers as representations via advertising, films, magazines and so on. Four, that regardless of the materiality of the final product, the resources used in the production process are increasingly immaterial, such as knowledge, design and emotion.

On accounts one and four, virtual consumption can be said to represent similar "dematerialisation" of the economy as the movement from industrial to service economy. This movement has various interesting implications for the organisation of production and society, as discussed by, among others, Castells (2000) (under the concept of "informationalisation"). These changes are, however, not particularly unique to virtual goods. I will instead focus on accounts two and three, in which dematerialisation is seen as increasing *mediation* of commodities. What does mediation imply and are virtual goods mediated?

Mediation of commodities is a key ingredient in Jean Baudrillard's post-structuralist account of consumer culture (1981, 1988), which can be framed as a theory of radical dematerialisation. According to to this view, in contemporary society commodities have dematerialised until only their sign value remains, and the "hyper-reality" constituted by endless commodity-signs pouring through media has become more substantial to the consumer than material and social reality. In contrast to the traditional social reality of values and hierarchies, this mediated reality is "fluid" in the sense that new signs are constantly created through, for example, advertising. It is also "flat" in the sense that it consists only of endless distinctions between signs, with no objective standpoint from which to order them. High culture, popular culture, art and trash are all flattened into differential positions on a level playing field through processes of commodification and mediation. Baudrillard's visions are dystopic: hyper-reality occludes values and social bonds. In the form presented above, it is possible to see emancipatory potential in it as well, though: radical dematerialisation can flatten modernist structural distinctions such as social class and gender (Slater 1997, p. 196).

Despite the fact that virtual goods are completely mediated in the sense that they are experienced entirely through a computer screen, they are not necessarily mediated at all in the sense of Baudrillard and Slater. The latters' notion of mediation refers to the process of attaching a non-material component (a sign value) to a commodity, by means of, for example, advertising. This mediated component is objective in the sense of being independent of any consumer, existing instead as a difference in the world of signs. In contrast, the mediation involved in virtual goods is a process that aims to deliver to the consumer an experience of being in touch with an actual, monadic object (section 4.3, above). Of course, advertising and other means can then be used to attach sign values to this "virtual commodity" as to any other commodity, but these two processes of mediation are not related. For this reason, the emergence of virtual consumption does not represent the consummation of Baudrillard's dystopic visions of hyper-reality.

Virtual goods are thus "mediated" in the somewhat mundane sense of being digital objects transmitted by computer networks, and not necessarily in the more "postmodern" sense of being constituted almost entirely of sign-values. Ritzer (2001) offers an opinion on the ethical implications of dematerialised consumption in this more down-to-earth sense, equating dematerialised consumption essentially with advanced online shopping. His conclusions are similar to Baudrillard's, however: dematerialisation means the death of the social.

According to Ritzer, dematerialised sites of online consumption are "dehumanized and dehumanizing worlds in which satisfaction from human action and interaction is all but impossible." (Ritzer 2001: 150) Shop assistants and other human beings are totally eliminated from the process, and the consumer enters their own computer-generated "dreamworld" of consumption. As social controls are eliminated, consumers are increasingly vulnerable to the online shopping sites, which are moreover always available and therefore harder to escape from.

This analysis might have been somewhat accurate during the first wave of online consumption, but the participatory wave reintroduced human interaction into consumption and somewhat balanced the scales in favour of the consumer. And in virtual consumption, social relations are central for deriving value from the goods. The bits that constitute virtual goods have little experiential value without meanings attached to them within a social world. The prequisites of social control are therefore in principle present when virtual goods are consumed, but the question is what the nature of that social world is like: caring or indifferent. Caring computer-mediated communities and indifferent physical neighbourhoods illustrate that this is not a question of "real" versus "dematerialised" (Steinkuehler & Williams 2006).

In conclusion, virtual consumption is certainly dematerialised in the rather mundane sense of being mediated by computer networks, but dematerial does not necessarily mean de-social, only de-corporeal. In the final section, I will speculate on the implications of de-corporeal consumption in a world of limited natural resources.

4.4.3 Environmental sustainability

A major issue shadowing modern consumer culture is the impending environmental crisis it is said to be giving rise to. According to Intergovernmental Panel on Climate Change (IPCC 2007), global warming caused by greenhouse gases released into the atmosphere through the actions of man is a major threat to the earth's ecology. The production, distribution

and consumption of goods is a major tributary to these emissions. Intensive consumption and disposal is also associated with depletion of natural resources, pollution and degradation of natural environments, and other ecological ills.

According to Haanpää (2007), actions aimed towards reducing the environmental impact of consumption can be divided into two categories. The first is using increasingly sophisticated technologies to improve the efficiency and reduce the emissions of consumption-related processes. The second is effecting changes in actual consumption patterns and levels. Due to factors such as the "rebound effect", technological improvements alone probably cannot reduce the environmental impact of consumption sufficiently (Haanpää 2007, p. 17). Changes in the quantity and quality of consumption are thus necessary if environmental catastrophe is to be avoided.

I concluded above that in terms of social benefit and function, virtual consumption serves many of the same kind of purposes as material consumption, and indeed is a substitute for material consumption in many social worlds that frequently gather online. When the primary function of goods is to serve as signs as symbols, is it not wasteful to use material goods as the vessels of those intangible values, if virtual ones are able to fulfil the same purpose? It was suggested that in the future virtual objects are increasingly present in everyday social situations. Assuming so, would it make environmental sense to promote virtual consumption as an alternative to the excesses of material consumption?

My literature review has not indicated any serious attempts to quantify the environmental impact of virtual consumption, or to compare it against other types of consumption. Some information regarding the CO_2 emissions caused by general Internet use and ICT are available. Gartner has estimated that information and communication technology accounts for 2 percent of global CO_2 emissions, approximately on the same level as aviation (Gartner 2007). The figure includes consumer, commercial and governmental use of ICTs, as well as a partial estimate of the energy expended in their production. Running a personal computer for an hour can generate between 40g and 80g of CO_2 (Leake & Woods 2009), which is roughly equal to what Walkers Snacks indicates as the total carbon footprint of a small bag of crisps. At first glance it would therefore seem that the adoption of ICT and computer-mediated communications causes a significant additional burden on the environment.

However, it has been argued that ICT is not simply an additional burden, because the use of ICT and computer-mediated communications increases the resource efficiency of existing processes, and more importantly, in many cases replaces them entirely (The Climate Group 2008). It is argued that the

increased adoption of ICTs therefore reduces environmental footprint instead of increasing it.

Be that as it may, it is possible to build an analogous and perhaps more compelling case for virtual consumption. Firstly, virtual consumption to a large extent uses the same personal computer and network infrastructure as established forms of Internet use, so it only partially represents an additional environmental burden. Secondly, the environmental impact of virtual consumption does not increase as a function of the number of goods purchased. This is a key difference to material consumption, where each additional unit purchased represents a direct increase in environmental footprint. In virtual consumption, each additional good represents at most an additional row in a database, with no direct increase in the consumption of materials (on energy, see below). Thirdly, the disposal of virtual goods does not leave behind waste that needs to be stored or recycled. Operators can create short-lived disposable virtual goods that keep databases lean without increasing the environmental burden in any way. Fourthly, in contrast to traditional goods and services, virtual goods do not involve physical transportation, either of the good to the consumer or of the consumer to the site of service delivery.

For the reasons outlined above, if a consumer was to substitute a certain amount of their weekly material consumption with virtual consumption, it could conceivably reduce their environmental footprint. The consumer would probably spend more time logged into computer systems, causing an increase in energy consumption. But as more goods are substituted, this increase in energy consumption should plateau at some point, at the point where the systems are never turned off. Beyond this point, the marginal rate of reduction in the environmental footprint would then increase with each additional unit of substitution. If spending is the *sine qua non* of contemporary society, either because as consumers we are incurable, or because our economic model requires it, then directing that spending to virtual goods instead of material goods could help to reconcile this social fact with the limitations of physical reality.

REFERENCES*

Adorno, T. W. – Horkheimer, M. (1979)[1947] *Dialectic of Enlightenment*. Verso: London.

Allison, T. (2008) A Path To Western Online Games Success In Asia. *Gamasutra*, June 24, <http://www.gamasutra.com/view/feature/3701/a_path_to_western_online_games_.php>.

Anderson, C. (2006) *The Long Tail: Why the Future of Business Is Selling Less of More*. Hyperion: New York.

Appadurai, A. (1986) Introduction: commodities and the politics of value. In: *The Social Life of Things: Commodities in Cultural Perspective*, ed. by A. Appadurai, 3-63. Cambridge University Press: Cambridge.

Barnard, M. (2002) *Fashion as communication* (2nd ed.). Routledge: London.

Baudrillard, J. (1981) *For a Critique of the Political Economy of the Sign*. Telos: St Louis, MO.

Baudrillard, J. (2002) Consumer Society. In: *Jean Baudrillard: Selected Writings* (2nd ed.), ed. by M. Poster, 32-59. Stanford University Press: Stanford.

Bauman, Z. – May, T. (2001) *Thinking Sociologically* (2nd ed.). Blackwell: Oxford.

Belk, R. W. (1995) *Collecting in a Consumer Society*. Routledge: London.

Belk, R. W. (2004) The Human Consequences of Consumer Culture. In: *Elusive Consumption*, ed. by K. M. Ekström – H. Brembeck, 67-86. Berg: Oxford.

Benkler, Y. (2006) *The Wealth of Networks*. Yale University Press: New Haven.

Bourdieu, P. (1984) *Distinction. The Social Critique of the Judgement of Taste*. Routledge: London.

Bourdieu, P. (1998) *Practical Reason: On the Theory of Action*. Stanford University Press: Stanford.

Boyd, D. (2008) Why Youth ♥ Social Network Sites: The Role of Networked Publics in Teenage Social Life. In: *Youth, Identity, and Digital*

* All online materials were last accessed on June 1, 2009.

Media, ed. by D. Buckingham, 119-142. The MIT Press: Cambridge, MA.

Bruckman, A. (1998) Finding One's Own in Cyberspace. In: *Composing Cyberspace: Identity, Community, and Knowledge in the Electronic Age*, ed. by R. Holeton, 171-179. McGraw-Hill: Boston.

Burda, M. – Wyplosz, C. (1997) *Macroeconomics: A European Text* (2nd ed.). Oxford University Press: New York.

Burt, R. S (2002) The Social Capital of Structural Holes. In *The New Economic Sociology: Developments in an Emerging Field*, ed. by M.F. Guillén – R. Collins – P. England – M. Meyer, 148-190. Russel Sage Foundation: New York.

Campbell, C. (1989) *The Romantic Ethic and the Spirit of Modern Consumerism*. Macmillan: Oxford.

Campbell, C. (1998). Consumption and the Rhetorics of Need and Want. *Journal of Design History*, Vol. 11, No: 3, 235-46.

Campbell, C. (2004) I Shop therefore I Know that I Am: The Metaphysical Basis of Modern Consumerism. In: *Elusive Consumption*, ed. by K. M. Ekström – H. Brembeck, 27-44. Berg: Oxford.

Castells, M. (2000) *The Rise of the Network Society* (2nd ed.). Blackwell: Oxford.

Castronova, E. (2001) *Virtual Worlds: A First-Hand Account of Market and Society on the Cyberian Frontier. CESifo Working Paper Series No. 618*. <http://ssrn.com/abstract=294828>.

Castronova, E. (2002) *On Virtual Economies. CESifo Working Paper Series No. 752*. <http://ssrn.com/abstract=338500>.

Castronova, E. (2004). The Price of Bodies: A Hedonic Pricing Model of Avatar Attributes In a Synthetic World. *Kyklos*, Vol. 57, No: 2, 173-196.

Castronova, E. (2005) *Synthetic Worlds: The Business and Culture of Online Games*. University of Chicago Press: Chicago.

Castronova, E. (2006a) Virtual Worlds: A First-Hand Account of Market and Society on the Cyberian Frontier. In: *The Game Design Reader: A Rules of Play Anthology*, ed. by K. Salen – E. Zimmerman, 814-863. The MIT Press: Cambridge, MA.

Castronova, E. (2006b) On the Research Value of Large Games: Natural Experiments in Norrath and Camelot. *Games and Culture*, Vol. 1, No: 2, 163-186.

Castronova, E. (2007) *Exodus to the Virtual World: How Online Fun is Changing Reality*. Palgrave Macmillan: New York.

Castronova, E. (2008) *A Test of the Law of Demand in a Virtual World: Exploring the Petri Dish Approach to Social Science. CESifo Working Paper Series No.* 2355. <http://ssrn.com/abstract=1173642>.

Creswell, J. W. (2003) *Research design: Qualitative, quantitative and mixed methods approaches.* Sage: London.

Consumer Agency (2004) *Consumer Ombudsman concludes negotiations with Sulake Labs Oy: New rules for virtual hotel* (press release, May 6). <http://www.kuluttajavirasto.fi/Page/d1bc11a7-7371-4140-8681-eb744f0400c8.aspx?groupId=b2718d80-3e53-429c-a53e-608d6e502f70&announcementId=3df7e1ca-6dd2-4aaf-ad21-9b433e0e27f8>.

Davis, F. (1992) *Fashion, Culture and Identity*. University of Chicaco Press: Chicago.

Debreu, G. (1959) *The Theory of Value: An Axiomatic Analysis of Economic Equilibrium*. Yale University Press: New Haven.

De Graaf, J. – Wann, D. – Naylor, T. H. (2005) *Affluenza: the all-consuming epidemic* (2nd ed.). Berret-Koehler Publishers: San Francisco.

Dentsu Communication Institute and Media Development Research Institute (2009) 情報メディア白書2009 *(A Research For Information and Media Society)*. Diamond: Tokyo.

Dibbell, J. (2006) *Play Money. Or, How I Quit My Day Job and Made Millions Trading Virtual Loot*. Basic Books: New York.

Douglas, M. – Isherwood, B. (1978) *The World of Goods*. Basic Books: New York.

Ekström, K.M., and Brembeck, H. (2004) Introduction. In: *Elusive Consumption*, ed. by K. M. Ekström – H. Brembeck, 1-8. Berg: Oxford.

Fairfield, J. (2005) Virtual Property. *Boston University Law Review*, Vol. 85, No: 4, 1047–1102.

Featherstone, M. (1991) *Consumer Culture & Postmodernism*. Sage: London.

Forrester (2007) *Online Clothing Sales Surpass Computers, According To Shop.org/Forrester Research Study* (press release, May 14). <http://www.forrester.com/ER/Press/Release/0,1769,1145,00.html>.

Fukuda, M. (2000) *Bit generation 2000—*テレビゲーム展. Art Tower Mito: Mito.

Gabriel, Y. – Lang, T. (1995) *The Unmanageable Consumer. Contemporary Consumption and its Fragmentations*. Sage: London.

Gartner (2007) *Gartner Estimates ICT Industry Accounts for 2 Percent of Global CO2 Emissions* (press release, April 26). <http://www.gartner.com/it/page.jsp?id=503867>.

Granovetter, M. (1973) The Strength of Weak Ties. *American Journal of Sociology*, Vol. 78, No: 6, 1360-1380.

Granovetter, M. (1995) *Getting a job: a study of contacts and careers* (2nd ed.). University of Chicago Press: Chicago.

Grimes, S. M. (2006) Online multiplayer games: a virtual space for intellectual property debates? *New Media & Society*, Vol. 8, No: 6, 969-990.

Grönholm, P. – Haapanen, M. (2008) 13-vuotiaan ruotsalaistytön kerrotaan törsänneen tuhansia euroja Habbo Hotelissa. *Helsingin Sanomat,* March 24. <http://www.hs.fi/talous/artikkeli/13-vuotiaan+ruotsalaistyt%C3%B6n+kerrotaan+t%C3%B6rs%C3%A4nneen+tuhansia+euroja+Habbo+Hotelissa/1135235016370>.

Haanpää, L. (2007) *The Colour Green: A Structural Approach to the Environment-Consumption Nexus.* Publications of the Turku School of Economics, A-7:2007: Turku.

Hair, J. F. – Black, B. – Babin, B. – Anderson, R. E. – Tatham, R. L. (2006) *Multivariate Data Analysis* (6th ed.). Prentice Hall: Upper Saddle River, NJ.

Hebdige, D. (1979) *Subculture: The Meaning of Style*. Methuen: London.

Hietanen, H. – Oksanen, V. – Välimäki, M. (2007) *Community Created Content: Law, Business and Policy*. Turre Publishing: Helsinki.

Hietanen, H. (2008) *The Pursuit of Efficient Copyright Licensing — How Some Rights Reserved Attempts to Solve the Problems of All Rights Reserved*. Lappeenranta University of Technology: Lappeenranta. <http://urn.fi/URN:ISBN:978-952-214-721-9>.

Holeton, R. (ed.) (1998) *Composing Cyberspace: Identity, Community, and Knowledge in the Electronic Age*. McGraw-Hill: Boston.

Holkins, J. – Krahulik, M. (2004) *Penny Arcade! Green Blackboards (And Other Anomalies)*. <http://www.penny-arcade.com/comic/2004/03/19/>.

Huhh, J.-S. (2008) Culture and Business of PC Bangs in Korea. *Games and Culture*, Vol. 3, No: 1, 26-37.

Hur, N.-L. (2000) *Prayer and Play in Late Tokugawa Japan: Asakusa Sensoji and Edo Society*. Harvard University Asia Center: Cambridge, MA.

Hsieh, J. J. – Rai, A. – Keil, M. (2008) Understanding Digital Inequality: Comparing Continued Use Behavioral Models of the Socio-Economically Advantaged and Disadvantaged. *MIS Quarterly*, Vol. 31, No: 1, 97-126.

IPCC (2007) *IPCC Fourth Assessment Report: Climate Change 2007*. Intergovernmental Panel on Climate Change: Geneva. <http://www.ipcc.ch/>.

Ishii, K. – Ogasahara, M. (2007) Links between Real and Virtual Networks: A Comparative Study of Online Communities in Japan and Korea. *CyberPsychology & Behavior*, Vol. 10, No: 2, 252-257.

Jameson, F. (1991) *Postmodernism, Or, The Cultural Logic of Late Capitalism*. Duke University Press: Durham, NC.

Jankowich, A. (2005) Property and Democracy in Virtual Worlds. *Boston University Journal of Science & Technology Law*, Vol. 11, 173-192.

Jehle, G. – Reny, P. (2001) *Advanced Microeconomic Theory* (2nd ed.). Addison Wesley: Boston.

Johnson, M. – Sihvonen, T. (2009) On the Dark Side? Gothic Play and Performance in Virtual Worlds. *Journal of Virtual Worlds Research*, Vol. 1, No: 3. <http://journals.tdl.org/jvwr/article/view/368>.

Johnson, M. – Toiskallio, K. (2007) Community Modeling and Community-Centric Design. In: *Mobile Content Communities*, ed. by M. Turpeinen – K. Kuikkaniemi, 30-42. Helsinki Institute for Information Techology: Helsinki.

Jordan, T. (1999) *Cyberpower: The Culture and Politics of Cyberspace and the Internet*. Routledge: London.

Järvinen, A. (2006) Voiko peli tuoksua kulttuuriltaan? In: *Vaurauden lapset: Näkökulmia japanilaiseen ja suomalaiseen nykykulttuuriin*, ed. by K. Valaskivi, 157-182. Vastapaino: Tampere.

Kim, A. J. (2000) *Community Building on the Web: Secret Strategies for Successful Online Communities*. Addison Wesley: London.

Kimura, T. – Saito, Y. (2006) Internetin sosiokulttuuriset ulottuvuudet: Vertailussa Suomi, Japani ja Etelä-Korea", In: *Vaurauden lapset: Näkökulmia japanilaiseen ja suomalaiseen nykykulttuuriin*, ed. by K. Valaskivi, 85-110. Vastapaino: Tampere.

Kitchin, R. (1998) *Cyberspace: The World in the Wires*. Wiley: New York.

Kotler, P. (2003) *Marketing management* (11th ed.). Prentice Hall: New Jersey.

Kozinets, R. V. (1997) 'I want to believe': a netnography of the X-philes' subculture of consumption. *Advances in Consumer Research*, Vol. 25, 470-475.

Lash, S. – Lury, C. (2007) *Global Culture Industry*. Polity: Cambridge.

Lastowka, F. G. – Hunter, D. (2004) The Laws of the Virtual Worlds. *California Law Review*, Vol. 92, 1-73.

Leake, J. – Woods, R. (2009) Revealed: the environmental impact of Google searches. *Times Online*. <http://technology.timesonline.co.uk/tol/news/tech_and_web/article5489134.ece>.

Lehdonvirta, V. (2005) Real-Money Trade of Virtual Assets: Ten Different User Perceptions. In: *Proceedings of Digital Arts and Culture (DAC 2005)*, 52-58. IT University of Copenhagen: Copenhagen.

Lehdonvirta, V. (2007) *MMORPG RMT and sumptuary laws*. Virtual Economy Research Network. <http://virtual-economy.org/blog/mmorpg_rmt_and_sumptuary_laws>.

Lehdonvirta, V. – Lehtiniemi, T. (2008) Economics. In: *The Video Game Theory Reader 2*, ed. by B. Perron – M. J. Wolf, 344-346. Routledge: New York.

Lehtiniemi, T. (2008) *Macroeconomic indicators in a virtual economy*. Masters thesis. Helsinki: University of Helsinki. <https://oa.doria.fi/bitstream/handle/10024/37870/macroeco.pdf>.

Lehtiniemi, T. – Lehdonvirta, V. (2007) *How Big is the RMT Market Anyway?* Virtual Economy Research Network. <http://virtual-economy.org/blog/how_big_is_the_rmt_market_anyw>.

Leivonniemi, S. (2008) Netissä levinnyt kuluttajaliike toi ryysiksen Juttutupaan. *Helsingin Sanomat,* September 27. <http://www.hs.fi/tulosta/1135239785972>.

Lessig, L. (1999) *Code and Other Laws of Cyberspace*. Basic Books: New York.

Lessig, L. (2004) *Free Culture: How Big Media Uses Technology and the Law to Lock Down Culture and Control Creativity*. Penguin: New York.

Levy, S. (1984) *Hackers: Heroes of the Computer Revolution*. Anchor Press/Doubleday: New York.

Lin, H. (2008) Body, Space and Gendered Gaming Experiences: A Cultural Geography of Homes, Cybercafes and Dormitories. In: *Beyond Barbie and Mortal Kombat: New Perspectives on Gender and Gaming*, ed. by Y. B. Kafai – C. Heeter – J. Denner – J. Y. Sun, 54-67. The MIT Press: Cambridge, MA.

Maclaran, P. – Hogg, M. K. – Catterall, M. – Kozinets, R. V. (2004) Gender, Technologies and Computer-mediated Communications in Consumption-related Online Communities. In: *Elusive Consumption*, ed. by K. M. Ekström – H. Brembeck, 145-171. Berg: Oxford.

Malaby, T. M. (2007) Beyond Play: A New Approach to Games. *Games and Culture*, Vol. 2, No: 2, 95-113.

Markham, A. (1998) *Life Online*. Sage: New York.

Mauss, M. (1990) *The Gift: The Form and Reason for Exchange in Archaic Societies*. Norton: New York.

Miller, D. – Slater, D. (2000) *The Internet: an Ethnographic Approach*. Berg: Oxford.

Montlake, S. (2007) China's new shopping craze: 'Team buying'. *MSN Money*. <http://articles.moneycentral.msn.com/SavingandDebt/FindDealsOnline/ChinasNewShoppingCrazeTeamBuying.aspx>.

Montola, M. – Stenros, J. (2009) *Pervasive Games: Theory and Design.* Morgan Kaufmann Publishers: Boston.

Nakajima, T. – Lehdonvirta, V. – Tokunaga, E. – Kimura, H. (2008) Reflecting Human Behavior to Motivate Desirable Lifestyle. In: *Proceedings of the 7th ACM Conference on Designing Interactive Systems (DIS2008)*, ed. by G. Marsden – I. Ladeira – P. Kotzé, 405-414. ACM: New York.

Nash, J. – Schneyer, E. (2004) Virtual Economies: An In-Depth Look at the Virtual World of Final Fantasy XI: *Online*. <http://lgst.wharton.upenn.edu/hunterd/VirtualEconomies.pdf

Neitzel, B. (2007) Fluid Places: On Real, Virtual, and Fictive Spaces and Places in Digital Games. In: *Mobile Content Communities*, ed. by M. Turpeinen – K. Kuikkaniemi, 167-174. Helsinki Institute for Information Techology: Helsinki.

Nikunen, K. (2006) Animellista faniutta. In: *Vaurauden lapset: Näkökulmia japanilaiseen ja suomalaiseen nykykulttuuriin*, ed. by K. Valaskivi, 133-156. Vastapaino: Tampere.

Nisbett, R. E. (2004) *The Geography of Thought: How Asians and Westerners Think Differently… and Why*. Free Press: New York.

Nojima, M. (2007) Pricing Models and Motivations for MMO Play. In: *Proceedings of DiGRA 2007*, 672-681. University of Tokyo: Tokyo.

Nojima, M. (2008) 人はなぜ形のないものを買うのか　仮想世界のビジネスモデル *(Why do people buy immaterial goods: virtual world business models)*. NTT Publishing: Tokyo.

North, S. – Snyder, I. – Bulfin, S. (2008) Digital Tastes: Social class and young people's technology use. *Information, Communication & Society*, Vol. 11, No: 7, 895-911.

Ondrejka, C. (2004) *Escaping the Gilded Cage: User Created Content and Building the Metaverse*. <http://www.nyls.edu/pdfs/escapefinal .pdf>.

Packard, V. (1981) [1957] *The Hidden Persuaders* (2nd ed.). Penguin: Harmondsworth.

Pinckard, J. (2006) Is World of Warcraft the New Golf? *1UP*, February 8. <http://www.1up.com/do/newsStory?cId=3147826>.

Pine, B. J. – Gilmore, J. H. (1999) *The Experience Economy*. Harvard Business School Press: Boston, MA.

Plus Eight Star (2009) *Virtual goods in Asia: it's even more than you think! (25 times USA?)*. <http://www.plus8star.com/?p=196>.

Porter, D. (ed.) (1997) *Internet Culture*. Routledge: New York.

Porter, R. (1993) Consumption: disease of the consumer society? In *Consumption and the World of Goods*, ed. by J. Brewer – R. Porter, 58-81. Routledge: New York.

Quart, A. (2004) *Branded: the buying and selling of teenagers*. Perseus Books: Cambridge, MA.

Rantavuo, H. (2006) Kamera kännykässä: kuvien käyttö henkilökohtaisessa viestinnässä. In: *Vaurauden lapset: Näkökulmia japanilaiseen ja suomalaiseen nykykulttuuriin*, ed. by K. Valaskivi, 111-132. Vastapaino: Tampere.

Rheingold, H. (2000) *The Virtual Community: Homesteading on the Electronic Frontier* (2nd ed.). The MIT Press: Cambridge, MA.

Ritzer, George (2001) *Explorations in the Sociology of Consumption: Fast Food, Credit Cards and Casinos*. Sage: London.

Räsänen, P. (2004) Homo oeconomicus ja homo sociologicus yksilön toiminnan jäsennystapoina. In *Kiistoja ja dilemmoja – Sosiologisen keskustelun vastakkainasetteluja*, ed. by P. Räsänen – H. Ruonavaara – I. Kantola, 35-53. Kirja-Aurora: Turku.

Räsänen, P. (2006) Information Society for All? Structural Characteristics of Internet Use in 15 European Countries. *European Societies*, Vol. 8, No: 1, 59-81.

Räsänen, P. (2008) The aftermath of the ICT revolution? Media and communication technology preferences in Finland in 1999 and 2004. *New Media and Society*, Vol. 10, No: 2, 225-245.

Scoble, R. – Israel, S. (2006) *Naked Conversations: How Blogs are Changing the Way Businesses Talk with Customers*. Wiley & Sons: New York.

Secara, M. (2001) *Articles for the execution of the Statutes of Apparel, and for the reformation of the outrageous excess thereof grown of late time within the realm, devised upon the Queen's Majesty's commandment, by advice of her Council, 6 May 1562*. <http://elizabethan.org/sumptuary/ruffs-hose-swords.html>.

Shapiro, C. – Varian, H. R. (1999) *Information Rules: A Strategic Guide to the Network Economy*. Harvard Business School Press: Boston, MA.

Shiraishi, M. – Washio, Y. – Takayama, C. – Lehdonvirta, V. – Kimura, H. – Nakajima, T. (2009) Using individual, social and economic persuasion techniques to reduce CO_2 emissions in a family setting.

In: *Proceedings of the 4th International Conference on Persuasive Technology*, ed. by S. Chatterjee – P. Dev, 130-138. ACM: New York.

Simmel, G. (1957)[1904] Fashion. *American Journal of Sociology*, Vol. 62, No: 6, 541-548.

Slater, D. (1997) *Consumer Culture & Modernity*. Polity: Cambridge.

Smith, A. (2009)[1776] *An Inquiry into the Nature and Causes of the Wealth of Nations*. Project Gutenberg. <http://www.gutenberg.org/files/3300/3300-h/3300-h.htm>.

Statistics Finland (2009) *Internetin käytön muutokset. Tieto- ja viestintätekniikan käyttö 2008 –tutkimuksen tuloksia*. Statistics Finland: Helsinki.

Steinkuehler, C. – Williams, D. (2006) Where Everybody Knows Your (Screen) Name: Online Games as 'Third Places'. *Journal of Computer-Mediated Communication*, Vol. 11, No: 4. <http://jcmc.indiana.edu/vol11/issue4/steinkuehler.html>.

Strauss, A. (1978) A Social World Perspective. In *Studies in Symbolic Interaction*, ed. by N. K. Denzin, 119-128. JAI Press: Greenwich, CT.

Sulake (2008) *Global Habbo Youth Survey.* Sulake Corporation: Helsinki.

Surowiecki, J. (2005) *The Wisdom of Crowds*. Anchor Books: New York.

Tapscott, D. – Williams, A. (2006) *Wikinomics: How Mass Collaboration Changes Everything*. Portfolio: New York.

Taylor, T. L. (2006) *Play Between Worlds: Exploring Online Game Culture.* The MIT Press: Cambridge, MA.

The Climate Group (2008) *SMART 2020: Enabling the low carbon economy in the information age*. <http://www.smart2020.org/>.

Therborn, G. (1991) Cultural Belonging, Structural Location and Human Action. *Acta Sociologica*, Vol. 34, No: 3, 177-191.

Turkle, S. (1995) *Life on the Screen: Identity in the Age of Internet*. Simon and Schuster: New York.

Tönnies, F. (2001)[1912] *Community and Civil Society*. Cambridge University Press: Cambridge.

Töttö, P. (2004) *Syvällistä ja pinnallista: teoria, empiria ja kausaalisuus sosiaalitutkimuksessa*. Vastapaino: Tampere.

Underhill, P. (2000) *Why We Buy: The Science of Shopping*. Touchstone: New York.

Veblen, T. (1997)[1899] *The Theory of the Leisure Class.* Project Gutenberg. <http://www.gutenberg.org/etext/833>.

Whang, S.-M. – Chang, G. (2004) Lifestyles of Virtual World Residents: Living in the On-Line Game "Lineage". *CyberPsychology & Behavior*, Vol. 7, No: 5, 592-600.

Wilk, R. (2004) Morals and Metaphors: The Meaning of Consumption. In: *Elusive Consumption*, ed. by K. M. Ekström – H. Brembeck, 11-26. Berg: Oxford.

Williams, D. – Ducheneaut, N. – Xiong, L. – Zhang, Y. – Yee, N. – Nickell, E. (2006) From Tree Houses to Barracks: The Social Life of Guilds in World of Warcraft. *Games and Culture*, Vol. 1, No: 4, 338-361.

Williams, D. – Yee, N. – Caplan, S. (2008) Who plays, how much, and why? Debunking the stereotypical gamer profile. *Journal of Computer-Mediated Communication*, Vol. 13, No: 4, 993-1018.

Wilska, T.-A. (2003) Mobile Phone Use as Part of Young People's Consumption Styles. *Journal of Consumer Policy*, Vol. 26, No: 3, 441-63.

Yee, N. (2005) Buying gold. *The Daedalus Project*. <http://www.nickyee.com/daedalus/archives/001469.php>.

Yee, N. (2006a) The Labor of Fun. *Games and Culture*, Vol. 1, No: 1, 68-71.

Yee, N. (2006b) The Demographics, Motivations and Derived Experiences of Users of Massively-Multiuser Online Graphical Environments. *Presence: Teleoperators and Virtual Environments*, Vol. 15, No: 3, 309-329.

Yee, N. (2007) The Demographics of Game Choices. *The Daedalus Project*. <http://www.nickyee.com/daedalus/archives/001558.php>.

Yoon, U. (2007) Selective bombing of RMT in Korea. *Terra Nova*. <http://terranova.blogs.com/terra_nova/2007/05/s_koreas_bancan.html>.

Yoshimi, S. (2006) Consuming America, Producing Japan. In *The Ambivalent Consumer: Questioning Consumption in East Asia and the West*, ed. by S. Garon – P. L. Maclachlan, 63-84. Cornell University Press: London.

Zelizer, V. (2002a) Enter Culture. In *The New Economic Sociology: Developments in an Emerging Field*, ed. by M.F. Guillén – R. Collins – P. England – M. Meyer, 101-125. Russel Sage Foundation: New York.

Zelizer, V. (2002b) Intimate Transactions. In *The New Economic Sociology: Developments in an Emerging Field*, ed. by M.F. Guillén – R. Collins – P. England – M. Meyer, 274-300. Russel Sage Foundation: New York.

ARTICLE ONE

Lehdonvirta, Vili

Virtual Worlds Don’t Exist

Unpublished manuscript (in review)

Virtual worlds don’t exist

Vili Lehdonvirta

I argue that much of MMO-related scholarship is implicitly based on a dichotomous “real world vs. virtual world” model. The roots of this dichotomy can be traced to the “magic circle” concept in game studies and the “cyberspace separatism” of early Internet thought. The model manifests on a number of dimensions, including space, identity, social relationships, economy and law. I show a number of problems in the use of this model in social science research and propose an alternative perspective based on Anselm Strauss’s social worlds (Strauss, 1978). The alternative perspective unbundles users from technological platforms and reembeds MMO-based social worlds in society, alongside other social worlds such as family and workplace.

Keywords: massively multiplayer online games, social world perspective, virtual economy, identity, research methods

1 INTRODUCTION

[T]his book is not about analogies. We won't tell you that devising business strategies is like restoring an ecosystem, fighting a war, or making love. Business strategy is business strategy and though analogies can sometimes be helpful, they can also be misleading. Our view is that analogies can be an effective way to communicate strategies, but they are a very dangerous way to analyze strategies.

Shapiro & Varian, *Information rules*

In academic literature, certain online games and services are referred to as "virtual worlds" and compared to cities (Taylor, 2006, p. 21), countries (Castronova, 2006b) and most frequently, even the planet Earth (e.g. Castronova, 2002; Castronova, 2006a; Nash & Schneyer, 2004, Lastowka & Hunter, 2004). Such language is intended to communicate the scale and complexity of these systems and the activities that take place within them. But these compelling analogies also influence the conceptual framework from which researchers draw their research design. In this article, I attempt to show that the term "virtual world" invites incorrect assumptions about the entity it describes. I will use the less popular term *MMO* (massively-multiplayer online) to refer to these games and environments instead.

By any measure, academic interest in MMOs outside the sphere of game studies is growing. According to a "virtual law" bibliography put together by Greg Lastowka (2008), three times as many articles were published in 2007 as were in 2006. To guide and focus research efforts related to MMOs, several research agendas have been proposed. For example, Caroline Bradley and A. Michael Froomkin suggest using MMOs to conduct legal experiments that would be too costly to carry out "in the real world" (Bradley & Froomkin, 2004, p. 103). Edward Castronova argues that MMOs are the "social science equivalent of a petri dish, or a supercollider" (Castronova, 2006a, p. 170). Robert Bloomfield advocates the development of a special MMO for the purpose of education and research in business disciplines (Bloomfield, 2007). Most recently, David Bray and Benn Konsynski attempt to outline opportunities for researching "intra-world and inter-world practice and behavior" from several disciplinary perspectives (Bray & Konsynski, 2007).

The problem with these agendas and various other MMO-related studies is that they are based on a dichotomous "real–virtual" perspective to MMOs,

which I describe in detail in the second part of this paper. In this perspective, MMOs are painted as separate *worlds*, located outside "the real world", in many ways *mirroring* it like a synthetic double, but carrying on *independently* like a distant continent. Marketers and mainstream media are fond of this way of viewing MMOs, as it evokes powerful images of parallel worlds from science fiction turned into reality. For researchers, however, it is a treacherous fantasy. In her extensive study on the massively multiplayer online role-playing game *EverQuest*, T.L. Taylor concludes that "To imagine we can segregate these things – game and non-game, […] virtual and real – not only misunderstands our relationship with technology, but our relationship with culture" (Taylor, 2006, p. 153). The danger is that social scientists, legal scholars and information systems researchers now taking interest in the area adopt an evocative but inaccurate conceptualisation of MMOs that leads them to build their research on false assumptions.

Stripped of all analogies, MMOs are technological artefacts, computer-mediated environments with features such as virtual goods. They have many users, and interactions between the users and the environments give rise to social orders, institutions and other fascinating phenomena, which are the main object of interest for social scientists. However, my argument is that these phenomena remain embedded in society, as opposed to mirroring it or existing on some different plane of reality. In the third part of this paper, I review well-known indications of this embeddedness and present a number of new ones. Furthermore, many other online as well as offline arenas beget similar orders and institutions, which leads us to question why MMOs should be treated exceptionally. In the fourth part, I suggest that instead of treating MMOs as "virtual worlds" and contrasting them with "the real world", social scientists should place MMOs side-by-side with spheres of activity such as work or golf, approaching them using the same conceptual tools. The interactionist concept of *social worlds* as advocated by Anselm Strauss (1978) is introduced in some detail and found particularly convenient for conceptualising the relationship between MMOs and other spheres of activity on a general level. In the final part of this paper, I discuss the implications of this social world perspective for research design, and finish with a short critique of the monolithic view of "real life" contained in several MMO-related studies.

In summary, my goal is not to argue that virtual worlds are similar to or different from the real world: I argue against the possibility of even making such statements without first explaining what is meant by "a virtual world" and "the real world".

2 VIRTUAL WORLDS VS. THE REAL WORLD

Virtual worlds are now a reality. Virtual worlds allow everyone to create a digital character representing themselves and interact with other computer-generated individuals, landscapes, virtually-run global businesses, and in-world institutions in real-time. Fascinatingly, both endogenously produced economies and social orders are emerging in these virtual worlds. Political candidates are campaigning in virtual worlds, while some sales of virtual assets are producing demand in the real world for equivalent items.

Virtual Worlds and New Realities in Commerce, Politics, and Society
Conference announcement, December 2007

Most academic discourse concerning MMOs contains an implied dichotomy: *virtual world* versus the *real world*. This particular way of conceptualising the situation can be seen as heritage from two earlier traditions: games and the Internet. In Internet discourse, use of terms such as "IRL" and "cyberspace" illustrates thinking where network-mediated communication is conceptualised as activity and space distinct and separate from the affairs of the "meatspace". A very explicit and influential expression of this thinking is John Perry Barlow's *A Declaration of the Independence of Cyberspace* (Barlow, 1996). The essence of Barlow's manifesto is that a new world is emerging on the Internet, and that it is quite distinct from the old one. The word "world" is repeated in the text thirteen times.

In computer game parlance, developers and gamers have of course long been using the term "world" when discussing games such as *Civilization*, but in this use it is more of a label than a statement regarding one's conceptualisation of reality. The conceptual dichotomy I referring to can be found among players of role-playing games, who use the terms "in-game" and "out-of-game" to draw a line between "the game" and "the rest of the world". In more scholarly circles, this boundary is known as the "magic circle". The concept was introduced into digital game studies by Katie Salen and Eric Zimmerman (2004), who attribute the idea to Dutch historian Johan Huizinga (1872-1945). Huizinga defined play/game as follows:

> [A] free activity standing quite consciously outside "ordinary" life as being "not serious", but at the same time absorbing the player intensely

> and utterly. It is an activity connected with no material interest, and no profit can be gained by it. It proceeds within its own proper boundaries of time and space according to fixed rules and in an orderly manner. It promotes the formation of social groupings which tend to surround themselves with secrecy and to stress their difference from the common world by disguise or other means. (Huizinga, 2000, p. 13)

The "magic circle" view of games has become quite influential in contemporary game studies. According to Lin and Sun (2007), the magic circle view entails treating the game as "a world independent of the everyday real world." The best play experience is achieved when the game is "insulated from or opposite to the utilitarian characteristics of the physical world" (Lin & Sun, 2007, p. 336). Many game scholars have since joined in the discussion to argue in support of or against the view (e.g. Copier, 2005). Malaby suggests that this setting-apart of games is actually "the largest roadblock to understanding what is powerful about them" (2007, p. 96). We return to this idea at the end of the paper.

Two influential authors writing on MMOs outside game studies who explicitly invoke the magic circle concept are economist Edward Castronova (2004) and legal scholar Greg Lastowka (2007). Lastowka examines the question of how law should deal with new MMORPG-related legal issues, such as real-money trading of virtual assets. Lastowka's main argument is that play does not "conform to the reason and logic of 'ordinary life'", and that law must consequently treat game activities differently from "ordinary life".

> When a sumo wrestler enters the "magic circle" of the *dohyo* or the professional boxer enters the space and time of the bout, the rules of what social behaviors are desirable and forbidden are suddenly, radically changed. Violent and powerful physical attacks against another person, which are normally forbidden by law and social norms, become the obligatory mode of conduct. (Lastowka, 2007, p. 8)

Inspired by Huizinga's ideas, Lastowka makes a clear distinction between MMOs and the outside world. "[W]hile MMORPGs have some things in common with weblogs and social networks, they are also very different from other forms of online activity", since "MMORPGs are *games*" (Lastowka, 2007, p. 3). According to Lastowka, courts and lawyers already understand the special status of the golf course and the baseball field, and they should now extend the same understanding to MMORPGs. Courts should set aside conventional rules in favour of the "rules of play".

Castronova, one of the most cited authors in MMO-related scholarship, argues in *The Right to Play* (Castronova, 2004) that all humans have a fundamental need to play. To define what qualifies as play, he refers to Huizinga:

> For Huizinga, nothing can be a game if it involves moral consequence […] if some consequence really does matter in the end, the game is over. In fact, the only act of moral consequence that can happen within a game is the act of ending the game, denying its as-if character, spoiling the fantasy [...] (Castronova, 2004, pp. 188-189)

The urge to play is "buried very deeply in our psyches, well below rational thought and somewhat above the urge to eat and have sex", and if the need goes unsatisfied, terrible things happen (Castronova, 2004, pp. 202-203). Virtual worlds, Castronova argues, are a great place to satisfy this need in a safe way. "They are worlds much like our world, and humans are beginning to spend many hours in them, playing games" (Castronova, 2004, p. 189). The only problem is that the real world is "seeping" into these worlds. This makes acts of "play" meaningful in the "real world", spoiling the game and depriving humans of their right to play. Castronova concludes that impermeability of the magic circle should therefore be protected by law.

It is also common for works that do not explicitly invoke the magic circle to implicitly adopt a dichotomous perspective that resembles it. Richard Bartle frequently argues against outside interference in virtual worlds, particularly by regulators (e.g. Bartle, 2006). Castronova, in a later article titled *On the Research Value of Large Games* (Castronova, 2006a), sets "seeping reality" aside and claims that virtual worlds are comparable to entire *societies*:

> Until now, it has not been possible to take all of society as a research object [...] Thus, although we might believe theoretically, historically, and ethnographically that society operates a certain way, and we might have small-scale experiments that support our beliefs, it has generally not been possible to observe whole societies under controlled conditions. Now however, with the advent of synthetic world technology, it is indeed possible to replicate entire societies and allow them to operate in parallel. (Castronova, 2006a, p. 163)

As a demonstration of this research method, Castronova observes that players in *EverQuest* and *Dark Age of Camelot* end up converging in certain meeting places even though no such place has been agreed on beforehand; a result predicted by game theory. For Castronova, this "indicates that the theory

of coordination games does indeed operate on a large-scale level in human societies" (Castronova, 2006a, p. 179). Castronova thus positions virtual worlds as kind of computerised doppelgängers of Earthly societies.

The doppelgänger perspective also permeates a more recent article on multi-disciplinary research opportunities in virtual worlds by Bray and Konsynski (2007). According to Bray and Konsynski (2007, p. 24), "Virtual worlds allow everyone to create a digital character and interact with other computer-generated individuals, landscapes, and virtually-run businesses. Both endogenously produced economies and social orders are emerging in these virtual worlds." They suggest that virtual worlds are hosts to a great variety of virtual versions of real-world phenomena: virtual business, virtual cities, virtual inhabitants, virtual revolution, virtual citizens and virtual laws, to name a few. The word "virtual" is repeated 245 times in the 9-page article. On the other hand, Bray and Konsynski are open to the possibility of interaction between these parallel worlds (*ibid.*, p. 17), in contrast to Castronova's emphasis on closedness and Galapagos-style isolation.

Bray and Konsynski's work as well as the other discussions above suggest that the virtual world–real world dichotomy found in MMO-related scholarship can be broken down to a number of dimensions. For instance, one could identify the following distinct dimensions:

Virtual space vs. real space
Population of a virtual world vs. real-world population
Virtual identity vs. real identity
Relationships in a virtual world vs. relationships in the real world
Virtual institutions vs. real-world institutions
Virtual economy vs. real economy
Virtual goods vs. real goods
Virtual law and politics vs. real law and politics

In the next part, I will examine each of these dimensions in more detail, reviewing well-known difficulties with viewing the situation as a real–virtual dichotomy, as well as pointing out a few new ones.

3 CHALLENGES TO THE DICHOTOMOUS MODEL

3.1 Virtual space vs. real space

Perhaps the most concrete dimension of the real–virtual dichotomy is space. MMOs are designed to simulate geometrical space in one way or the other: *Habbo* consists of rooms and hallways, *World of Warcraft* (‘*WoW*’) servers contain seas and continents, while *EVE Online* (‘*EVE*’) carries a small galaxy of stars. While users must necessarily remain on Earth, all their actions are directed towards these simulated spaces. Thus users and scholars alike have come accept the simulations as tantamount to actual space for many intents and purposes, with the necessary caveat of them being computer mediated.

But even at the core of virtual space, real space cannot be ignored. Guilds in *WoW* and corporations in *EVE* recruit members based on the continent and time zone in which they reside in. For *WoW* raiding guilds it is important that members can be online simultaneously for extended periods of time. For *EVE* alliances engaged in war over territory, it is vital that members are available to keep guard at all hours. It is common for corporations to advertise that new members are sought in e.g. Western Europe or U.S East Coast. In battles over space stations, warring parties try to cause engagements at times that are inconvenient for the opponent (Combs, 2008).

A more fundamental question is where does virtual space end and real world begin. Besides the plains and planets of *WoW* and *EVE,* players make their presence known on discussion forums, chats, voice communication servers and video sharing sites. A prominent example of this is the propaganda war between alliances in *EVE*, waged everywhere from forums to *YouTube*. Johnson and Toiskallio (2005) describe how *Habbo* spills over to user-maintained fan sites and fanzines. If researchers limit their observations to the MMO server only, they certainly miss a lot of the space where the action is played out. The notion of “virtual space” is useful, but also ambiguous and multi-faceted rather than a monolithic counterpart to physical space.

3.2 Virtual population vs. real-world population

The population of a virtual world is an important piece of information if one wants to compare real and virtual spaces, calculate *per capita* macroeconomic indicators, or generalise from samples to whole virtual populations. However, the population of a virtual world is a much more ambiguous concept than the population of a country. Many attempts have been made to define it, but none are conclusive.

Castronova (2006b) equates the population of a virtual world with the average number of avatars logged in concurrently. He also introduces the concept of a "resident": a person who agrees with the statement "I live in Norrath [the name of the fictional world of *EverQuest*] but I travel outside of it regularly" (Castronova, 2006b). Equating population with concurrent users (as opposed to e.g. total users) results in small population figures, which yield large *per capita* indicators. Castronova found that Norrath has a "GNP per capita somewhere between that of Russia and Bulgaria" (2006b). This is a questionable comparison, since sleeping people are not deducted from real population figures. Later Castronova developed an alternative approach, based on the idea that when people spend a lot of time in a virtual space, their impact on the real one is so diminished as to become negligible (2002). How to measure this and where to draw the line is difficult, however. Eventually he simply equated the population of a server with the total number of avatars; not just concurrent users or those who log in frequently, but all (2006a).

The latter approach is the most commonly used one elsewhere as well. Bray and Konsynski state that *Second Life* has 7 200 000 "participants" (Bray & Konsynski, 2007, p. 18), a figure probably based on the "Second Life residents" figure published by *Second Life*'s operator Linden Research. Journalist Clay Shirky (2006) has drawn attention to the fact that the "residents" figure is highly misleading. It measures the total number of accounts created, and since creating an account is free, it includes multiple accounts by one individual, accounts that were created and never used, and accounts that are no longer used. Thus Bray and Konsynski's "participants" include, among others, people who tried the MMO once and never logged in again.[1] There have been attempts to create standardised active user statistics to facilitate comparisons between MMOs, but none have seen much adoption. One difficulty is that the amount of play that qualifies as "active participation" varies between services.

3.3 Virtual identity vs. real identity

Individual identity is a frequently cited dimension of the real–virtual dichotomy. According to Castronova (2006b), virtual worlds "give you a freedom that no one has on Earth: the freedom to be whomever you want to be." The underlying idea is that people have two identities, one for the real world and one for the virtual world. In practice, however, MMO users commonly use the MMO's communication features to discuss school, work, family issues, hobbies, recent events and TV programmes. Even when the discussion pertains to the MMO, the language the participants use and the values and attitudes their discourse reveals reflect their real-world identity for all but the best role-players. Castronova suggests that in the future this issue might perhaps be solved by a very advanced AI translator:

> The sentiment of "Hey man there's this big-a$$ dragon right behind you, get moving" must be understood and then re-rendered as "Hail, friend! The fire-breathing beast approacheth! Avaunt!" (Castronova, 2005, p. 90).

This idea is flawed, however, because while a translator may be able change words, it cannot change intention and attitudes behind those words; attitudes that are very much 21st century and not part of a medieval identity. Not that users would necessarily perceive this as a problem. In *EVE Online*, a MMORPG set in the deep space of far future, where all memory of Earth is lost, some players choose to prominently display a national flag, presumably corresponding to their real-world nationality, on their avatar's profile. The flag is drawn using coloured character blocks and is sometimes accompanied by patriotic mottos. National identity is a simple basis on which to build group identity, which can easily be observed in many MMOs. Influence also flows in the other direction: identity-forming experiences in an online game can shape identity elsewhere (Fung, 2006). Celia Pearce and Artemesia (2006) describe how the once-members of a closed down MMO called *Uru* adopted a strong "Uru diaspora" identity that persisted as they moved on to new MMOs, forming "ethnic Uru communities".

An opposite of the "schizophrenic" real identity vs. virtual identity view is the "mirror" identity view: the notion that an avatar is the virtual reflection of a person, the person's virtual body through which they express their identity in the virtual world. Many observations can be summoned to support this notion. For example, Yee (2007) reports that players' age and gender are correlated with certain MMORPG character creation choices. In *Second Life*, it is not uncommon for users to attempt to make their avatar literally a digital double

of their body. Still, this is not the complete picture. Users frequently have more than one avatar, and some users share avatars between each other (Ducheneaut & Moore, 2004; Taylor, 2006, p. 47). Users involved in the "spy metagame" in *EVE Online* maintain avatars that are ostensibly in conflict with each other (Combs, 2008). In *Habbo*, I observed some users maintaining several avatars and discussion board handles, managing their façade towards different peer groups by selectively revealing which avatars and handles they are hiding behind. Neither the schizophrenic nor the mirror view alone afford a complete picture of identity in MMOs.

3.4 Relationships in a virtual world vs. relationships in the real world

At least since Rheingold's *Virtual Community* (Rheingold, 2000), it has been widely accepted that friendships mediated by computer networks can be as deep and meaningful as those acted out face-to-face. But it is equally well recognised that distinguishing between "real world friends" and "virtual world friends" can be difficult. Even Castronova (2005) questions whether it is worthwhile to distinguish between "synthetic world" interactions and other interactions by the same individuals.

Some relationships are carried from offline social circles into MMOs and vice versa. Taylor (2006, pp. 52-55) describes family members playing *EverQuest* together. Pinckard (2006) describes how business acquaintances gather in *WoW* to enjoy their free time, discuss business matters and build networks, much in the same way as some businessmen do on golf courses. In a survey of *Ultima Online* players, 34% of the respondents reported knowing a quarter or more of their fellow players offline (Kolo & Baur, 2004). Many authors discuss gaming cafés and "PC bangs" where players and guilds interact with each other face-to-face while simultaneously participating in an game (e.g., Huhh, 2007; Lin, Sun & Tinn, 2003). Guilds and MMO publishers also organise player gatherings.

One reason why participants expand MMO relationships to the offline world is to increase trust and to reduce risks associated with cooperating with strangers (Lin, Sun & Tinn, 2003; Taylor, 2006, pp. 46-47). For example, *EVE* is a high-stakes game where allies may want to get quite intimate before relying on each other extensively. Such relationships are not easily described as either real or virtual. Another class of relationships that can expand outside the MMO are antagonistic relations: as mentioned above, *EVE*-related propaganda and intimidation directed towards opponents is channeled through multiple arenas.

3.5 Virtual institutions vs. real-world institutions

According to Castronova (2004), an important benefit of MMOs is that they allow players to engage in behaviour that would not be possible for them outside the game. This inability may be due to physical limitations, but also to the baggage of established norms and institutions that regulate our everyday lives. Castronova's ideal virtual getaway is an MMO where real-world structures do not reach and virtual behaviour is instead regulated by a new set of virtual norms and institutions. He regrets that in practice, this ideal is seldom reached: for example, secondary markets allow wealthy individuals to purchase powerful game characters. Castronova describes this situation as real-world structures seeping into the virtual.

One notable instance of this seep can be found in the relationship between gender and MMO participation. For example, Holin Lin (2008) describes a number of ways in which real-world institutions and norms regulate Taiwanese female gamers' playing behaviour, from differential parental supervision at home to group dynamics of male and female gamer communities in cybercafés. Similarly, it can be speculated that such a mundane factor as whether the family computer is placed in the living room or in the bedroom strongly influences a user's likelihood of visiting adult content in *Second Life*, due to norms regarding such content.

As for the presumed new virtual norms and institutions, an essential virtual world institution is the MMORPG guild, which regulates the behaviour of its members (and others, especially those wishing to become members) in many ways (e.g. Williams et al, 2006). But while a typical guild is a group of players playing the same game together, guilds also exist independently of any particular game, moving from MMO to MMO or participating in several simultaneously. According to CCP Chief China Representative Horace Xiong (personal communication, 16 May 2007), Chinese "trans-game megaguilds" can have up to a hundred thousand members. Their feuds and alliances transcend any single game, turning individual MMOs into parts of a larger metagame. According to Xiong, this metagame may even involve economic interests, such as gold farming market shares and deals with MMO operators. In summary, while it is clear that "real-world" norms and institutions will always have influence on MMO behaviour, it is also worth noting that institutions that are ostensibly virtual can have suprising real-world dimensions.

3.6 Virtual economy vs. real economy

Virtual economies have been at the heart of the debate concerning the relationship between virtual worlds and the real world from the very beginning. Real-money trade of virtual property (RMT) is said to open a door for real-world rationalism and economic inequalities to seep into the virtual world (Castronova, 2004). On the other hand, a common retort is that not having RMT markets advantages those players who have more real-world time on their hands (Lehdonvirta, 2005). In any case, while RMT started as clandestine rule-breaking player-to-player activity, selling virtual goods to users has now become a major revenue model for MMO operators (Lehdonvirta, 2009; Lin & Sun, 2007).

Whatever one thinks of the fairness of RMT, it can be argued that even if it did not exist, virtual economies would still not be isolated from the patterns of the "real economy". Nash and Schneyer (2004) describe a situation where the release of an existing MMO to a new market created an influx of new players, which translated to a sudden rise in the number of low-level avatars, which in turn had a significant impact on the game's internal economy in the form of supply and demand shocks. Nash and Schneyer also observed that the prices of certain goods oscillated as a function of the time of day, because Japanese players have different demand characteristics compared to North American players. Another situation where the "real world" penetrates into virtual economies is when operators conduct game balancing or "nerfing", which can dramatically affect the in-game value of virtual goods.

The objects being traded on the marketplaces of virtual economies are variously known as virtual property, virtual assets, virtual items or virtual goods. Such language tends to imply that the objects are somehow "virtual versions" or "simulations" of some actual, real, physical objects. However, there are many virtual assets that do not have any "physical" counterpart. Even those that have an intuitive counterpart (e.g., clothes) can have uses and attributes that are completely different from the physical object (Lehdonvirta, 2009). Thus it is more accurate to see virtual goods as a new independent category of goods: goods that are sometimes "inspired" by certain commonplace objects, but not "virtual versions" of them.

3.7 Virtual law and politics vs. real-world law and politics

In the previous part of this paper, I summarised Lastowka's (2007) fairly convincing argument that virtual worlds should be treated exceptionally by

courts, because they are play spaces. Joshua Fairfield shows that this exceptionalist argument is not tenable:

> At first blush, the magic circle seems to apply. The action took place in a "virtual," and not a "real" world, and so legal liability should not follow. But upon careful examination, the distinction between "real" and "virtual" world fails. When a player enters a world in which player vs. player conflict is enabled, she *consents* to contact. (Fairfield, 2008, p. 18; emphasis added)

Fairfield's point is that implied consent and community standards are (or should be) taken into account *always* when courts apply law; not just in the case of sports and games like sumo and *WoW*, but in the case of every industry and pursuit. Thus, while Fairfield agrees with Lastowka in that "rules of play" must be taken seriously by courts, he denies that there is anything out of ordinary or "virtual" about this. One complication, however, is that different users have different ideas of what constitutes legitimate play in an MMO (Lehdonvirta, 2005).

As for virtual politics, MMO institutions such as guilds have given rise to fascinating governance issues and power struggles, which have inspired some scholars to go as far as to point to predictions of "social order independent of, and in several ways transcending, real-world governments" as well as "the waning importance of real-world governments" (Bray & Konsynski, 2007, p. 20). But the perspective afforded by Fairfield (2008) shows that at least for now, virtual world politics are strictly subordinate to real-world politics: they create rules of play that are interpreted by real-world judiciaries. In national politics, game publishing companies have for a long time organised into industry associations to lobby the lawmakers. According to Yoon (2005), Korean online game players have founded corresponding advocacy associations to defend players' interests. This suggests that in some aspects, the Korean gaming world is shaped by corporatist bargaining, which interestingly involves a similar three-party structure as the negotiations between trade associations, labour unions and the government in social democracies.

4 A SOCIAL WORLD PERSPECTIVE

Summarising the above discussions, we find that any study that chooses to view an MMO as a world, a virtual one, standing apart from "the real world", must take into account the following caveats in that model:

> the space the virtual world occupies is not clearly distinguishable;
> the population of the virtual world is ambiguous;
> its inhabitants' identities cannot be equated with avatars;
> social relationships are not bounded by its limits;
> outside norms and institutions regulate behaviour within it;
> its economy is influenced by shifts in the real economy; and
> its law and politics are shaped by outside processes.

Clearly, the notion of a virtual world begins to seem strained: a caveat can be found in almost every aspect of the concept. So far, the typical strategy for authors (myself included) for dealing with this difficulty has been to treat the caveats as "links" or "interaction" between the real world and the virtual world. This strategy attempts to address the issues whilst still clinging on to the dichotomous model that distinguishes between real and virtual. A few exceptions do not invalidate a model, but as the review above shows, the exceptions are beginning to pile up to such an extent that it is becoming difficult for a researcher to keep track of them. It is as if the dichotomous model did not fit together with empirical reality very well. Are there better ways to conceptualise MMO participation?

Some common themes emerge in the above discussions on the shortcomings of the dichotomous model. One is the relationship between people and space. The concept of a virtual world bundles together an MMO server and a set of social groups and institutions, expecting that their boundaries coincide and line up so perfectly that they can be subsumed into a single socio-technical entity, a society and its environment, a *world*. As the examples in the previous section illustrate, these boundaries do not necessarily line up at all. The social groupings and subcultures of an MMO frequently extend beyond the boundaries of the server to other servers, forums, platforms and physical spaces.

Another theme is the relationship between MMO users and other social groups and institutions. Families, business circles and gamer communities

intersect with the MMO user base, and the MMO user base is crisscrossed by larger entities such as megaguilds, nationalities and movements in popular culture. Exactly who counts as an inhabitant of a virtual world is not clear. There is a need to conceptualise the user base somehow, but the "one server, one people" model is slightly naive. Furthermore, in the dichtomous model, the operator of the MMO often ends up being conceptualised as a profit-making company serving its customers on one hand, and some kind of suprememe government or god on the other hand. This is an awkward starting point for analysis.

The first step towards a better model is to uncouple the technological platform from the user groups and institutions. This means stepping back and re-evaluating the relevant boundaries of the phenomenon under scrutiny. Do the boundaries of an entire computer-mediated "society" really coincide with the edges of an *EverQuest* server, as suggested by Castronova (2006a)? Or should we also look at, for instance, guild servers and forum discussions as parallel modes of the same social world? The point is not to give up on boundaries altogether and let research lose its focus, but to avoid drawing artificial boundaries based on technological distinctions alone.

The second step is to conceptually reembed the MMO in the rest of society, from which it got detached when rhetoric turned it into a world of its own. Discussions above place MMO user groups alongside social groups like golf circles and gamer communities. Indeed, scholars and marketers frequently refer to the user base of an MMO as "a community", recalling Rheingold's (2000) notion of a virtual community. This is an ill-fitting term for the user base, however. Rheingold's virtual community as well as the classical sociological notion of community are characterised by familiarity, unity and even intimacy. A group of million or more individuals who happened to buy the same box or create an account on the same website will clearly not share those characteristics. An MMO server can act as an arena where communities gather, but some other concept must be used for theorising the larger user base.

To find a more fitting abstraction, I suggest looking at sociologist Anselm Strauss's (1978) *social world perspective*. Strauss was contributing to an interactionist stream of thought that had historically focused on either macro-level group encounters, e.g. those involving ethnic, racial and nationalistic groups, or the enormous proliferation of micro-level social groups which are not necessarily clearly boundaried or organised. His aim was to unify these approaches in a perspective that is holistic yet captures the fluidity of the social reality.

According to Strauss, social worlds are "universes of discourse" (Strauss, 1978, p. 121), the boundaries of which are set "neither by territory nor formal

membership but by the limits of effective *communication*" (Strauss, 1978, p. 199). In the social world perspective, social reality as a whole is seen as consisting of numerous social worlds of varying size which overlap, intersect and segment into subworlds. A typical individual belongs into several: e.g. their family, workplace, profession, hobby, religious community, drinking buddies. Worlds can be international or local, emergent or established, public or hidden, hierarchical or anarchic. The boundaries of the social worlds and the authenticity of one's membership and activities are under constant debate and negotiation (Strauss, 1978, p. 123).

Though an MMO involves discourses and people, we cannot ignore concrete aspects like technology, space and action. Strauss emphasises these tangible, observable qualities in the concept of social worlds:

> In each social world, at least one primary *activity* (along with related clusters of activity) is strikingly evident; i.e., climbing mountains, researching, collecting. There are *sites* where activities occur: hence space and a shaped landscape are relevant. *Technology* (inherited or innovative modes of carrying out the social world's activities) is always involved. […] In social worlds at their outset, there may be only temporary divisions of labor, but once under way, *organizations* inevitably evolve to further one aspect or another of the world's activities. (Strauss, 1978, p. 122; emphasis in original)

In MMOs like *EVE Online*, participating can be a very complex and involved activity, giving rise to sub-activities, organisations and even new technologies[2] arranged around the central activity. While the participants cannot all share unity and intimacy, they form a sphere of "effective communication" that connects them together. Their communications are mediated not only by *EVE*'s servers and discussion forums, but by third-party sites, online radio broadcasts, video streams and a quarterly print magazine which covers events and persons on 84 glossy full-color pages, engaging *EVE* users in a "universe of discourses" centered around the play activity.

From this perspective, *EVE* can be seen as a complete and independent social world that moreover hosts constellations of subworlds. This may not sound like a particularly significant claim, until we realise that it places *EVE* in the same category as London's world of finance, the Judo world, or the world of game studies. From an individual's point of view, *EVE's* role in their life would thus be comparable to their professional world, neighbourhood or even extended family. Some of these other social worlds can of course involve some of the same people, activities, sites and technologies as the MMO,

representing instances where the MMO social world intersects with another social world.

On the other hand, it is obvious that not every MMO platform will necessarily spawn a distinct social world that encompasses its user base; many services do not even aspire to do this as strongly as *EVE* does. For example, *Habbo* and *Second Life* are designed as open-ended arenas where participation does not center around a particular activity to the same extent. Instead, user groups are invited to use the service as a resource for their own activities. Some of these groups and activities are rooted in established social worlds (e.g. school friends in *Habbo*, academic meetings in *Second Life*), while others are newly formed online. This distinction corresponds with Ishii and Ogasahara's (2007) notion of real-group-based online communities vs. virtual-network-based online communities. This type of MMO is thus more accurately analysed as an intersection site of multiple social worlds rather than as a cradle of a single monolithic social world. The same MMO artefact occupies a different role in different worlds: it is a "boundary object" (Duchenaut, 2007). One social world to which the MMO is tremendously important are the developers of that MMO. To them, it represents a target of common activity and a matter of constant negotiation with the world of users.

Once the relevant social worlds around an MMO have been identified, social scientists can study their internal structures and dynamics using any number of approaches. Economists can approach them as markets, while structural sociologists can view them as Bourdieuan fields: systems of social positions structured in terms actual and potential power relations, where individuals struggle over the appropriation of various forms of capital, from social to financial (Bourdieu, 1984). Virtual goods, point systems, levels and similar features programmed into MMOs represent interestingly ambiguous forms of capital (c.f. Malaby, 2006). Strauss emphasises that social worlds are in movement, so we also need to be mindful of the worlds' biographies and processes. A more dynamic approach could be social network analysis, which could examine not only the internal structures of but also relations between social worlds around an MMO. Here, too, it must never be assumed that technological boundaries coincide with social boundaries, even if they often represent practical boundaries to data collection. Legal scholars could study the "rules of play" prevailing in each world: idiomatic ideas of what constitutes legitimate use of the MMO, and their conflicts.

5 IMPLICATIONS FOR RESEARCH

Richard Bartle defines *virtual* as "that which isn't, having the form or effect of that which is" (Bartle, 2003, p. 1). By this definition, the proposition "Virtual worlds don't exist" is a truism, a pun. But I hope to have demonstrated that the proposition is also true in the second sense: that there are no "virtual worlds" that achieve the form or effect of the real world.[3]

Substituting the dichotomous "one server, one people" virtual world perspective with a social world perspective where people are uncoupled from technology allows us to point out certain shortcomings in the current MMO research agendas. The most obvious point is that an MMO server does not enclose a "world" or "society" separate from the Earth. An MMO server may be at the center of a social world, a universe of activity and discourse so deep that it feels like a different reality. But to a greater or smaller extent, the same individuals are simultaneously part of numerous other social worlds, which shape their identity and regulate their behaviour.

To point out one concrete target for my criticism, Castronova's conclusion that observing coordination effects in an MMO indicates that coordination effects take place "on a large-scale level in human societies" (Castronova, 2006a, p. 179) is not tenable. MMO servers are not human societies in large or small scale. Furthermore, Castronova's assertion that "important factors have been controlled" in these settings (Castronova, 2006a, p. 164) seems bold given the circumstances. In principle, is it not possible that players e.g. voted for the meeting place on a discussion forum? What is the effect of players who have avatars on multiple servers? The social world perspective underlines the fact that platforms do not equal people: MMO social worlds reach outside the technical boundaries of their servers, and in some cases even survive and move on when the original server is shut down. If a researcher wishes to limit their scope to the MMO server only, there must be a special justification for it.

"Mirror image" studies that purport to model the Earth, the economy or human society on a macro level inside an MMO are based on untenable assumptions, but this does not mean that all experimental or quasi-experimental studies in MMOs would impossible. If we are willing to accept a slightly more modest aim and focus on micro-level phenomena, there is a world of studies that could take advantage of MMOs to produce results generalisable to larger contexts (e.g., Nicklisch & Salz, 2008). As in any experiment, whether computer-mediated or not, identifying all significant

control variables can be a challenge, but not an impossible one, especially if the researcher has conceptualised the situation accurately.[4]

Another problematic tendency in MMO related social science research is the assumption that different MMOs are so similar that it is possible to make general statements about a category called "virtual worlds". A distinction is often made between game worlds and open-ended worlds. For example, Bray and Konsynski distinguish between MMORPGs and worlds with "no expressly developed plot or storyline" (Bray & Konsynski, 2007, p. 19). In the latter group, they include *Second Life*, *Entropia Universe* and interestingly, *Cyworld:* a Korean online service usually labeled as a social networking site. The social world perspective reminds us that universes of activity and discourse similar to those found around MMOs may also be found around other online arenas that do not meet the technical definition of a "virtual world". In some aspects they may be less complex than MMO-worlds, but virtual economies, for instance, can be found in many kinds of services from social networking sites to instant messaging systems (Lehdonvirta, 2009). In fact, for many purposes, the closest comparison to a given MMO-world might not be another MMO-based world, but some other computer-mediated social world. For example, in some ways *Second Life* might be closer to *Cyworld* or even *Flickr* than to *Entropia Universe* or *WoW*. Therefore, researchers should not automatically adopt "virtual worlds" as the relevant category unless their research somehow justifies it.[5]

An aspect of MMOs that is frequently mentioned as setting them apart from other platforms is avatar mediation. Indeed, Yee *et al.* (2007) present some very interesting results that suggest avatar-mediated social interaction is qualitatively different from e.g. plain text chat. However, I do not think that the case has been made yet for avatar mediation as a wild card that automatically sets virtual worlds in a category of their own. Consider the following issues: Firstly, the relationship between identity and avatars is still quite problematic, as discussed earlier. Secondly, while life-like 3D representations can leverage existing mental models to appear intuitive for beginners, user interfaces aimed at experts are traditionally based on abstractions that make use of our ability to learn new associations. Identity, relationships, norms and politics have long been succesfully mediated in abstract textual form (e.g. Rheingold, 2000). For many tasks such as group coordination, MMOs such as *EVE* and *WoW* rely on abstract as opposed to life-like representations.

As a way of summarising the above discussion, I suggest that social scientists ask themselves the following questions to ensure their work is in line with their aims:

1) Out of all social world sites and technologies, what is the reason I am focusing on MMOs?
2) Out of all possible interaction modalities used by the social world under scrutiny, am I justified in limiting my observations to the MMO server only?
3) Do my results concern MMOs in general, a specific MMO, or some completely different category?

There are obviously good answers to all three questions, but "MMOs are like virtual versions of the real world" is not among them.

Finally, the social world perspective highlights the fact that while notions such as goods, institutions, norms and politics can be identified over MMOs, they should not be considered "virtual versions" or "simulations" of "real-world" phenomena. Firstly, they are not doppelgängers but entities in their own right, *sui generis*. Secondly, parallel phenomena exist in several social worlds, computer-mediated and otherwise. For instance, virtual goods can be seen as a new category of commodities, parallel to but not derivative of clubs on a golf course or clothes in a mall. The "virtual" prefix in this case should be understood as signifying that they are computer-mediated, not that they are unreal or derivative. In most cases, the prefix is not even necessary: instead of "virtual politics", it might be more instructive to talk about the politics among users and developers of an MMO.

Hopefully this realisation will allow scholars to begin retiring unnecessary references to "virtual" from their language – again. T. L. Taylor notes that "[i]n much the same way we now see the relationship between on- and offline life as not a bounded one, in many ways a game/not-game dichotomy does not hold" (Taylor, 2006, p. 19). Cyberspace isolationism is considered antiquated now; few people around me use the term "IRL" anymore. Dichotomous either-or views have been replaced with more nuanced understandings of how the Internet meshes into our lives (e.g. Miller & Slater, 2000). Though Castronova explicitly denies connection with Barlow's ancient declaration (Castronova, 2004, p. 208), it is hard not to see kinship in their ideas. Both were undeniably pioneers.

5.1 The real world doesn't exist

This paper could well have been titled "The real world doesn't exist". If there are problems with the concept of the "virtual world", so are there problems in the way "real world" is implicitly conceptualised in many MMO studies: as a uniform, monolithic reality, where people lead a rational "real life" with their

unitary "real identity". Such a view is in stark contrast to the views prevalent in contemporary sociology, which emphasise the multiplicity, fluidity and even fragmentation of identities (e.g. Turkle, 1996; Slater, 1997) and the often arational, constructed and "aestheticized" character of everyday life (e.g. Featherstone, 1991; Giddens; 1991).

Moreover, structuralist and post-structuralist theorists such as Pierre Bourdieu (1984; 1998) see rules and structures in all fields of life that are not unlike the written and unwritten rules of MMO-worlds. This game-like character of everyday life has not gone unnoticed in MMO studies: Castronova equates society with a large game, although he only sees one game instead of a multiplicity (Castronova, 2006a, p. 171). Conversely, MMO gameplay has in some instances come to resemble work: laborious, tedious and occasionally lucrative (Yee, 2006; Grimes, 2006, pp. 982-985). Malaby (2007) takes this line of thought furthest. He suggests that if we look at games as domains of artificial outcomes, of "contrived contingency", we find that society is full of games: ones associated with business risk, others associated with political risk, and still others that relate to family matters. Increasingly, these old games are being played out online, sometimes even on the same arenas as newer games like *EVE* alliance warfare. "Interest […] is to admit that the game is worth playing and that the stakes created in and through the fact are worth pursuing; it is to recognize the game and to recognize its stakes" (Bourdieu, 1998, p. 77).

NOTES

1. Bray and Konsynski also state that *Entropia Universe*, a sci-fi themed MMO game, has 500 000 "virtual inhabitants". They do not cite a source for this information, but the game's website (http://www.entropiauniverse.com/en/rich/5357.html, accessed 20 July 2008) contains the following statement: "With participants from all over the globe, the online community has grown to over 500 000 participants from over 220 countries on Earth." Even if we take the participant figure at face value, the number of countries is a bit hard to swallow, given that only 193 countries are generally internationally recognised. Perhaps the missing 27 are virtual countries.
2. These new technologies range from simple calculators to elaborate organisational management tools such as human resources and enterprise planning systems. "[M]ost of the tasks that are handled by FCs [Fleet Commanders] are handled using tools and processes that are *external to the game client software*." (Combs, 2008, emphasis added)
3. Bartle actually seems to have considered a social world perspective, as indicated by the following quote: "a world […] doesn't have to mean an entire planet: it's used in the same sense as 'the Roman world' or 'the world of high finance.'" (Bartle, 2003, p. 1)
4. As for implications to survey research designs, consider this example: In an as yet unpublished survey of WoW users, sociologists asked respondents how much WoW interferes with their real life. The question contains the assumption that there is a "real life" which can be "interfered" by some separate set of "virtual" activities. But many WoW users play in order to spend time with their friends, family members and colleagues. For such users, the question is misconstrued and will not yield valid data. A better survey might ask about WoW's role in various social worlds of which the respondent is part of.
5. Sometimes when scholars purport to make statements about virtual worlds in general, in reality they are speaking about a specific MMO. For instance, the statement "a few real-world universities are even establishing islands in virtual worlds and offering classes" (Bray & Konsynski, 2007, p. 18) should actually read "a few real-world universities are even establishing islands in *Second Life* and offering classes".

REFERENCES

Barlow, J. P. (1996). *A Declaration of the Independence of Cyberspace.* Retrieved July 24, 2008 from http://homes.eff.org/~barlow/Declaration-Final.html

Bartle, R. (2003). *Designing Virtual Worlds*. Indianapolis: New Riders.

Bartle, R. (2006). Virtual Worldliness. In J. Balkin, & B.S. Noveck (Eds), *The State of Play: Law, Games and Virtual Worlds* (pp. 31-54). New York: New York University Press

Bloomfield, R. J. (2007). *Worlds for Study: Invitation – Virtual Worlds for Studying Real-World Business (and Law, and Politics, and Sociology, and….)*. Retrieved July 24, 2008 from http://ssrn.com/abstract=988984

Bourdieu, P. (1984). *Distinction. The Social Critique of the Judgement of Taste.* London: Routledge.

Bourdieu, P. (1998). *Practical Reason: On the Theory of Action*. Stanford: Stanford University Press.

Bray, D. A., & Konsynski, B. R. (2007). Virtual worlds: multi-disciplinary research opportunities. *ACM SIGMIS Database* 38(4), 17-25.

Castronova, E. (2002). On Virtual Economies. *CESifo Working Paper Series No. 752*. Retrieved July 24, 2008 from http://ssrn.com/abstract=338500

Castronova, E. (2004). The Right To Play. *New York Law School Law Review* 49, 185-210.

Castronova, E. (2005). *Synthetic Worlds: The Business and Culture of Online Games*. Chicago: University of Chicago Press.

Castronova, E. (2006a). On the Research Value of Large Games: Natural Experiments in Norrath and Camelot. *Games and Culture* 1(2), 163-186.

Castronova, E. (2006b). Virtual Worlds: A First-Hand Account of Market and Society on the Cyberian Frontier. In K. Salen, & E. Zimmerman (Eds), *The Game Design Reader: A Rules of Play Anthology* (pp. 814-863). Cambridge, MA: MIT Press.

Combs, N. (2008). A View of Politics and Morale in Eve-Online, Draft, Version 1.3X, Updated 5/14/08 (http://scratchpad.roaringshrimp.com/). Retrieved July 24, 2008 from www.roaringshrimp.com/ scratchpad_docs/EvePoliticsMorale_1.3X_Research.pdf

Copier, M. (2005). Connecting Worlds. Fantasy Role-Playing Games, Ritual Acts and the Magic Circle. *Proceedings of DiGRA 2005*. Retrieved July 24, 2008 from http://www.digra.org/dl/db/06278.50594.pdf

Ducheneaut, N. (2007). Habbo Hotel as a boundary object (blog entry in *Terra Nova,* 12 October). Retrieved July 24, 2008 from http://terranova.blogs.com/terra_nova/2007/10/habbo-hotel-as-.html

Ducheneaut, N., Moore, R. J. (2004). Let me get my alt: digital identiti(es) in multiplayer games (position paper for *The CSCW 2004 Workshop on Representation of Digital Identities*). Retrieved July 24, 2008 from http://www.parc.com/research/publications/files/5551.pdf

Fairfield, J. (2008). Anti-Social Contracts: The Contractual Governance of Online Communities. *Indiana Legal Studies Research Paper Series*, no. 89. Retrieved July 24, 2008 from http://ssrn.com/abstract=1002997

Featherstone, M. (1991). *Consumer culture & postmodernism*. London: Sage.

Fung, A. (2006). Bridging Cyberlife and Real Life. A Study of Online Communities in Hong Kong. In D. Silver, & A. Massanari (Eds), *Critical Cyberculture Studies* (pp. 129-139). New York: New York University Press.

Giddens, A. (1991) *Modernity and self-identity.* Cambridge: Polity.

Grimes, S. M. (2006). Online multiplayer games: a virtual space for intellectual property debates? *New Media & Society* 8(6): 969-990.

Huhh, J.-S. (2007). Culture and Business of PC Bangs in Korea. *Games and Culture* 3(1), 26-37.

Huizinga, J. (2000). *Homo Ludens: A Study of the Play-Element in Culture.* Routledge: London.

Ishii, K., & Ogasahara, M. (2007). Links between Real and Virtual Networks: A Comparative Study of Online Communities in Japan and Korea. *CyberPsychology & Behavior* 10(2), 252-257

Johnson, M., & Toiskallio, K. (2005). Fansites as Sources for User Research: Case Habbo Hotel. *Proceedings of the 28th Conference on Information Systems Research in Scandinavia (IRIS'28)*. Retrieved July 24, 2008 from http://www.soberit.hut.fi/johnson/Johnson_IRIS_2005.pdf

Kolo, C., & Baur, T. (2004). Living a Virtual Life: Social Dynamics of Online Gaming. *Game Studies* 4(1). Retrieved July 24, 2008 from http://www.gamestudies.org/0401/kolo/

Lastowka, F. G., & Hunter, D. (2004). The Laws of the Virtual Worlds. *California Law Review* 92, 1-73.

Lastowka, F. G. (2007). Rules of Play (paper presented at *AoIR 8*, October 17). Retrieved July 24, 2008 from http://terranova.blogs.com/ RulesofPlay.pdf

Lastowka, F. G. (2008). Virtual Law Bibliography (blog entry at *Terra Nova*, March 17). Retrieved July 24, 2008 from http://terranova.blogs.com/ terra_nova/2008/03/virtual-law-b-1.html

Lehdonvirta, V. (2005). Real-Money Trade of Virtual Assets: Ten Different User Perceptions. *Proceedings of Digital Arts and Culture 2005*, December 1-3, Copenhagen, Denmark, 52-58. Retrieved July 24, 2008 from http://virtual-economy.org/files/Lehdonvirta-2005-RMT-Perceptions.pdf

Lehdonvirta, V. (2009). Virtual Item Sales as a Revenue Model: Identifying Attributes that Drive Purchase Decisions. *Electronic Commerce Research* 9(1-2) *(forthcoming)*.

Lehdonvirta, V., Wilska, T.-A., and Johnson, M. (2009). Virtual Consumerism: Case Habbo Hotel. *Information, Communication & Society* 12(7) *(forthcoming)*.

Lin, H. (2008). Body, Space and Gendered Gaming Experiences: A Cultural Geography of Homes, Cybercafes and Dormitories. In Y. B. Kafai, C. Heeter, J. Denner, & J. Y. Sun (Eds), *Beyond Barbie and Mortal Kombat: New Perspectives on Gender and Gaming* (pp. 54-67). Cambridge, MA: MIT Press.

Lin, H., & Sun, C.-T. (2007). Cash Trade Within the Magic Circle: Free-to-Play Game Challenges and Massively Multiplayer Online Game Player Responses. *Proceedings of DiGRA 2007*. Retrieved July 24, 2008 from http://www.digra.org/dl/db/07312.38207.pdf

Lin, H., Sun, C.-T., & Tinn, H.-H. (2003). Exploring clan culture: social enclaves and cooperation in online games. *Proceedings of DiGRA 2003* (pp. 288-299). Utrecht: University of Utrecht.

Malaby, T. M. (2006). Parlaying Value: Capital In and Beyond Virtual Worlds, *Games and Culture,* 1(2), 141-162.

Malaby, T. M. (2007). Beyond Play A New Approach to Games. *Games and Culture* 2(2), 95-113.

Miller D., & Slater D. (2000). *The Internet, An Ethnographic Approach*. Oxford, New York: Berg.

Nash, J., & Schneyer, E. (2004). Virtual Economies: An In-Depth Look at the Virtual World of Final Fantasy XI: Online. Retrieved July 24, 2008 from http://lgst.wharton.upenn.edu/hunterd/VirtualEconomies.pdf

Nicklisch, A., & Salz, T. (2008). Reciprocity and status in a virtual field experiment. *Preprints of the Max Planck Institute for Research on Collective Goods 2008/37*. Retrieved December 12, 2008 from http://www.coll.mpg.de/pdf_dat/2008_37online.pdf

Pearce, C., & Artemesia (2006). Communities of Play: The Social Construction of Identity in Persistent Online Game Worlds. In N. Wardrip-Fruin, & P. Harrigan (Eds), *Second Person: Role-Playing and Story in Games and Playable Media* (pp. 311-318). Cambridge, Mass.: MIT Press.

Pinckard, J. (2006). Is World of Warcraft the New Golf? (article in *1UP*, February 8) Retrieved July 24, 2008 from http://www.1up.com/do/newsStory?cId=3147826

Rheingold, H. (2000). *The Virtual Community: Homesteading on the Electronic Frontier.* London: MIT Press.

Salen, K., & Zimmerman, E. (2004). *The Rules of Play: Game Design Fundamentals*. Cambridge, MA: MIT Press.

Shirky, C. (2006). The tech reporters who flack for Second Life (blog entry at *Valleywag*, December 26). Retrieved July 24, 2008 from http://valleywag.com/tech/naming-names/the-tech-reporters-who-flack-for-second-life-224092.php

Slater, Don (1997). *Consumer Culture & Modernity*. Cambridge: Polity.

Strauss, A. (1978). A Social World Perspective. In N. K. Denzin (Ed.), *Studies in Symbolic Interaction* (pp. 119-128). Greenwich, CT: JAI Press.

Taylor, T.L. (2006). *Play Between Worlds: Exploring Online Game Culture*. Cambridge, MA: MIT Press.

Turkle, S. (1996). *Life on the screen. Identity in the age of the Internet.* New York: Touchstone.

Williams, D., Ducheneaut, N., Xiong, L., Zhang, Y., Yee, N., & Nickell, E. (2006). From Tree Houses to Barracks: The Social Life of Guilds in World of Warcraft. *Games and Culture* 1(4), 338-361.

Yee, N. (2006). The Labor of Fun. *Games and Culture* 1(1), 68-71.

Yee, N. (2007). The Demographics of Game Choices (blog entry at *The Daedalus Project*, March 20). Retrieved July 24, 2008 from http://www.nickyee.com/daedalus/archives/001558.php

Yee, N., Bailenson, J.N., Urbanek, M., Chang, F., & Merget, D. (2007). The Unbearable Likeness of Being Digital: The Persistence of Nonverbal Social Norms in Online Virtual Environments. *The Journal of CyberPsychology and Behavior* 10, 115-121.

Yoon, U.-G. (2005). A Quest for the Legal Identity of MMORPGs - From a Computer Game, Back to a Play Association. Retrieved July 24, 2008 from http://ssrn.com/abstract=1113327

ARTICLE TWO

Lehdonvirta, Vili – Wilska, Terhi-Anna – Johnson, Mikael (2009)

Virtual Consumerism: Case Habbo Hotel

Forthcoming in *Information, Communication & Society*, Vol. 12, No: 7.

Virtual Consumerism: Case Habbo Hotel

Vili Lehdonvirta[1]
Terhi-Anna Wilska[2]
Mikael Johnson[3]

1. Helsinki Institute for Information Technology
   PL 9800, 02015 TKK, Finland
   Email: vili.lehdonvirta@hiit.fi
   Phone: +358-50-3841530
   (correspondence address)

2. Turku School of Economics
   Economic Sociology
   Rehtorinpellonkatu 3,
   20500 Turku, Finland
   Email: terhi-anna.wilska@tse.fi
   Phone: +358-50-3049159

3. Helsinki Institute for Information Technology
   PL 9800, 02015 TKK, Finland
   Email: mikael.johnson@hiit.fi
   Phone: +358-50-3761074

About the authors

Vili Lehdonvirta works as a researcher at Helsinki Institute for Information Technology, focusing on virtual consumption and real-money trade of virtual property. He graduated from Helsinki University of Technology in 2005 with a M.Sc (Tech.) in Knowledge Intensive Business and is currently finishing a Ph.D degree in Economic Sociology at Turku School of Economics, Finland. Between 2006 and 2008 he was Visiting Scholar at Waseda University, Tokyo.

Terhi-Anna Wilska is Professor of Economic Sociology at Turku School of Economics. She obtained her Ph.D in Sociology in 1999 from Lancaster University, UK. Her special interest areas are consumption behavior and lifestyles of children, young people and families, as well as social implications of new media.

Mikael Johnson works as a researcher at Helsinki Institute for Information Technology, focusing on developer–user dialogue in digital communities. He graduated from Helsinki University of Technology in 2002 with a M.Sc (Tech.) in usability engineering and is now pursuing a Ph.D degree at the Computer Science and Engineering Department. He is currently Special Researcher at National Consumer Research Centre, Finland.

Abstract

Selling virtual items for real money is increasingly being used as a revenue model in games and other online services. To some parents and authorities, this has been a shock: previously innocuous ‘consumption games’ suddenly seem to be enticing players into giving away their money for nothing. In this article, we examine the phenomenon from a sociological perspective, aiming to understand how some media representations come to be perceived as ‘virtual commodities’, what motivations individuals have for spending money on these commodities, and how the resulting ‘virtual consumerism’ relates to consumer culture at large. The discussion is based on a study of everyday practices and culture in *Habbo Hotel*, a popular massively-multiuser online environment permeated with virtual items. Our results suggest that virtual commodities can act in essentially the same social roles as material goods, leading us to ask whether ecologically sustainable virtual consumption could be a substitute to material consumerism in the future.

Keywords: virtual property, consumer behavior, commodification, global culture industry, massively-multiplayer online game (MMO), real-money trading (RMT)

1 INTRODUCTION

For at least two decades, simulated shopping and commodity consumption have been central elements of play in many digital games and online hangouts. Elements of this central part of contemporary Western culture are incorporated into all sorts of settings, including even fantasy worlds, historical milieus and futuristic visions. Players or participants, often young, are familiar with the logic of consumption and ownership and gladly engage in the simulated consumption games offered by the systems. What controversy there has been over activities portrayed in video games has centered on simulated sex and violence, rarely shopping.

In recent years, however, it has become increasingly common for virtual goods circulated in consumption games to be exchangeable for real money. Using a credit card or mobile phone, players are now able to purchase virtual items, clothes and characters like any commodities in an online store, except that the goods are never delivered to the physical doorstep. This 'virtual item trade' or 'real-money trade of virtual property', as it is variously known, has forced a re-evaluation of the status of fantastical consumption play. Economists (e.g. Castronova 2006; Huhh, 2008) have observed that what were previously considered fiction can actually be analysed as goods in the economic sense. Legal scholars (e.g. Lastowka & Hunter 2004; Fairfield 2005) have put forward questions regarding the ownership and legal status of virtual assets.

In popular media, the phenomenon has been welcomed with a sort of bemused wonder, at times also with great controversy. From the point of view of parents of young players, it may seem as if the previously innocuous digital hangouts are suddenly enticing gullible children, not yet able to distinguish between real and make-believe, into giving away their money for nothing. In Finland and Sweden, consumer protection authorities have been called on more than once. For authorities and regulators, there is a distinct lack of understanding on how to categorise, deal with or even approach the phenomenon.

The purpose of this article is to offer a re-evaluation of the status of online consumption games from a sociological perspective. Using a case study of *Habbo Hotel*, a popular 'virtual world' for teenagers, we descend into the everyday practices and culture of a social world permeated with virtual goods. We drop assumptions regarding the nature of the artifact as a digital game, and

instead adopt angles of interpretation from the sociology of consumption, treating the phenomenon as *virtual consumption*. This way, we aim to clarify the motivations of those who participate in the system and spend money on it, explain some of the social dynamics that shape virtual consumer behavior, and offer a perspective on how virtual consumerism fits in the bigger picture of consumer society.

We begin by providing some context on consumption games and virtual asset trade. This is followed by a theoretical discussion of the notion of virtual commodities, where we compare them to digital information. Next, we turn to sociological literature on consumption, reviewing three main perspectives on consumer culture. Armed with these perspectives, we reach into the case material. In the last section, we summarise our findings, present conclusions and briefly consider the future of virtual consumerism: to what extent could it substitute material consumption, and what would be the ecological implications?

2 CONSUMPTION GAMES

Habitat, opened in 1985, was an early pioneer of virtual environments. It used two-dimensional graphics to represent spaces such as home, hotel and arcade, where cartoon-style characters controlled by users could talk and interact. The landscape was scattered with vending machines from which users could purchase virtual items ranging from weapons to furniture. Purchases were paid with a currency called Tokens, which was distributed to the users for free. The most desirable items were spare heads that could be used to customise one's character (Dibbell 1998, p. 172). More recently, shopping was placed in a central role in a series of single-player video games called *The Sims*. Described as 'life simulators', they became one of the most successful game series ever. In both *Habitat* and *The Sims*, shopping is conceived of as simulation: 'consumption play'.

In so-called massively-multiplayer online role-playing games (MMORPG) launched in the late 1990's, consumption play began to be mixed up with real money (Lehdonvirta 2005). In *Ultima Online* and *EverQuest*, hundreds of thousands of players 'traded' with other players to exchange game assets accumulated during months of play for other game assets. As with the previous systems, the economy was intended to be like *Monopoly*: no real money would change hands. But in 1999, some players put their game assets on auction at eBay. Perhaps surprisingly, they received bids from other players. When an auction was completed, payment was carried out using ordinary means such as check or money order. The two players then met up in the game and the seller handed the auctioned object to the buyer. This way, an exchange value measured in U.S. dollars could soon be observed for virtual goods ranging from castles to gold nuggets (Lehdonvirta 2005). In 2002, a massively multiplayer online version was created of *The Sims*, and real-money trading followed.

What began as trading between individual players quickly became a grey-market commercial activity. Jin (2006) describes how hundreds of 'gaming sweatshops' in China hire young men to play online games in 12 hour shifts to harvest game assets. Virtual property dealer companies such as *IGE* buy these assets and sell them to players, often Western, for significant profit. In the MMO *Second Life*, real-money commerce also involves services such as design and construction consultancy for virtual landowners.

Today, the idea of selling virtual commodities for real money has spread beyond its origins in gaming and found its way to other online services, particularly those where social interaction is a key element. Finnish online image gallery *IRC-Galleria,* Korean social networking site *Cyworld*, Chinese instant messaging service *Tencent QQ* and U.S. social networking site *Facebook* are examples of extremely popular services that earn revenues by selling virtual commodities to their users. The commodities are often small graphical objects that can be used to decorate one's online profile or given to other users as gifts. Common objects are priced at a dollar or less, while notable ones can fetch tens of Euros. This spending opportunity hardly existed five years ago, but is now increasingly pervasive.

Virtual asset trade has begun to make occasional appearances in sociological and media studies texts that deal with sites where virtual assets are found. Game scholar T. L. Taylor discusses real-money trading in her book on the culture of the MMORPG *EverQuest* (2006), while Anthony Fung (2006) mentions them in a study of online gaming communities in Hong Kong. Grimes (2007) and Herman *et al.* (2006) discuss virtual commodities in the context of debates over intellectual property rights, while Malaby (2006) considers virtual assets as part of a Bourdieuan capital framework. Virtual asset sales are frequently referenced in discussions concerning demarcations between 'real' and 'virtual' worlds, as they appear to transcend this (artificial) dichotomy. In the works referenced above, the authors also make valuable starts into trying to understand the role of virtual commodities in the users' everyday life.

Hiroshi Yamaguchi (2004) has compared game economies to so-called local exchange trading systems (LETS), small alternative economies that exist alongside the formal economy. What they have in common is the limited scope of possible transactions. But while LETS and similar systems focus on using new mechanisms to exchange familiar goods, the most interesting aspect of the present phenomenon in our opinion is the use of established markets like eBay to exchange a completely new category of goods.

3 FROM DIGITAL REPRESENTATIONS TO COMMODITIES

Our intention is to go deeper into understanding virtual goods by examining the phenomenon as a type of consumer behavior. But can real-money trade of virtual assets be considered consumption in the first place? The literal meaning of 'consumption' is using up, destroying or eating something, which indicates that in economic terms, objects have life cycles: first they are produced, then exchanged with money, and finally consumed, until they disappear or fade and lose their value (Wilk 2004, p. 15-17). In the present phenomenon, nothing is *consumed* in the sense of something tangible being destroyed, expended, used up, worn down or eaten.[1] But even with regard to traditional consumption, economic metaphors are not always appropriate. Objects do not necessarily lose their value when used (e.g. antique, jewelry or collectibles), and they can be used several times. The value of goods may be based on non-existing properties (e.g. stock markets). Many objects also have different 'social lives', which means that their use may change over time (Wilk 2004; Appadurai 1986; Douglas & Isherwood 1978). As practical quantitative measures of consumption, researchers observe the spending of time and money.

However, time and money can be spent on media consumption as well as on commodities, and the sociology of consumption has developed very different approaches to these two. Media is intangible, superstructural (Lash & Lury 2007), while commodities are used to create distinctions through ownership. Computer screens showing digital representations of goods would normally be analysed as media surfaces, but our contention is that virtual assets should rather be analysed as commodities. This is due to a key 'innovation' that enables digital representations to take up roles commonly associated with luxury goods and other tangible commodities: *artificial scarcity* (Castronova 2006; see also *rivalrousness* in Fairfield 2005). Since the cost of reproducing digital objects is close to zero, there is little technical reason why every participant in a virtual economy could not be given a copy of each and every commodity. Indeed, armchair theorists of the 1990's predicted that cyberspace would liberate us from the restrictions of the physical world in just this way. Yet in some circumstances people seem to prefer virtual scarcity over digital abundance. Rivalrousness and scarcity can transform digital representations from media messages into objects with a

'thing-like' nature, in a process that resembles Marxist theories of commodification (see Miller 1987, p. 13; Lury 1996, p. 41). This allows attributes that in reality exist by virtue of social relationships between people to be perceived as inherent characteristics of digital objects. One such attribute is economic value.

This thingification of representations into virtual commodities meshes particularly well with Scott Lash and Celia Lury's recent notion of a 'global culture industry' (Lash & Lury 2007). Though critics of mass culture such as Horkheimer and Adorno (1976) have long seen culture as 'industrialised' and assimilated into market capitalism, culture used to remain in the superstructure. Culture and media were a utility, a means to promote the consumption of commodities, which was the end purpose. But '[i]n global culture industry, what were previously media become things' (Lash & Lury 2007, p. 8). Media representations materialise as tangible commodities and commodities simultaneously become media. And 'When media become things […] they no longer exclusively have cultural value. They come very importantly to have use-value and exchange-value' (ibid.), completing the true industrialisation of culture (and also the culturisation of industry).[2]

The commodification outlined above is a clear point of difference between services based on virtual commodities and other 'social web' services that emphasise user involvement and social interaction. For example, by publishing a prominent video clip on *YouTube*, a user might gain a reputation among fellow users, but that reputation is not something that can subsequently be detached and sold as an attribute of the video to another user. A commodified object, in contrast, can obtain its own history and reputation in its life-course, independent of its maker and independent of other objects (copies) of the same type. In this aspect, services based on virtual commodities actually bear more similarity to old-fashioned online marketplaces like eBay that sell 'naturally scarce' consumer commodities than to cutting-edge social web platforms that distribute media content. Ideologically, virtual consumption represents a return to 20th century material consumerism, which the 'new media' and the 'Web 2.0' paradigm with its emphasis on the amateur and the ethos of sharing were trying to subvert.[3]

4 UNDERSTANDING VIRTUAL CONSUMPTION

How do digital representations that have transformed into quasi-tangible commodities become so attractive that users are willing to spend money on them? It is clear that materialistic explanations are difficult to reconcile with the digital nature of the objects in question. In the sociology of consumption, there has thankfully long been a 'movement away from regarding goods merely as utilities having a use-value and an exchange-value which can be related to some fixed system of human needs' (Featherstone 1991, p. 85).

In his book *Consumer Culture & Postmodernism*, Mike Featherstone (1991) identifies three main perspectives on consumer culture. First is the Marxist 'production of consumption' perspective, which posits that in a capitalist society, mass media and other means are used to 'educate' people into becoming consumers in order to open up new markets for the ever-expanding production sector (Miller 1987). As mentioned above, this is the way in which virtual consumption is currently perceived by, for instance, concerned parents. It entails a view of consumers as victims that the manipulative capitalist is luring away from some better, 'more original' set of values and social relations. For instance, Horkheimer and Adorno (1976) express concern over the replacement of high culture with a homogenous 'mass culture' produced by a 'culture industry'. However, the 'production of consumption' view has been criticised as elitist and for the fact that it fails to examine actual consumption processes, which reveal diverse audience responses and complex, unexpected uses of goods.

The second perspective goes deeper into practice, focusing on the use of goods as tools for building social bonds or distinctions. Generally speaking, consumers are seen as communicators who use symbolic meanings embedded in commodities to express status, class, group membership, difference or self-identity (e.g. Veblen 1899/1955; Simmel 1904/1957; Bourdieu 1984; McCracken 1988). The satisfaction derived from goods is primarily linked to their use as markers, and only secondarily related to their physical consumption (Douglas & Isherwood 1978). An extreme example of this is the accumulation of collectible objects, which can be completely 'useless' and non-functional (Baudrillard 1994, 1996). According to Russell Belk (1995, 2004), even if the collected objects were once useful in some way, when they enter the collection they are no longer used in their original purpose. Although

collectors frequently describe the thrill of the hunt for collectible objects, Belk (1995) argues that the hunt is, in the end, usually a highly competitive game of status seeking.

On the other hand, Belk (2004) acknowledges that the collector's single-minded pursuit may also be seen as highly pleasurable romanticism; noble saving of objects that few others appreciate. This position echoes a third perspective on consumer culture, described by e.g. Colin Campbell (1987, 2004) and Featherstone (1991), which focuses on the individual emotional pleasures of consumption. Campbell sees consumption as an individual, hedonistic process. Featherstone argues that urban everyday life in particular is *aestheticised*: overflowing with imagery (though not necessarily overcome by it as for Baudrillard 1971/1988) that can evoke dream-like and pleasurable aesthetic sensations. For an individual, contemporary consumer culture also entails the creative mixing of consumption styles in a project that resembles artistic expression.

Does virtual consumption involve the same motives as those detected in other modes of consumption? Perhaps the only study so far to approach the question is a recent article by Yue Guo and Stuart Barnes, titled 'Why People Buy Virtual Items in Virtual Worlds with Real Money' (Guo & Barnes 2007). The goal of the article is to develop a preliminary model of 'individual determinants for the decision to purchase virtual items within virtual game communities.' The model is largely based on models intended to describe user acceptance of new technologies in management and information systems sciences. Thus, the determinants it identifies include ease of use, 'performance expectancy' and 'perceived enjoyment'. The only social determinant is 'the degree to which an individual perceives that important others believe he or she should use community transaction mechanisms to gain high-level virtual items for enhancing character competence' (*ibid*., p. 72). The result is unfortunately a rather limited utilitarian view of user motivations, which furthermore makes strong assumptions regarding the mechanics of the underlying service that seem to confine its application to certain MMORPGs only.

In this article, we attempt to start towards a richer, more inclusive and theoretically better motivated understanding of virtual consumption by taking the established perspectives from consumer sociology outlined above as our interpretative frame and descending into the everyday practices and culture of a social world permeated with virtual items.

5 CASE HABBO HOTEL

One prominent site of virtual consumption is *Habbo Hotel*, a popular massively multi-user online environment that is not quite a game, yet not simply a graphical chat program. The environment resembles a giant contemporary Western indoor space, presented in isometric 'retro style' 3D graphics and populated by blocky avatars, each controlled by a user. The service was launched in 2000 by a Finnish company called Sulake, and a localised version is available in 32 countries. Habbo is targeted at teenagers: the average age of users is 15.5 years and their gender distribution is close to equal (Sulake 2008a). According to Sulake (2008b), Habbo currently has around 9,5 million monthly unique visitors globally, which makes it one of the most popular 'virtual world' type services, about ten times as popular as *Second Life*. Based on Sulake's figures, it is possible to estimate that more than a quarter of 13-18-year-olds in Finland use Habbo Hotel.[4] In 2006, Habbo earned approximately 55 million US$, mostly from microtransactions (Hyatt 2007).

Due to its maturity as an Internet service, its popularity, and its strong focus on virtual commodities and real-money purchases, we believe Habbo Hotel is an excellent subject for an explorative study into virtual consumerism. Teenagers are often in the forefront of material consumer culture, and can be expected to provide a similarly rich view of virtual consumerism. In the following sections, we provide descriptions that are based on a case data that was collected in 2004-2007 and consists of user interviews (N=12), studies of Habbo fansites (N=24), and first-hand use experience ('online fieldwork' similar to Slater & Miller 2000). Unless otherwise noted, the data described here pertains to the Finnish version of the service. Quotes were translated from Finnish into English by the authors.

By Habbo fansites, we refer to websites maintained by users independently of Sulake that contain articles and discussion on Habbo Hotel and activities taking place inside it. Johnson and Toiskallio (2005) argue that fansites are a valuable source for user research, especially as a complement to other fieldwork methods, as they reveal lore and practices that could otherwise take months of participation to discover. It should be noted that since the data was collected, Sulake has extended the web aspect of the Habbo platform by introducing individual user homepages, group homepages and group discussion forums, as well as social networking style features. These new

features have taken over some of the functions previously carried out by fansites. The combination of Habbo Hotel with the web-based features has been rebranded as simply *Habbo*.

5.1 Aesthetics, self-expression and identity

Upon first entering Habbo Hotel with a web browser, a new user is requested to create an avatar, one's digital representation inside the hotel. The avatar can resemble either a girl or a boy and is customised by choosing a set of clothes, shoes, a hairstyle, a face and a skin color. The wide range of options includes T-shirts, sweaters, jackets, skirts, sneakers, baseball caps, as well as quirkier items such as rabbit costumes and Afro haircuts. After creating an avatar and walking around in the hotel's corridors and cafés, the next thing a new user often does is creating his or her own 'guest room'. Guest rooms can be private or open to visitors. They are initially empty, but can be decorated with a wide range of virtual items and furniture, from sofa sets and lava lamps to DJ decks and rubber ducks. This selection of appearance, clothing, items and furniture sets the landscape for virtual consumption choices in Habbo Hotel. Given the practically limitless number of possible combinations, how do users choose what to consume?

When discussing consumption choices, users commonly point to self-expression and aesthetic considerations as the motivating factors for their choices. User 'Kanahaukka' writes on fansite *Habbomatic.com*:

> Regarding my current style, the reason I wear those colors is that the yellow hoodie is close to my favorite color, which is golden yellow. White goes with all clothes, that's why the bottom part is white. Hair also yellow, same reason as the hoodie. IRL [in real life] I don't like to wear shorts and a hoodie at the same time, but in Habbo it somehow pleases my eye.

In room decoration, prevalent aesthetics are reflected in monthly decoration competitions run by Sulake, in which users vote for a favorite room from a set of candidates. Such rooms are popular destinations for visitors who enjoy the view (Figure 1). Even items that have a functional purpose are appropriated for aesthetic purposes. For example, Sulake has created the Habbo equivalent of Post-it notes for attaching notes to walls. Instead of using them to relay information, users sometimes arrange them into decorative patterns. Functional considerations are important in rooms that seek to cater for activities such as games or to accommodate a large number of characters, but

even then, users simultaneously strive to make the arrangement aesthetically pleasing or even ‘artistic’.

Figure 1. Winning entry of the April 2007 decoration competition

Sometimes consumption choices are used to express a specific role. *‘Myself, I am a Gothic witch,’* writes user ‘Scekti’ in the same discussion thread as Kanahaukka above. Scekti has a white face, black hair and black clothes. Others pretend to have a ‘profession’. This involves not only clothing one’s avatar accordingly and behaving in an appropriate manner, but also decorating a room or a set of rooms in a corresponding fashion. For example, one user has taken the role of a doctor. He dresses up in a white coat and has built a hospital ward by decorating a room with white tiles, hospital beds and a Swiss flag – the flag resembling an inverted red cross. This type of creative repurposing is common, as it widens the range of expression (see also Johnson & Toiskallio 2007).

While many develop individualistic styles, virtual consumption behavior is also a way to identify with a subculture. Habbo’s ‘Goths’ are a good example, with their preference for black clothes, tall candles and gloomy furniture. Some of those who identify with Goths believe that being one simply consists of making the appropriate consumption choices, while others contend that it also entails various beliefs or values. In any case, Goths are not a group or organisation with a defined membership, nor is the Goth identity based on traditional socio-economic or geographical divisions. The one thing that most Goths have in common is their shopping behavior. Table 1 shows a selection

of Habbo clothing styles, as identified by a fansite author. Other categorisations are constantly put forward and debated.

Table 1. Common clothing styles according to fansite Kriisipalvelu.net (2005)

Punk	**Gothic**	**Teinix (teenie)**	**Wannabe**	**Own style**
Bright colours, irokese	White skin, dark clothes	Pastel colours, round cheeks	Smart dress, stiff behavior	Does not care about fashions
				

Users also form groups of varying degrees of organisation and longevity, styling themselves as e.g. ‘gangs’, ‘militaries’ and ‘model agencies’. The groups often have a set of rules that specify member ranks and membership criteria, such as required items and appearance. For example, one ‘military’ organisation requires its members to wear green tops, other pieces of clothing indicating rank. A gang calling itself ‘Egyptian Mafia’ instructs new recruits to label themselves with the text *‘E.M. rank: slave’* and wear brown clothes. Failing to conform to the dress code may result in expulsion from the organisation. For a price of one Plastyk, members may purchase a right to be exempt from the dress code.

5.2 Luxury and social status

Inside each Habbo Hotel there is a ‘virtual economy’ where items are traded on markets and prices determined as a function of supply and demand. The original source of all the commodities circulating in the economy (the ‘producer’) is Sulake. Sulake provides an online catalog where new virtual items can be bought at a fixed price. The items are paid for using the official currency known as credits, which must first be purchased from Sulake. In Finland, each credit costs approximately 17 eurocents, depending on payment method. As an example of the catalog’s price level, the aforementioned

Plastyk chair costs five credits (0.85 €), while a wood-paneled 'Tubmaster' jacuzzi goes for 50 credits (8.50 €).

Although Sulake's catalog provides a perfectly elastic supply of many items, there are many items for which the supply is limited. Seasonal items such as Christmas trees are available in the catalog only at specific times of the year. 'Collectibles' are available only for a limited period of time after their introduction, usually for two weeks but sometimes for only two hours. A special item is sometimes made available in a strictly limited quantity as part of a promotion or a competition. In Habbo slang, such items are known as 'super rares'. Items that are not available in the catalog can always be bought or bartered from other users, but their prices tend to go up as the supply grows thin. For example, a limited number of DJ style record players were distributed by Sulake in 2002 as part of an advertising campaign for a mobile operator. In 2006, users were trading them for around 250 Plastyk, which equals a re-purchase cost of approximately 200 €. Even though the purpose of virtual items in Habbo Hotel is ostensibly aesthetic, something to decorate rooms with, in practice they are simultaneously, perhaps even primarily, pieces in a status game. User 'Roundact' on fansite *Habbomatic.com* writes:

> What stuff do you have in Habbo? Are you rich? I have 12 moccas, 2 typewriters (genuine), 3 DJ Esko posters, 4 dice, 6 typewriter-sets and some random stuff.

Possessions are constantly discussed and compared both inside the hotel and on fansites. Those with lots of rare and valuable items are labeled 'rich'. Rich users do not necessarily use their possessions for anything; they may simply line them up on the floor, as in Figure 2. The expensive record player is actually not even capable of playing music. However, changes in market conditions can affect the value and status of items. Since mid-2006, the record player was again distributed as part of a new promotion. This multiplied its supply on the user-to-user marketplaces, leading to a drastic decrease in its value and the prestige associated with owning one.

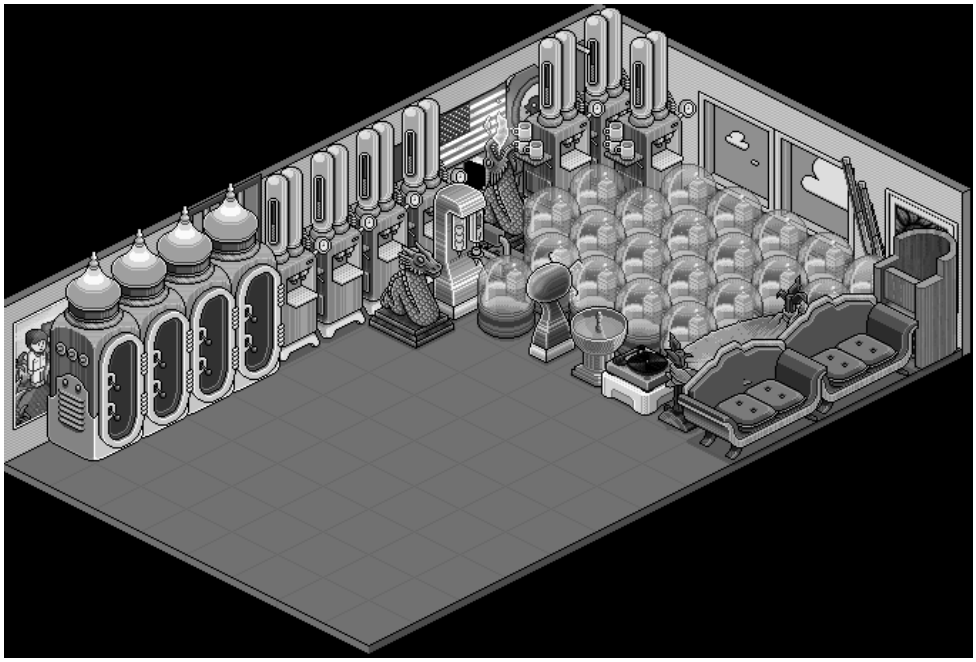

Figure 2. A room with valuable items, including a record player

Besides scarcity, other factors that can contribute to an item's value are age, previous owners and how the item was originally acquired. For example, a decorative trophy that was originally given as a prize to a well-known 'celebrity' avatar (and still has that avatars' name inscribed on it) is valued many times higher than a visually identical new trophy that lacks such history. What difference does it make whether one is rich or not? For example, some popular venues (e.g. casinos, dating games, trading houses) only welcome avatars of sufficient wealth. After losing his property to a scammer, user 'Hpsaea' wrote in *Habbo-Sanomat*:

> [Losing the items] was not the worst of it, though. I was broke. Literally in the blink of an eye, I was demoted to the lowest value class in the eyes of others.

Besides property ownership, there is another method sanctioned by Sulake for establishing status group differences. *'Habbo Club is a club for all active habbos who wish to gain access to many different wonderful privileges and rights. One month's membership costs 25 credits [€4.17],'* reads the service's description. Benefits include skipping in lines when entering crowded areas and having a larger and more varied selection of clothes to choose from. An avatar's status as a member of Habbo Club is indicated by a badge with the

letters ‘HC’, and is also often evident from the avatar’s clothing style. Some HC members routinely discriminate against non-members. For example, they might not speak to non-members and may label their rooms as *‘HC only’*, indicating that non-members are not welcome and may be thrown out. One member explained that this is because non-members can potentially be ‘throw-away avatars’ used in fraud or harassment, unlike HC avatars, which are financially committed. But those who remain non-members for financial or other reasons complain about the discrimination. HC member ‘Simpucca’ writes at *Habbomatic.com*:

> Sometimes in a beauty pageant you may have encountered a situation where a non-HC says to a HC, ‘you are sure to win because you are a HC’ or something similar. This is not nice. Winning does not depend on HC only. Personally, I have seen ordinary characters win many times.

5.3 Goods as vehicles of arbitrary meaning

Being extremely rich, hosting an exceptionally popular venue or activity, producing a popular fansite, or being a Sulake employee may result in one becoming a ‘Habbo celebrity’. Habbo celebrities are users or avatars with high social status that receive a lot of attention from other users and are frequently interviewed in ‘talk shows’ and at fansites.[5] Other users sometimes imitate their style and behavior. ‘Mirska’, the celebrity proprietor of ‘Mirska’s Virtual Hospital’, complained in an interview that her hospital decoration concept is being copied by others, and that some users are even pretending to be her. Imitation leads some celebrities to adopt a new style. ‘Kalasumppu’ at fansite *Kala-stamo* writes:

> As we all know, afro-style hair has long been a favorite among celebs, but at the moment […] it looks like the afro is giving way to its successor, the rasta hair.

Having a large number of celebrities as friends is a positive status sign. Being familiar with Habbo culture is also desirable. If one shows a lack of knowledge regarding conversational conventions, the celebrity canon (over which there is much disagreement), popular venues, or the value and history of every virtual commodity in the service, one risks being labeled a ‘newbie’: a new or otherwise insignificant user whose opinions carry little weight and can

be marginalised. Sometimes ‘experienced’ users claim to be able to recognise new users based on their clothing style alone.

As an example of how the correct interpretation of the meanings of various virtual consumption choices is based on negotiation between users (as opposed to being determined in advance by developers through, for example, graphic design), consider ‘Habbo stables’: rooms where participants assume the role of either a horse or a horse keeper. Since actual horse-avatars are not available, the choice is indicated by skin color, which in Habbo, as in many other online hangouts, is a consumption preference. Dark-skinned avatars are considered horses, while light-skinned avatars are keepers, a code that, for a moment, seemed quite widely understood. Not understanding would of course have been grounds for being labeled a newbie.

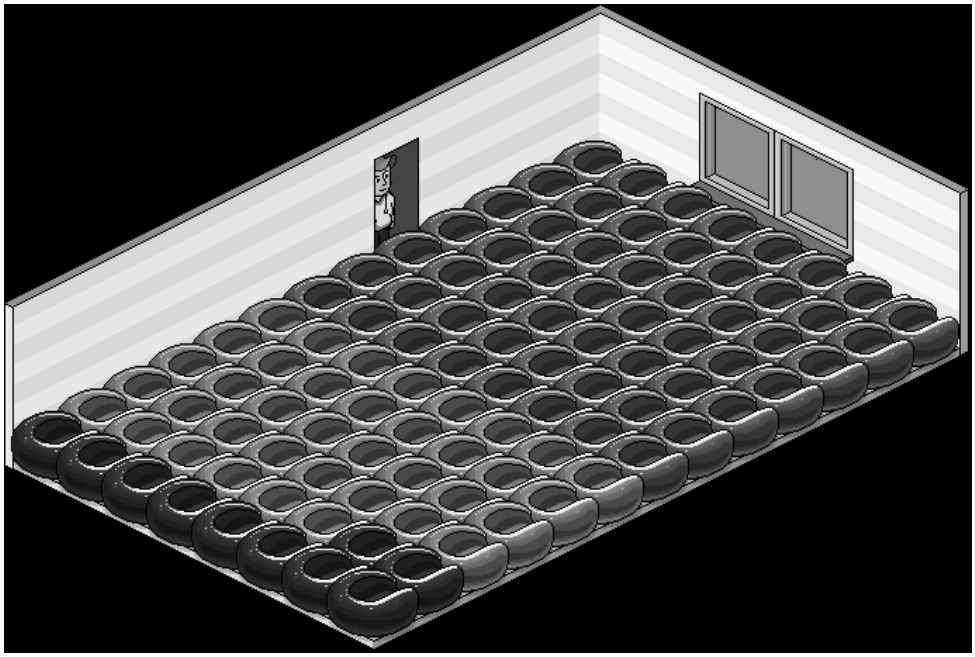

Figure 3. A room full of Plastyk chairs, used as informal currency

Another example of user-negotiated meaning is the emergence of an ad-hoc currency. When Habbo Hotel was first opened, it contained no currency that could be used in user-to-user transactions; all trade was barter. But after a while, a certain virtual plastic chair known as ‘Plastyk’ emerged as a de-facto currency (Figure 3). Prices would be denominated in plastic chairs, and the same plastic chairs could be used as a medium of exchange. The same process lead to different results in parallel versions of the system. In the U.K. Habbo Hotel, a three-level currency system emerged: one ‘Throne’ equals

approximately 34 ‘Club Sofas’, and one Club Sofa equals approximately 75 ‘Rubber Ducks’. The exchange rates of the currency units naturally change as supply and demand fluctuate. Several fansites observe and publish the going rates; the values mentioned here are from *HabboX.com*.

6 CONCLUSIONS AND DISCUSSION

Through our selective exposition of everyday practices and culture in Habbo Hotel, we sought to clarify the motivations of those who participate in the system and spend money on it as well as to explain some of the more complex social dynamics that shape virtual consumer behavior there. In this final section, we summarise the findings from our three chosen perspectives, conduct another comparison between virtual commodities and digital information, and conclude with a discussion of virtual consumerism as a 'real' form of consumption.

Adopting an individualistic perspective on consumer culture, the everyday environment of the virtual world of Habbo Hotel can easily be described as highly aestheticised, permeated with abundant imagery and artistic expression similarly to the cityscapes described by Featherstone (1991, p. 95-112). Virtual *flâneurs* derive pleasure from wandering around artistically placed stacks of furniture while wearing carefully selected couture. Self-expression, aesthetic considerations and even artistic aspirations are revealed in users' virtual consumption choices. Similar motivations have been identified in e.g. *The Sims* (Paulk 2006).

From a more social perspective, it is clear that many virtual commodities are also used in the capacity of markers. They are used to signal distinctions between high status and low status, between membership and non-membership, and between one group and another. In the marker role, the aesthetic and functional attributes of a commodity may cease to matter entirely. Extrinsic attributes, particularly rarity, exclusivity and association with particular individuals or groups become the driving forces behind consumers' choices. For instance, our material suggests that Habbo collectors are at least equally motivated by status-seeking and utilitarian pursuit for the possession of expensive rarities as they are by a romantic, noble passion for the goods as such, as anticipated by Belk (1995, 2004).

The status of a virtual luxury good is not necessarily fixed, however. Like contemporary consumer society, Sulake introduces and re-introduces items and styles so that what was previously the privilege of a select few may suddenly become available to masses. This makes it difficult to rely on ownership of exclusive objects as the only means of establishing social differences, leading individuals to adopt taste and 'correct' consumption choices as another way of drawing distinctions. Not only must one adopt an

appropriate consumption style out of all the possible combinations, one should also display the ability to classify others' styles to be considered authentic (c.f. Bourdieu 1984). Compared to the static, pre-programmed symbolic values of virtual items in *The Sims* (Paulk 2006), in Habbo the meaning of goods is negotiated between real people. Some users imitate the fashions of celebrities, which in turn invent new fashions to maintain the distance (c.f. Simmel 1904/1957). Others opt for subversive strategies (Featherstone 1991, p. 92-93), aiming to discount or even replace existing status games instead of joining them. Keeping abreast of all the changing styles and commodities requires good sources of information. This is provided by fansites, the Habbo equivalent of cultural intermediaries. In all, the dynamics outlined above resemble Featherstone's 'economy of cultural goods' (1991, p. 83-94).

Intricate as the Habbo cultural economy is, the dynamics of taste, fashion and imitation are no strangers to the worlds of ordinary websites, blogs and social media platforms either. Featherstone associated these features with societies that enjoy unrestricted access to goods (1991, p. 17), information goods in this case. Thus the remarkable thing about virtual commodity platforms is perhaps rather their ability to create the more stable, old-fashioned status systems: stable markers to which economic value can readily be assigned. That said, even the exchange of digital files can sometimes engender alternative economies with instances of scarcity. For example, Don Slater describes a social world where digital sex pictures are treated similarly to tradable commodities (Slater 1998). The images are digital and abundant, but finding 'good' or 'rare' ones from the global haystack is difficult. When a good specimen is uncovered, it enjoys a period of natural scarcity until it has been propagated to everyone, creating momentary difference between haves and have-nots.

Yet even without considering scarcity, a significant difference between digital files and virtual commodities can be found in their life-course. Lash and Lury's (2007) comparison of the products of the old and new culture industries illustrates this point well. According to Lash and Lury, Adorno's commodities were atomistic: identical to each other and externally caused. In contrast, the products of the global culture industry are Leibniz's monads: 'all different from each other, because each carries its own trace' (Lash & Lury 2007, p. 12). In Habbo Hotel, users can discuss the age, provenance and past owners of each instance of a very rare item. This makes each copy distinct and of different value. For a rare sex picture, on the other hand, it does not make sense to discuss the provenance of individual copies: they are all the same.

How do we address the charge leveled from the 'production of consumption' perspective: that Habbo Hotel and similar services are deceiving consumers into spending money on an illusion? One strategy is to note that

everywhere in our economy, goods have a social life beyond their physical qualities. Even the consumption of food and drink is far removed from simple fulfillment of physical needs, in terms of quality, quantity, form and ritual. Positional goods are frequently made artificially scarce to enhance their value as markers (Leiss 1983). Thus it is not so much a question of Habbo luring the consumer from 'real' to 'illusionary' consumption, but from one arena of socially oriented consumption to another. We have seen that virtual commodities are able to fulfill the same kinds of aesthetic and social roles as material commodities in their respective subcultures (c.f. Thornton 1996). When we label them 'virtual', we do not mean to imply that they are less 'real' – only that they are computer-mediated. If there is an unreal air to how intangible objects can be worth lots of money, it is an observation regarding the nature of our consumer culture in general, of which virtual consumerism is only a naked example. In this sense, all consumption is virtual.

Yet it is obvious that from a parent's point of view, no matter how real they are, social arenas that are computer-mediated may not be very attractive targets for investment, especially if they steal resources away from the 'big game' of school and career. Marginalising them as 'not real' may thus be an appealing strategy. However, as more and more aspects of life from work to social relations become increasingly computer-mediated, it becomes progressively more difficult to distinguish between these arenas (on work, see e.g. Yee 2006; Pinckard 2006). If a quarter of all Finnish teenagers use Habbo Hotel, there may well be school classes where almost every pupil is a user. In this case, what is the relationship between the pupils' Habbo identities and their schoolyard identities? One possibility is that virtual and material consumption profiles are positively correlated. Previous research suggests that young people's ways of using new technology correspond with their consumption patterns in general: those who are interested in and competent with new technology are likely to be more trend and brand conscious consumers, and vice versa (Wilska 2003; Wilska & Pedrozo 2007).

Another possibility is that status obtained in Habbo Hotel could act as a substitute to material status consumption within a reference group. In other words, lack of trendy sneakers at school could be compensated with virtual dragons and record players. If this was the case, it could have interesting ecological ramifications. Assuming fixed income, any money spent on virtual goods must necessarily mean less money spent on material goods. A virtual item carrying the same price and symbolic payload as a material commodity could potentially have a significantly smaller ecological footprint. The production, distribution and disposal of virtual commodities requires only negligible resources, although their design and use consumes computing related resources such as electricity. Serious studies on the environmental

impact of virtual commodities are yet to be conducted, but in July 2005, Sulake received an award from *Dodo*, a Finnish environmental organisation, for the 'biggest inadvertent environmental feat of the decade' (Dodo 2005). Dodo believed that by providing a venue for virtual consumption, Sulake had created a greener alternative for consumption crazy teenagers to spend their allowances on.

Our notion of *virtual consumerism* is intended to draw attention to this societal side of the real-money trading phenomenon. Compared to the innocuous consumption games of the past, today's virtual consumption is increasingly a part of the surrounding society, a new extension of the playfield of contemporary consumerism. For now, it seems the rules remain largely the same, from global division of labor to systems of symbolic exclusion. But in a mediated society, virtual consumerism also carries transformative potential, at least towards the material aspect of consumption.

NOTES

1. Except for the gradual wearing down of computer hardware and network infrastructure, and the electricity they consume.
2. Note that Lash and Lury use the similar term *virtual object* to refer to 'potentials that generate a succession […] of actual forms' (2007, p. 182), e.g. a brand that is actualised as a series of sporting events. In this parlance, *virtual commodities* are instances of 'actual form'. However, due to their digital nature, virtual commodities can remain extremely close to the objects that spawned them, e.g. a digital brand image.
3. Copyright law of course tries to persuade users that media representations are commodities that can be sold by the piece. The ease at which digital information is duplicated works against this interpretation being perceived as correct by the consumers. So-called Digital Rights/Restrictions Management technologies ('DRM') attempt to turn media products into actual virtual commodities.
4. According to Sulake (2005), Habbo Hotel Finland had 280 000 monthly unique visitors in 2005, although some probably just visited the front page. According to Sulake (2008a, p. 189), 57% of Finnish Habbo users are 13-18 years old. According to Statistics Finland (2008), there are approximately 640 000 people aged 10-19 years in Finland. Thus at least 280 000 x 57% / 640 000 = 24.9% of 13-18-year-olds were visiting Habbo in 2005. It is not unreasonable to assume that similar penetration continues today, given that Sulake (2008b) claims strong growth in total user base globally.
5. These 'Habbo celebrities' should not be confused with occasional visits by actual celebrities such as Ozzy Osbourne, which are organised by Sulake as part of marketing and promotional activities.

REFERENCES

Appadurai, A. (ed.) (1986) *The Social Life of Things: Commodities in Cultural Perspective,* Cambridge University Press, Cambridge.

Baudrillard, J. (1971/1988) 'Consumer Society', in *Jean Baudrillard: Selected Writings,* ed. M. Poster, Polity, Cambridge.

Baudrillard, J. (1994) 'The System of Collecting', in *Cultures of Collecting,* eds. J. Elsner & R. Cardinal, Reaktion, London, pp. 7-24.

Baudrillard, J. (1996) *The System of Objects*, trans. J. Benedict, Verso, London.

Bourdieu, P. (1984) *Distinction. The Social Critique of the Judgement of Taste,* Routledge, London.

Belk, R. W. (1995) *Collecting in a Consumer Society*, Routledge, London.

Belk, R. W. (2004) 'The Human Consequences of Consumer Culture', in *Elusive Consumption,* eds. K. M. Ekström & H. Brembeck, Berg, Oxford, pp. 67-86.

Campbell, C. (1987) *The Romantic Ethic and the Spirit of Modern Consumerism*, Blackwell, Oxford.

Campbell, C. (2004) 'I shop therefore I know that I Am: The Metaphysical Basis of Modern Consumerism', in *Elusive Consumption,* eds. K. M. Ekström & H. Brembeck, Berg, Oxford, pp. 27-44.

Castronova, E. (2006) 'Virtual Worlds: A First-Hand Account of Market and Society on the Cyberian Frontier', in *The Game Design Reader: A Rules of Play Anthology,* eds. K. Salen & E. Zimmerman, MIT Press, Cambridge, MA, pp. 814-863.

Dibbell, J. (1998) *My Tiny Life: Crime and Passion in a Virtual World,* Henry Holt, New York.

Dodo (2005). 'Dodon pääsiäsissaaripalkinto jaetaan virtuaaliyhteisön kehittäjälle', press release, 19 July 2005. [online] http://www.dodo.org/lehdistotiedotteet/paasiasissaaripalkinto_jaetaan.html (17 July 2008)

Douglas, M. & Isherwood, B. (1978) *The World of Goods,* Basic Books, New York.

Fairfield, J. (2005) 'Virtual Property', *Boston University Law Review,* vol. 85, no. 4, pp. 1047-1102.

Featherstone, M. (1991) *Consumer culture & postmodernism,* Sage, London.

Fung, A. (2006) 'Bridging Cyberlife and Real Life. A Study of Online Communities in Hong Kong', in *Critical Cyberculture Studies,* eds. D.

Silver & A. Massanari, New York University Press, New York, pp. 129-139.

Grimes, S. M. (2006) 'Online multiplayer games: a virtual space for intellectual property debates?', *New Media & Society,* vol. 8, no. 6, pp. 969-990.

Guo, Y. & Barnes, S. (2007) 'Why People Buy Virtual Items in Virtual Worlds with Real Money', *The DATA BASE for Advances in Information Systems,* vol. 38, no. 4, pp. 69-76.

Herman, A., Coombe, R. J., & Kaye, L. (2006) 'Your *Second Life*? Goodwill and the performativity of intellectual property in online digital gaming', *Cultural Studies,* vol. 20, no. 2-3, pp. 184-210.

Horkheimer, M. & Adorno, T. (1976) *Dialectic of Enlightenment*, Continuum, New York.

Huhh, J. S. (2008) 'Simple Economics of Real-Money Trading in Online Games', working paper. [online] http://ssrn.com/abstract=1089307 (22 July 2008).

Hyatt, N. (2007) 'Microtransactions Actually Work, proof from MapleStory in the US' [online] http://nabeel.typepad.com/brinking/2007/03/microtransactio.html (22 October 2008).

Jin, G. (2006) 'Chinese Gold Farmers in the Game World', *Consumers, Commodities & Consumption: a newsletter of the Consumer Studies Research Network*, vol. 7, no. 2. [online] https://netfiles.uiuc.edu/dtcook/www/CCCnewsletter/7-2/jin.htm (24 July 2007).

Johnson, M. & Toiskallio, K. (2005) 'Fansites as Sources for User Research: Case Habbo Hotel', *Proceedings of the 28th Conference on Information Systems Research in Scandinavia (IRIS'28)*. [online] http://www.soberit.hut.fi/johnson/Johnson_IRIS_2005.pdf (24 July 2007).

Johnson, M. & Toiskallio, K. (2007) 'Who are the Habbo Hotel Users – and What are they Doing There?' *Proceedings of the Nordic Consumer Policy Research Conference 2007 (Consumer 2007).* [online] http://www.consumer2007.info/wp-content/uploads/ProceedingsConsumer2007v2.pdf (22 October 2008).

Lash, S. & Lury, C. (2007) *Global Culture Industry*, Polity, Cambridge.

Lastowka, F. G. & Hunter, D. (2004) 'The Laws of the Virtual Worlds', *California Law Review*, no. 92, vol. 1, pp. 1–73.

Lehdonvirta, V. (2005) 'Real-Money Trade of Virtual Assets: Ten Different User Perceptions', *Proceedings of Digital Art and Culture 2005*, IT University of Copenhagen, Denmark, pp. 52-58 [online] http://virtual-economy.org/files/Lehdonvirta-2005-RMT-Perceptions.pdf (22 July 2008).

Leiss, W. (1983) 'The Icons of the Marketplace', *Theory, Culture & Society* vol. 1, no. 3, pp. 10-21.

Lury, C. (1996) *Consumer Culture*, Polity, Cambridge.

Malaby, T. M. (2006) 'Parlaying Value: Capital in and beyond Virtual Worlds', *Games & Culture,* vol. 1, no. 2, pp. 141-162.

McCracken, G. (1988) *Culture and Consumption: New Approaches to the Symbolic Character of Consumer Goods and Activities,* Indiana University Press, Indianapolis.

Miller, D. (1987) *Material Culture and Mass Consumption*, Blackwell, Oxford.

Paulk, C. (2006) 'Signifying Play: The Sims and the Sociology of Interior Design', *Game Studies*, vol. 6, no. 1. [online] http://www.gamestudies.org/0601/articles/paulk (22 July 2008).

Pinckard, Jane (2006). 'Is World of Warcraft the New Golf?' article in *1UP.com*, February 8. [online] http://www.1up.com/do/newsStory?cId=3147826 (22 July 2008).

Simmel, G. (1904/1957) 'Fashion', *American Journal of Sociology*, vol. 62, no. 6, pp. 541-8.

Slater, D. (1998) 'Trading Sexpics on IRC: Embodiment and Authenticity on the Internet', *Body and Society,* vol. 4, no. 4, pp. 91-117.

Slater, D. & Miller, D. (2000) *The Internet: An Ethnographic Approach*, Berg, Oxford.

Statistics Finland (2008). 'Population by age 31.12.2007', *Population and Cause of Death Statistics*. [online] http://stat.fi/til/vaerak/2007/vaerak_2007_2008-03-28_kuv_002_en.html (22 October 2008).

Sulake (2005) 'Habbo Hotelin luojat palkittiin Opetusministeriön Suomi-palkinnolla', Press release, 8 December 2005. [online] http://www.sulake.com/press/releases/2005-12-08-Habbo_Hotelin_luojat_palkittiin_Opetusministerioen_Suomi-palkinnolla (22 October 2008).

Sulake (2008a) *Global Habbo Youth Survey*, Sulake Corporation, Helsinki.

Sulake (2008b) 'Habbo – Where else?' Introduction to Habbo on Sulake Corporation's website. [online] http://www.sulake.com/habbo/ (22 July 2008).

Taylor, T. L. (2006) *Play Between Worlds: Exploring Online Game Culture*, MIT Press, Cambridge, MA.

Thornton, S. (1996) *Club Cultures: Music, Media and Subcultural Capital,* Wesleyan University Press, Middletown, CT.

Veblen, T. (1899/1955) *The Theory of the Leisure Class,* Mentor Books, New York.

Wilk, R. (2004) 'Morals and Metaphors: The Meaning of Consumption', in *Elusive Consumption,* eds. K. M. Ekström & H. Brembeck, Berg, Oxford, pp. 11-26.

Wilska, T.-A. (2003) 'Mobile Phone Use as Part of Young People's Consumption Styles', *Journal of Consumer Policy*, vol. 26, no. 3, pp. 441-63.

Wilska, T.-A. & Pedrozo, S. (2007) 'New Technology and Young People's Consumer Identities. A Comparative Study between Finland and Brazil', *Young. Nordic Journal of Youth Research,* vol. 15, no. 4, pp. 343-368.

Yamaguchi, H. (2004) 'An Analysis of Virtual Currencies in Online Games', unpublished manuscript. [online] http://ssrn.com/abstract=544422 (22 July 2008).

Yee, N. (2006) 'The Labor of Fun', *Games and Culture*, vol. 1, no. 1, pp. 68-71.

ARTICLE THREE

Lehdonvirta, Vili (2009)

Virtual Item Sales as a Revenue Model:
Identifying Attributes that Drive Purchase Decisions

Published in *Electronic Commerce Research*, Vol. 9, No: 1, 97-113.

Electron Commer Res (2009) 9: 97–113
DOI 10.1007/s10660-009-9028-2

Virtual item sales as a revenue model: identifying attributes that drive purchase decisions

Vili Lehdonvirta

Published online: 10 March 2009

Abstract The global market for virtual items, characters and currencies was estimated to exceed 2.1 Billion USD in 2007. Selling virtual goods for real money is an increasingly common revenue model not only for online games and virtual worlds, but for social networking sites and other mainstream online services as well. What drives consumer spending on virtual items is an increasingly relevant question, but little research has been devoted to the topic so far. Previous literature suggests that demand for virtual items is based on the items' ability to confer gameplay advantages on one hand, and on the items' decorative value on the other hand. In this paper, I adopt a perspective from the sociology of consumption and analyse examples from 14 virtual asset platforms to suggest a more detailed set of item attributes that drive virtual item purchase decisions, consisting of functional, hedonic and social attributes.

Keywords Consumer behaviour · Online communities · Business model · Purchase drivers · Virtual consumption · RMT

1 Introduction

Virtual goods are understood to refer to objects such as characters, items, currencies and tokens that exist inside various online games and hangouts. Selling virtual goods has arguably become a major new source of revenues for consumer online services, complementing the existing palette of advertising, usage fees, sales of customer data and miscellaneous value-added services (see e.g. [13]). The global volume of real-money trade of virtual goods was estimated at 2.1 billion USD per year in 2007 [20]. To provide context, online advertising revenues in 2006 in the U.S. were approximately 16.9 billion USD [27]. The purpose of this paper is to outline the basics of

V. Lehdonvirta (✉)
Helsinki Institute for Information Technology, PL 9800, 02015 TKK, Finland
e-mail: vili.lehdonvirta@hiit.fi

virtual goods-based business and examine the question of why people spend money on virtual goods.

Real-money trade of virtual goods first emerged in 1999 as player-to-player trade in massively multiplayer online role-playing games ('MMORPG'). Users would list their hard-earned game possessions on eBay and let other users bid for them [18]. In recent years, the growth of the market has increasingly been driven by game operators selling goods directly to their players. This is particularly true in the East Asian market. In September 2005, 32% of titles surveyed by Nojima [25] in Japan used virtual item sales as their main revenue model. In October 2006, the share had grown to 60%. Besides games, another type of service that frequently utilises the revenue model are so-called "virtual worlds", simulated spaces where users spend time socialising, creating and shopping for virtual goods. Latest-generation connected video game consoles are also experimenting with the model.

In addition to games, virtual goods are also increasingly being sold in mainstream online services. Finnish online image gallery *IRC-Galleria,* Korean social networking site *Cyworld*, Chinese instant messaging service *Tencent QQ* and U.S. social networking site *Facebook* are examples of extremely popular online services that earn revenues by selling virtual goods to their users. Common objects are priced at a dollar or less, while notable objects can be sold for tens of dollars. In 2006, it was reported that *Cyworld*'s virtual item sales amounted to nearly 300 000 USD per day, or approximately 7 USD per user per year [30]. At the same time, advertising-heavy *MySpace* made an estimated 2.17 USD per user per year [30]. This suggests that virtual item sales may in some cases be able to rival advertising as the primary revenue model for mainstream online services, which represents a major shift in consumer online business.

Due to the novelty of the revenue model, designing virtual goods is still an undisciplined pursuit. Service operators put considerable effort into overall design and marketing, identifying the tastes of their target consumer and positioning their service favourably among competing offerings. But when it comes to designing the virtual goods inside the service that ultimately generate the revenues, similar rigour is rarely applied. Virtual commodity design is driven by artists and concept designers, while the marketing department, which in theory has the analytical tools and customer insight necessary to maximise customer value, is rarely involved.

One common approach to product design in marketing is to attempt to identify which product attributes influence consumers' purchase decisions. For example, in some industries and product categories such attributes could be size, shape, performance and style [15, p. 376]. These "purchase drivers" can then be used to guide prototyping and follow-up research. In this paper, I take an analogous approach to virtual consumption, attempting to identify attributes and features of virtual goods that influence consumers' interest in purchasing them. The advantage of this approach is that the results can be quite readily translated into practice, since they describe concrete product attributes. A shortcoming of the approach is that not all consumer behaviour can be explained in terms of individual preferences for attributes. Social, economic and contextual factors also play an important part.

The following section contains a survey of previous research on virtual goods and a brief theoretical review of what kinds of uses consumption researchers identify for

goods in general. Sections three and four form the empirical part of this paper, where I analyse existing online games, "virtual worlds" and other online hangouts to identify cases where users' choices of virtual goods are influenced by particular attributes that can be linked back to the theory. In the final part, I assess the findings, compare them with previous research, and discuss their applications in design and follow-up research.

2 Background

2.1 Defining virtual goods

Defining exactly what is meant by virtual goods has been a challenge during the short history of research relating to the concept. Many authors (e.g., Oh and Ryu [26]) define virtual goods only implicitly through the services they examine (i.e. "virtual goods are goods that exist in a virtual world"). A more general definition of virtual goods risks including other e-commerce transactions such as MP3 files from *iTunes*, which intuition suggests belong to a different category. To prevent this, it is tempting to add a qualifier requiring that virtual goods are "simulations" of material objects. However, there are many virtual goods that do not have any "material" counterpart. Even those that have an intuitive counterpart (e.g. clothes) can have uses and attributes that are completely different from the material object. Thus, it is more accurate to see virtual goods as a new independent category of goods: goods that are sometimes "inspired" by certain commonplace objects, but not "virtual versions" of them.

The problem of definition was most successfully solved by Fairfield [9], who succinctly captured the main difference between virtual goods and information goods such as MP3 files: virtual goods are *rivalrous*, meaning that one person's making use of a virtual good excludes others from simultaneously doing so. In this one aspect, all virtual goods simulate material objects. For example, a shirt can only be worn by one person at a time. Information, in contrast, is not rivalrous: one person can give an MP3 file to another person and keep it at the same time, too.[1] Other features pointed out by Fairfield are *persistency* and *interconnectedness*. Persistency refers to the idea that an object must exist for some length of time for it to be considered an asset. Items that disappear when the computer is turned off are not worth much. Interconnectedness means that the object must not exist in isolation: other users or systems must be affected by it somehow. Objects that appear on one's personal computer only are not virtual goods.

This definition is technology agnostic and applies to everything from *Cyworld*'s virtual furniture to *World of Warcraft* gold coins. It indicates that they have a common role as rivalrous resources in a digital environment where few other resources are rivalrous. From a sociological point of view, it could be speculated that in the user's

[1] Except of course that copyright law demands that users treat non-rivalrous information goods as rivalrous objects that are traded like commodities. Digital Rights/Restrictions Management (DRM) systems go further by enforcing this rivalrousness through technical means, turning information goods into virtual goods.

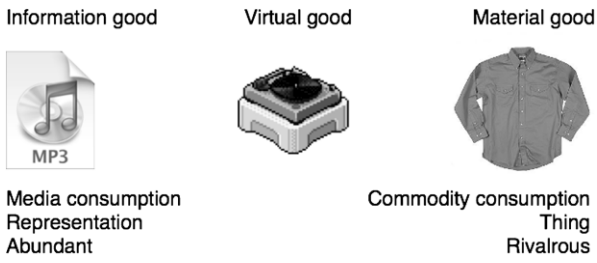

Fig. 1 Comparing information goods, virtual goods and material goods

perception, virtual assets are transformed from mere media representations into objects of a "thing-like" nature in a process that resembles theories of objectification and reification [24, p. 13]. As a result, the user may begin to apply mental models associated with commodity consumption instead of mental models associated with media consumption. This is a significant difference from a business point of view, similar to that between selling photographs of *Gucci* bags and selling the actual *Gucci* bags. Figure 1 illustrates these differences.

Fairfield's definition of virtual assets actually includes all kinds of rivalrous online resources, such as websites and Internet domain names, which are similarly rivalrous by design (one name can only be held by one legal person at a time). While domain names are also bought and sold on online marketplaces, they differ from virtual furniture and gold coins in that copies of desirable names cannot be mass produced for retail; they are naturally scarce. In this paper, I use the term virtual goods to refer to the subset of virtual assets that can be mass-produced and as a result are frequently bought and sold like conventional consumer commodities. In practice, this mainly includes the items, characters and currencies of massively multiplayer games and other online hangouts. For the most part, this paper focuses on the items. Even when virtual currencies are sold for real money, the ultimate object of consumption is usually the items.

What the end user perceives as a virtual good is always part of a user experience delivered by an information system. The software code that produces the item experience does not necessarily have to have any "thing-like" qualities in itself, but if a single entity must be pointed out as the physical manifestation of a virtual good, it is typically a row in a database. These systems, which can be anything from a massively-multiplayer online game like *World of Warcraft* to a social networking site like *Cyworld*, may also simulate some features of an economy, such as markets and production. The resulting system is sometimes called a "virtual economy" [18]. These can be further divided into closed economies and open economies, and their various properties are another interesting avenue of research. However, the basic principles of virtual commodities (rivalrousness, persistency, interconnectedness) remain the same from system to system. Further study of the internal dynamics of these systems is outside the scope of this paper, but is occasionally touched upon in the discussions below.

Having arrived at a reasonable definition of what virtual goods are and what they are not, in the following section, I proceed to review previous research relating to the sales of virtual goods for real money.

2.2 Previous research on virtual goods

I attempt to maintain a comprehensive bibliography of scholarly publications related to real-money trade of virtual assets, available at [33]. Out of the approximately 80 works currently listed, the majority focus on the fascinating legal and philosophical questions that virtual worlds and virtual assets give rise to (e.g., Fairfield [9], Lastowka and Hunter [16]). Only a handful deal with virtual goods as a revenue model from a business perspective: Nojima [25], Oh and Ryu [26], Lehdonvirta [18] and Guo and Barnes [12]. One market research institute has published a summary of the findings of a survey of purchase habits in *Second Life* [29]. Elsewhere in the literature of electronic commerce, the terms "virtual asset", "virtual commodity" and "virtual consumption" usually refer to unrelated concepts such as simulation. In contrast to the scarcity of research on virtual asset sales, more traditional revenue models such as online advertising and online sales of conventional goods and services have been widely researched [14, 17, 21].

Nojima [25] focuses on virtual item sales as a revenue model for massively-multiplayer online games, comparing it with subscription fees and selling packaged software. She points out that item-based pricing comes close to price discrimination, where each user pays according to their value experienced as opposed to paying a fixed rate. In theory, this boosts revenues by enabling the seller to harvest what would otherwise be consumer surplus. Using surveys, Nojima examines relationships between the revenue models and players' motivations for play. The motivations are based on a model by Yee [34]. Nojima finds that players who buy items report higher levels of immersion in a game. One explanation offered is that it takes a certain amount of immersion before virtual objects begin to feel desirable enough to purchase.

Using a similar approach as Nojima [25], Lehdonvirta [19] examines different motivations an individual may have for purchasing virtual goods for real money. Users' attitudes towards real-money trading and virtual asset purchases are seen as being linked with their general motivations for participating in the virtual world and the activities they engage in. Motivations that are discussed most prominently are advancement in a status hierarchy, advantage in competitive settings, keeping up with co-players, experiencing new content, customisation and self-expression.

Guo and Barnes [12] assume a more deterministic psychometric approach, attempting to develop a preliminary model of "individual determinants for the decision to purchase virtual items within virtual game communities" [12, p. 70]. The model is largely based on older models intended to describe user acceptance of new technologies in management and information systems sciences. Thus, the determinants it identifies include ease of use, "performance expectancy" and "perceived enjoyment" [12, p. 72]. The only social determinant is "the degree to which an individual perceives that important others believe he or she should use community transaction mechanisms to gain high-level virtual items for enhancing character competence" [12, p. 72]. The resulting model offers a rather mechanistic view of user motivations, which furthermore makes assumptions regarding the mechanics of the underlying service that seem to confine its application to certain MMORPGs only.

The studies introduced above place the user in the center of attention, examining motivations and decision processes that lead into virtual asset purchases. In contrast,

Oh and Ryu's [26] case study of two Korean online games, *Kart Rider* and *Special Force*, focuses on game content and how virtual items contained in the games are programmed to function. Based on their observations, they offer the following advice for game developers:

- Balance between items that can be purchased with real money and items that must be earned through gameplay, and build synergies between the two categories.
- Allow players to keep "ornamental" items permanently, but make "functional" items consumable.
- In the case of items that give the player a performance advantage, do not disclose the exact numbers; provide approximate descriptive texts instead.
- Introduce items linked to specific events and communities (e.g. Christmas decorations and guild emblems).

The analysis is grounded in observations but lacks ties to any existing body of knowledge that would allow theoretical insights to be made. Some general structures can be seen underlying the advice—a division into "ornamental" items versus "functional" items, and the value of linking items to other entities—that could be developed further. This might also allow the advice to be applied in a more general context of online services as opposed to online games only. In the following section, I tap into established consumption research to obtain more ideas on what aspects of virtual goods consumers might be attracted to.

2.3 Uses of goods in sociological literature

Another approach to understanding consumer behaviour in relation to virtual goods is to consider how the question has been answered in the context of traditional material goods. In sociological and cultural studies of consumption, three basic perspectives can be identified on the uses of goods: functional aspects of goods, emotional aspects of goods, and the use of goods as markers for drawing social distinctions [10, p. 85]. The functional or utilitarian attributes of goods are those that allow them to be used as instruments towards fulfilling some higher objective, usually a tangible material objective that is seen as related to some fundamental human need. In Marxist theory, this is called the use-value [24]. In marketing terms, it might be expressed as features and performance [15, p. 377]. While functional attributes may be perceived as the basic reason why goods are valued, they are clearly not the only reason, especially in contemporary consumer societies.

Contemporary sociologists such as Campbell [4, 5] and Featherstone [10] have drawn attention to the individual emotional aspects of consumption. Campbell sees consumption as a hedonistic process of pleasure seeking, while Featherstone [10] discusses the aesthetic and even artistic aspects of contemporary consumer culture. Consumers seek pleasurable sensations and mix fashions and consumption styles in a way that resembles artistic expression. From this perspective, the visual, aesthetic and pleasure inducing attributes of goods are brought into attention. Indeed, attributes such as form, shape, taste, color and style are important considerations in traditional product design [15, p. 376].

Finally, a large part of the sociology of consumption deals with the use of goods in building social bonds or distinctions. Generally speaking, consumers are seen as

communicators who use symbolic meanings embedded in commodities to express status, class, group membership, difference or self-identity (e.g. [3, 23, 31]). The satisfaction derived from goods is primarily linked to their use as markers, and only secondarily related to their physical consumption [8]. For example, a classic study by Veblen [32] describes a situation where those who belong to the highest social class seek to distinguish themselves from the lower classes through conspicuous consumption. The consumed goods can be functionally inferior as long as they are exclusive and thus capable of drawing distinctions. Another example is the accumulation of collectible objects, which can be completely 'useless' and non-functional [1, 2], but also somewhat uncommon or otherwise distinctive enough (e.g., due to their special provenance) to make their pursuit sufficiently challenging; this allows status hierarchies to form between collectors. In contemporary consumer culture, brand names, popular bands and other pop culture icons are used in a similar way to draw social distinctions and express self-identity [28].

It can be argued that symbolic content is not really an intrinsic attribute of the goods, but rather a feature of the surrounding social reality. On the other hand, such goods will necessarily have some tangible distinguishing feature that makes it possible to pin down the symbolic content on a specific good, making it suitable for use as a social marker. The aesthetic aspects of goods can be analysed both in terms of individual emotional pleasure as well as in terms of the symbolic content the aesthetics may point to.

The three-pronged approach outlined above can be seen as an extension of Oh and Ryu's [26] dichotomous notion of "functional" versus "ornamental" items. According to this approach, the "ornamental" attributes of goods can be further divided into hedonic and social attributes, while functional attributes can co-exist in the same items.

3 Objective and method

The empirical part of this paper is an exploratory study of what attributes consumers are influenced by when purchasing virtual goods. What kinds of differences are there between virtual goods that lead consumers to choose one good over another? Previous literature on virtual goods has mostly focused on the performance dimension, while also recognising that goods may have some vaguely defined "ornamental" uses. Literature from the sociology of consumption suggests that goods can be seen as having three kinds of attributes: functional, emotional and social. The precise attributes vary from one type of good to another, but common attributes used in marketing include performance, features, color and style. The objective of this study is to identify similar attributes for virtual goods. The attributes must be general enough to potentially apply to virtual goods broadly, but tangible enough to be useful in design.

The method is an analysis of existing massively multiplayer online games, "virtual worlds" and other online hangouts that contain virtual goods to identify instances of users' choices being apparently influenced by a particular observable attribute of a virtual good. The analysis is structured into functional, hedonic and social attributes as suggested by the literature, although there is overlap. The titles included in the

Table 1 Virtual goods platforms included in the study

Title	Publisher/operator
Aapeli.com	Apaja, Finland
Cyworld	SK Communications, Korea
EVE Online	CCP Games, Iceland
Facebook	Facebook, U.S.
Habbo Hotel	Sulake, Finland
IRC-Galleria	Sulake, Finland
Jippii.com	Jippii, Finland
Kart Rider	Nexon, Korea
MapleStory	Nexon, Korea
Second Life	Linden Research, U.S.
Snow War	Sulake, Finland
Special Force	Nexon, Korea
Ultima Online	Electronic Arts, U.S.
World of Warcraft	Blizzard, U.S.

study are listed in Table 1. The analysis is based on first-hand use experience (except for *Snow War* and *Special Force*), interviews with developers (*Aapeli.com, EVE Online, Habbo Hotel, IRC-Galleria, Jippii.com,* and *Snow War*), interviews with professional virtual goods traders ($N = 2$), previous literature (cited as appropriate), and numerous informal discussions with users and players, both computer-mediated and face-to-face. The data was collected between early 2005 and late 2007, and for the most part not specifically for this paper, but as general background material for virtual consumption related research. The cases described in this paper were selected for their variety, clarity and availability of information with regard to the purposes of this study. This kind of information-oriented sampling, as opposed to random sampling, is appropriate for exploratory studies and situations where depth of information is valued over breadth [11]. Statistical generalisations are not possible from these cases, but quantitative follow-up studies can use the results as a basis for formulating hypotheses.

Of the titles covered, *EVE Online* and *World of Warcraft* do not actually use the virtual goods sales revenue model in any form. They are nevertheless a valid source of observations for the purposes of this study, because their users still have to make decisions on how to allocate scarce resources between various goods, and those decisions are arguably based partly on the attributes of the goods regardless of whether real money is used as a medium or not. In any case, the virtual currencies of most if not all massively multiplayer online games can be converted to real money on secondary markets.

The results are presented in the following section. The presentation style is a rather "thick narrative form" [11, p. 237] that can be useful from a designer's point of view, since it preserves some of the ambiguity inherent in the phenomenon. The results are summarised at the end of the section in a tabulated form.

4 Virtual item purchase drivers

4.1 Functional attributes

In MMORPGs such as *Ultima Online* and *World of Warcraft*, the most visible driver of real-money trading is performance; in whatever way it may be understood in the context of the rules of the game. Powerful characters are more valuable than less powerful ones, sharp swords are more valuable than blunt ones, and fast steeds more desirable than slow ones. Performance is a positional attribute: if everyone has high performance, no one has high performance.

However, game operators who have attempted to monetise by selling performance advantages for real money have met with mixed success. In 2000, Sulake launched a competitive "casual" online game called *Snow War* in Finland. Later, a revenue model was added where users could buy bigger snowballs and thicker coats by sending premium SMS messages. The prospect of being able to win by spending more money on the service than others was not welcomed by the players. In 2001, the whole game was dropped, although for a variety of reasons. In 2002, the Finnish branch of casual gaming site *Jippii.com* experimented with a single player action game where users could purchase bigger bombs to perform better in the game and increase their scores against rivals. This was considered as a potential revenue model for various games, but it was dropped after the bombs failed to sell. In 2004, Electronic Arts announced plans to begin selling advanced characters in the MMORPG *Ultima Online* for real money, probably inspired by the widespread eBay trading of powerful characters for significant sums of money (500–2000 USD). Player response was negative. When the "Advanced Character Service" was launched, it actually sold only mediocre avatars, not powerful ones [18].

At the same time, several Korean online games successfully sell performance-based items to users. For example, in *Kart Rider*, players can purchase faster vehicles and items that improve their chances of winning by hindering other players. *Kart Rider* utilises a two-currency model, where lesser items can be bought with real money, while the most powerful items can only be bought with points earned through gameplay. This limits how much influence purchases can have on game performance and works towards ensuring that player skill remains an important determinant of success. One point also worth noting is that the gaming culture in Korea is generally much more saturated with real-money purchases than Western markets. Attitudes also vary between user segments [19].

In addition to providing a simple performance advantage (e.g. "5% faster", "10 points more damage"), items can provide new functions, convenience or gameplay options to the player. For example, in the Korean online first-person shooter game *Special Force*, players can use real money to purchase items that make it possible to record a replay of a match or change the appearance of the crosshair to be more visible from the background [26]. In *MapleStory*, players can purchase a pet that does not take part in fighting, but saves the player trouble afterwards by helping to pick up items left by the defeated monsters. In both cases, the idea is that actual performance upgrades generally have to be earned through gameplay instead of cash purchases, but cash purchases can help to reach these gameplay goals faster. This helps to preserve the prestige associated with hard-to-get powerful items.

Items that provide new functionalities are very similar to small value-added services that are sold in some online games and services. Indeed, many functionalities could conceivably be sold as either attached to an item or as a separate subscription service. The difference is that when attached to an item, the functionality can possibly be re-sold to another player.

While performance advantages and new functionalities no doubt have a strong influence on users' purchase decisions, there are many apparently highly desirable virtual items that lack both of these attributes. In such cases, the items' desirability can perhaps be traced to some type of emotional or social attributes that they contain.

4.2 Hedonic attributes

In online hangouts like *Habbo Hotel*, users commonly point to the aesthetic qualities of goods to explain their consumption choices. One *Habbo* user explained their choice of virtual clothes as follows:

> Regarding my current style, the reason I wear those colors is that the yellow hoodie is close to my favorite color, which is golden yellow. White goes with all clothes, that's why the bottom is white. Hair also yellow, same reason as the hoodie. IRL [in real life] I don't like to wear shorts and a hoodie at the same time, but in Habbo it somehow pleases my eye.

Aesthetic attributes can also be important in competitive environments where consumption related discussions center around performance. In *World of Warcraft*, players can buy effects known as "enchants" to improve the performance of their weapons. "Minor Beastslayer" delivers a very modest performance improvement, but is nevertheless among the most popular enchants in its price range. The reason is that it imbues weapons with a red glow. "It's not useful, but it's cool," said one player about the enchant. A player maintained site at *GlowChart.com* helps *World of Warcraft* players choose glowing enchants based on their hue and intensity.

The aesthetic attributes of virtual goods include their on-screen representations as well as any animations and sounds associated with them. The name or label of a good and any related background fiction or narrative presented to the user may also form part of the aesthetics. If the aesthetic aspects of virtual goods are sufficiently compelling, users may derive hedonistic pleasure from experiencing them. What exactly are compelling aesthetics is a question outside the scope of this paper, but the answer will depend on the target audience. However, aesthetically pleasing features may be difficult to distinguish empirically from features that are desirable because of their social value. For example, is the "Minor Beastslayer" desirable because of its aesthetic appeal, or because it is fairly visible and sufficiently uncommon (at one time) to generate social distinctions?

Another kind of hedonistic sensation may be derived from suggestive and pornographic items and avatars available in *Second Life*. The goods generate visual and aural stimulation comparable to an interactive porn movie. However, a general difference between virtual items and objects appearing in a movie is that while both can generate hedonistic sensations, virtual items can also simultaneously have a social role.

4.3 Social attributes

Besides giving rise to individualistic hedonistic pleasure, the visual appearance of goods can also be seen as related to their social value. In *Habbo Hotel*, users can be seen describing each others' appearances and possessions using terms such as "fashionable", "stylish" or "smart". What is currently "stylish" is a matter of much debate, indicating that it is a social convention rather than some objective state of aesthetic quality.

From the designer's point of view, the difficulty is that "stylish" is something that is very hard to design. Some designers are able to consistently come out with products that audiences perceive as stylish (consider *Apple*), but there is no formula or recipe that automatically results in stylish design. Style can be considered a positional attribute: if everything is cool, then nothing is cool. From this point of view, only by differing from the rest do glowing swords have the chance of being perceived as "cool".

One possible way to seek stylish virtual good design is to allow users to generate content. *IRC-Galleria* lets users create their own virtual items by uploading an image and selecting a simple behaviour from a list. Items created in this way can be placed on a moderated marketplace to be sold to others. The vast majority of the items attract very few purchases, but a few become very successful. No figures have been released by the operator, but according to one informant, Managing Director of the company operating *IRC-Galleria* in January 2007, total item sales increased very significantly after the user-created items were introduced. Having only operator-designed content could perhaps be likened to having a city full of people wearing the same brand of clothes: consistent but potentially dull. User-created content introduces diversity but also conflicting visions.

In other cases, the visual appearance of a virtual item does not seem to be connected with its desirability as a commodity at all. In *Ultima Online*, one of the most highly valued virtual items in the whole system was a small brown lump named "horse dung". Despite its very modest appearance and complete lack of performance or functionality, people have paid the equivalent of hundreds of U.S. dollars for the item. The reason is that in *Ultima Online*, horse dung is extremely rare. Upon the creation of each instance of the game world, the developers placed a handful of manure in some stables, presumably to enhance the atmosphere. But as virtual horses produce no discharges, no more of the substance was ever created. Players quickly noticed this fact and grabbed the unique cakes as souvenirs.

One informant, owner of virtual item dealership *UOTreasures.com*, estimated that at best there existed one piece of horse dung for 30 000 players. According to the informant, "owning one of these was a status symbol, akin to owning a diamond in the real world." The lucky few who owned a piece would proudly display it at a prominent spot in their house or castle for others to admire. In 2007, *Ultima Online* was more than ten years old and had fewer than 100 000 players left, but the informant claimed he was still able to sell some of the extremely rare items with prices "in the $300 range each". In a similar example from *Habbo Hotel* Finland, a limited number of non-functional virtual record players were distributed in 2002 as part of an advertising campaign. In 2006, users were bartering them for around 250 "Plastyk chairs" (a type of item), which equals a re-purchase cost of approximately 290 USD.

Not surprisingly, many operators manufacture rarity (also known as "artificial scarcity" [6]) to increase the value of the assets they are selling. In *Habbo Hotel,* seasonal items such as Christmas trees are available in the catalog only at specific times of the year. "Collectibles" are available only for a limited period of time after their introduction, usually for two weeks but sometimes for only two hours. In *Facebook*, many of the items users purchase as gifts to other users are made available in a limited quantity. Usually the stock is several hundred thousand, but the rarest item only exists in five copies.

4.3.1 Individual differences

Even if a given item is not particularly rare, its provenance can differentiate it from all other similar items and thereby increase its ability to create social distinctions. Provenance includes things such as the item's age, previous owners, notable situations it has been involved in, and how it was originally created or acquired. For example, in *Habbo Hotel*, a decorative trophy that was originally given to a well-known "celebrity" user (and has that user's handle inscribed on it) is valued many times higher than a visually identical new trophy with no such history.

In many cases, game and service developers do not provide users with features that would allow them to discern historical information about their goods, lessening the value of the goods. Sometimes users come up with workarounds: in order to keep track of how old a user-created room is, a *Habbo Hotel* user might place a virtual pet in it. The user interface provides no way of checking when a room was created, but it does show the age of the pet inside it. Older rooms exist in fewer numbers and are considered more prestigious.

Another method of differentiating a given virtual asset from others of the same type is customisation or personalisation: allowing users to modify attributes of the asset according to their preferences. For example, in many games and services the user is able to pick a name and color for their virtual pet. Completely user-designed objects are an extreme form of customisation. Besides differentiating, customisation can also strengthen the emotional bond the user has with the asset. To what extent customisability is a social attribute rather than an individualistic emotional attribute is a matter of debate.

Some games allow user groups to put their own logo or badge on an item. In *World of Warcraft*, players can design and purchase a guild tabard, while in *EVE Online*, alliances will in the future be able to paint their logos on spaceship hulls. The obvious purpose of these group-customised items is to act as symbols of membership. In games and services that do not support membership badges, some user groups have nevertheless chosen some relatively uncommon item as a symbol of their membership and require every member to wear it.

4.3.2 References to outside culture

In most of the above examples, the symbolic value of a virtual good stems from its role and meaning inside the game or service. A person not part of that social world would probably not see the good as valuable at all. It is also possible to make virtual

assets attractive by importing and attaching meanings to them from the other social worlds: the surrounding popular culture. For example, during the *2006 FIFA World Cup*, the international football (soccer) championship tournament, *IRC-Galleria* sold virtual football kits in each team's colors. According to the Managing Director of the company operating the service, for a period before and during the games, the sales of these kits surpassed the sales of all other virtual items. Users showed allegiance to their favourite teams by buying and displaying the kit, thus creating social bonds and distinctions (on soccer fandom and digital spaces, see also [7]).

IRC-Galleria also offers various items that incorporate the name, logo or likeness of a popular artist, band or upcoming movie. They are released as part of advertising campaigns and are paid for by advertisers, but many users find them highly desirable. Fans of a given artist or movie collect the associated virtual merchandise in a way comparable to how traditional fans seek official T-shirts and figurines. Indeed, Finnish casual gaming site *Aapeli.com* (the international version of which is *Playray.com*) has announced a deal with Sony BMG to sell virtual artist T-shirts [22]. The lineup includes clothes branded with stars from a popular television show called *Idols*. In a similar fashion, *Cyworld* sells decorative items shaped after famous characters from popular anime series and online games.

Virtual commodities branded with pop culture icons can serve multiple purposes, from providing aesthetic pleasure to establishing membership in a fandom and communicating identity and values to others. Given that the icon is what matters, why do users not simply copy the graphics from these items and paste them onto their profile for free? Items in *IRC-Galleria* are two-dimensional and have very little functionality, so for most practical purposes copy-pasting would produce "items" very similar to the "real" thing. One reason why users nevertheless choose the originals is probably convenience, but it may also be a question of *authenticity*. A true fan of a given team, artist or clothing brand may wish to demonstrate their devotion to others by purchasing the real thing instead of using a fake. As with physical merchandise, some people will be content with counterfeits if such are available, while some will value the idea that a commodity is "authentic" in relation to some external referent. The purely aesthetic visual experience from both is the same, but the social value of the fake may be very different.

Many games and services also sell seasonal decorations like Christmas trees and Halloween masks. Unlike brands and pop culture icons, these more general (Western) cultural references seem to be perceived as more compatible with fantasy worlds as well. MMORPGs from *MapleStory* to *World of Warcraft* feature Christmas-inspired items, even though strictly speaking Christmas is not part of their fictional world. In another instance of cultural reference, many players in *EVE Online* seem to have a strong urge to express their real-life national identity in some way. In the fictional universe of the game, all memory of earthly nations is lost, so no national flags or other national symbols are available. To work around this limitation, players use colored characters to construct national flags on their profiles.

4.4 Summary of findings

What follows is a brief summary of the findings described above. Purely "utilitarian" or use-value-based attributes can be divided into two categories: performance (sim-

Table 2 Virtual item attributes acting as purchase drivers

Functional attributes	Performance
	Functionality
Hedonic attributes	Visual appearance and sounds
	Background fiction
	Provenance
	Customisability
	Cultural references
	Branding
Social attributes	Rarity

ple numerical advantage) and functionality (new abilities and options). Virtual goods also have attributes capable of generating emotional or hedonic responses, particularly their visual appearance and sound, but also any background fiction or narrative associated with them. Hedonic attributes are difficult to distinguish empirically from the conceptually different social attributes, which refer to attributes that make virtual items suitable for creating and communicating social distinctions and bonds. Such attributes are provenance, customisability, cultural references and the "branding" of an item with a known commercial brand. Rarity is perhaps the most socially oriented attribute of virtual goods, because its value is strongly associated with its ability to distinguish a (small) group of owners from non-owners. The nine attributes identified above are presented in Table 2.

5 Conclusions and discussion

Selling virtual goods for real money is an increasingly common revenue model not just for games and virtual worlds, but for mainstream online services as well. The purpose of this paper has been to improve understanding of the model by examining why people purchase virtual goods. Previous studies [12, 19, 25] have mostly focused on the consumer, examining individuals' motivations and the decision processes that lead to virtual item purchases. Actual uses of the items are broadly speaking discussed in terms of two categories: "functional" and "decorative" [26]. Sociological consumption research suggests that goods in general can be seen as having three kinds of uses: functional, individual emotional and social. Using these notions as a starting point, an empirical analysis was conducted to yield a more detailed understanding of what attributes of virtual goods can drive consumers' purchase decisions. The result is a list of nine attributes, presented in Table 2.

The nine attributes are consistent with Nojima [25] and Lehdonvirta [19], and can be seen as an expansion of the functional/decorative dichotomy used by Oh and Ryu [26] and others. The functional category is further divided into performance and functionality, while the decorative category is replaced with a number of hedonic and social attributes. Functional, hedonic and social attributes can co-exist simultaneously in the same item, different attributes being brought to the foreground as the item is used in different situations and for different purposes. For example, a

sword might be used for fighting (performance, functionality), for showing off one's equipment (appearance, customisability), or placed in storage as part of a collection (provenance, rarity). It could even be speculated that in some cases the functional attributes of a virtual good serve only as an excuse for a purchase that is primarily motivated by hedonic or social aspects, a technique commonly applied in marketing high-performance automobiles.

In general, the results suggest that virtual items are valued for many of the same reasons as more tangible commodities. They also support the notion of virtual assets as a distinct category, separate from information goods, as discussed in section two of this paper. While information goods can deliver the same kinds of emotional and aesthetic sensations as virtual goods, both being computer-mediated, virtual goods are more suited to creating and maintaining social distinctions and bonds because of their built-in rivalry and scarcity.

In applying the results to design, it is important to note that several of the attributes represent a *positional* characteristic instead of an absolute one: their value stems from how they compare to other goods and the surrounding environment. In order for a sword to be considered sharp, there must exist a blunt sword that can be used as a reference. The objective of the designer is thus not to attempt to "maximise" each item on every dimension. For each attribute, the designer should consider a whole spectrum of commodities and their interaction with the surrounding environment. This applies in particular to performance, rarity and some aesthetic features. Provenance and customisation can also give rise to positional hierarchies, but this does not necessarily require limiting their enabling features to certain items only. Cultural references and branding are perhaps better conceptualised as horizontal design spaces than as vertical hierarchies. The attributes in Table 2 can be used as a checklist by designers for creating a variety of parallel tensions between virtual goods.

5.1 Limitations and further research

While the level of abstraction was chosen so as to produce tangible attributes that developers have control over, the resulting nine attributes could arguably be broken down further into more detailed features. These could be specific to a service and type of good, for example, the effect of color on the sales of virtual scooters in *Cyworld*. While this might be useful in a marketing study for a specific service, in this study the aim was to maintain the possibility of generalisability across services. The sample of cases used in the study was saturated in the sense that newer observations, such as those from *Facebook*, did not suggest attributes that could not be placed into categories already identified from earlier cases.

The eclectic method used in the empirical part was partly dictated by the available data and is to some extent justified by the novel subject matter and explorative approach, but can be seen as detracting from the overall credibility of the findings. Which attributes identifiable in the material are worth a separate entry on the results table is largely up to the author's judgment. On the other hand, while a study based on, for example, a large number of structured interviews could yield more reliable (i.e. repeatable) results, it is not certain that the results would be equally broad. Consumers can be unconscious of or unwilling to disclose emulative motivations, as

recognised already by Veblen [32] in his observations. The emphasis in this paper was on generating a range of results that can be used as the basis for hypotheses in follow-up studies. A survey-based study of the users of a virtual item platform is being prepared to examine how different user segments respond to the different attributes and to what extent the attributes can be verified as orthogonal measures in a quantitative study.

In this paper, virtual consumption was examined through virtual goods and their various attributes as the central concept. This goods-centered approach is complementary to the consumer-centered approaches of some previous studies. A third front that would be equally valuable in understanding virtual consumer behaviour should focus on the design and mechanics of the games and platforms that contain the goods. This could be comparable to the approach commonly used in electronic commerce research that examines how user interfaces, information presentation styles and community features affect buying behaviour in online stores (e.g. [14]). On all three fronts, the emphasis should gradually shift towards more quantitative studies and applying the findings to practice.

Acknowledgements I would like to thank my colleague Mikael Johnson for *Habbo Hotel* related insights and the three anonymous reviewers for their useful comments on an earlier version of this paper. This research was supported by the Foundation for Economic Education, Finland.

References

1. Baudrillard, J. (1994). The system of collecting. In J. Elsner & R. Cardinal (Eds.), *Cultures of collecting* (pp. 7–24). London: Reaktion.
2. Belk, R. W. (1995). *Collecting in a consumer society*. London: Routledge.
3. Bourdieu, P. (1984). *Distinction. The social critique of the judgement of taste*. London: Routledge.
4. Campbell, C. (1987). *The romantic ethic and the spirit of modern consumerism*. Oxford: Blackwell.
5. Campbell, C. (2004). I shop therefore I know that I am: the metaphysical basis of modern consumerism. In K. M. Ekström & H. Brembeck (Eds.), *Elusive consumption* (pp. 27–43). Oxford: Berg.
6. Castronova, E. (2003). On virtual economies. *Game Studies 3*(2). http://gamestudies.org/0302/castronova/. Accessed 19 October 2008.
7. Crawford, G. (2006). The cult of champ man: the culture and pleasures of championship manager/football manager gamers. *Information, Communication & Society*, *9*(4), 496–514.
8. Douglas, M., & Isherwood, B. (1978). *The world of goods*. New York: Basic Books.
9. Fairfield, J. (2005). Virtual property. *Boston University Law Review*, *85*(4), 1047–1102.
10. Featherstone, M. (1991). *Consumer culture & postmodernism*. London: Sage.
11. Flyvbjerg, B. (2006). Five misunderstandings about case-study research. *Qualitative Inquiry*, *12*(2), 219–245.
12. Guo, Y., & Barnes, S. (2007). Why people buy virtual items in virtual worlds with real money. *The DATA BASE for Advances in Information Systems*, *38*(4), 69–76.
13. Hoffman, D. L., & Novak, T. P. (2005). A conceptual framework for considering web-based business models and potential revenue streams. *International Journal of Marketing Education*, *1*(1), 7–34.
14. Jeffrey, S. A., & Hodge, R. (2007). Factors influencing impulse buying during an online purchase. *Electronic Commerce Research*, *7*(3-4), 367–379.
15. Kotler, P., & Keller, K. (2006). *Marketing management* (12th ed.). New Jersey: Prentice Hall.
16. Lastowka, F. G., & Hunter, D. (2004). The laws of the virtual worlds. *California Law Review*, *92*(1), 1–73.
17. Lee, P.-M. (2002). Behavioral model of online purchasers in e-commerce environment. *Electronic Commerce Research*, *2*(1–2), 75–85.
18. Lehdonvirta, V. (2008). Real-money trade of virtual assets: new strategies for virtual world operators. In M. Ipe (Ed.), *Virtual worlds* (pp. 113–137). Hyderabad: Icfai University Press.

19. Lehdonvirta, V. (2005). Real-money trade of virtual assets: ten different user perceptions. In *Proceedings of digital arts and culture (DAC 2005)* (pp. 52–58), IT University of Copenhagen, Denmark, 1–3 December 2005.
20. Lehtiniemi, T., & Lehdonvirta, V. (2007). How big is the RMT market anyway? *Virtual Economy Research Network*, 3 March. http://virtual-economy.org/blog/how_big_is_the_rmt_market_anyw. Accessed 19 October 2008.
21. Ling, M. C.-H., & Lawler, K. (2001). Internet advertising, game theory and consumer welfare. *Electronic Commerce Research*, *1*(1–2), 169–181.
22. M&M (2007). Aapelilta artistipaidat. *Markkinointi&Mainonta*, 13 October. http://www.marmai.fi/doc.te?f_id=1261930. Accessed 19 October 2008.
23. McCracken, G. (1988). *Culture and consumption: new approaches to the symbolic character of consumer goods and activities*. Indianapolis: Indiana University Press.
24. Miller, D. (1987). *Material culture and mass consumption*. Oxford: Blackwell.
25. Nojima, M. (2007). Pricing models and motivations for MMO play. In *Proceedings of DiGRA 2007*. http://www.digra.org/dl/db/07311.40164.pdf. Accessed 19 October 2008.
26. Oh, G., & Ryu, T. (2007). Game design on item-selling based payment model in korean online games. In *Proceedings of DiGRA 2007*. http://www.digra.org/dl/db/07312.20080.pdf. Accessed 19 October 2008.
27. PricewaterhouseCoopers (2007). *IAB internet advertising revenue report 2006*. http://www.iab.net/media/file/resources_adrevenue_pdf_IAB_PwC_2006_Final.pdf. Accessed 19 October 2008.
28. Quart, A. (2003). *Branded. The buying and selling of teenagers*. Cambridge: Perseus.
29. Repères Second Life. (2007). *Main research findings: purchase habits in second life*. http://www.reperes-secondlife.com/image/Reperes_Main_research_findings_purchase_habits_in_SL.pdf. Accessed 19 October 2008.
30. Schonfeld, E. (2006). Cyworld attacks! *Business 2.0*, 2 October. http://money.cnn.com/magazines/business2/business2_archive/2006/08/01/8382263/index.htm. Accessed 19 October 2008.
31. Simmel, G. (1904/1957). Fashion. *American Journal of Sociology*, *62*(6), 541–548.
32. Veblen, T. (1899/1955). *The theory of the leisure class*. New York: Mentor Books.
33. Virtual economy research network bibliography. http://virtual-economy.org/bibliography. Accessed 19 October 2008.
34. Yee, N. (2005). Motivations of play in MMORPGs. In *Proceedings of DiGRA 2005*. http://www.digra.org/dl/db/06276.26370.pdf. Accessed 19 October 2008.

Vili Lehdonvirta is a researcher at Helsinki Institute for Information Technology HIIT, focusing on virtual consumption and real-money trade of virtual property. He graduated from Helsinki University of Technology in 2005 with a M.Sc. (Tech.) in Knowledge Intensive Business and is pursuing a Ph.D. degree in Economic Sociology at Turku School of Economics, Finland. He is currently a visiting researcher at Waseda University, Tokyo. Before joining HIIT, Vili worked as a game developer, creating casual multiplayer online games. He is the co-founder of Virtual Economy Research Network, http://virtual-economy.org.

ARTICLE FOUR

Lehdonvirta, Vili

Who Buys Virtual Goods? A Cross-Cultural Survey of Habbo Users

Unpublished manuscript (in review)

WHO BUYS VIRTUAL GOODS? A CROSS-CULTURAL SURVEY OF HABBO USERS

Vili Lehdonvirta

It is increasingly common for virtual worlds, games and other online hangouts to generate revenues by selling virtual goods to their users. Yet in most services where virtual goods are available for purchase, only a minority of users actually buy them. In this paper, I ask what distinguishes spenders from non-spenders. Virtual world related research suggests that spending on virtual goods is related to certain usage patterns and activities within the service. Mainstream consumption researchers explain spending with socio-demographic factors such as gender, age and income. To test these different explanatory approaches, an empirical study is conducted with survey data from 5288 users of the virtual world *Habbo Hotel* from Japan, United Kingdom, Spain and Mexico. The results indicate that specific activities such as collecting virtual items are statistically the best predictors of spending behavior, but simple usage metrics and socio-demographic variables can also reveal significant spending differences. For instance, men are approximately 1.5 times as likely to be spenders as women.

Keywords: consumer behavior, virtual currency, digital divide, frequency of use, length of use, logistic regression, international comparison, revenue model

1 INTRODUCTION

Virtual worlds, games and other online hangouts are increasingly generating revenues by selling virtual goods to their users. Typical virtual goods are graphical items that are used to enhance one's virtual presence, given as gifts to other users or used as equipment in games and activities. While to an outsider the goods may seem trivial and worthless, in the social reality of the user base they can serve very similar functions as material commodities do in other contexts. As a result, spending real money on virtual goods can be an attractive proposition to a user.

One of the oldest and most popular services selling virtual goods is *Habbo Hotel*, a virtual world aimed at teenagers. *Habbo* was launched in 2000 and is developed and operated by *Sulake*, a privately owned Finnish company. According to *Sulake* (2008b), *Habbo* currently has around 9.5 million monthly unique visitors globally, which makes it one of the most popular online services in the virtual worlds category, about ten times as popular as *Second Life*. *Habbo* earned approximately 60 million US$ in 2007, largely from the sales of virtual furniture.

However, not every user in an online hangout spends money on virtual goods. No figures have been published, but anecdotal evidence suggests that even in a successful service like *Habbo*, only a minority of users are actually regular spenders. The purpose of this article is to examine differences between those users who spend on virtual goods and those who do not. Understanding these differences is of obvious importance to businesses aiming to benefit from virtual asset sales. It also provides a new angle to the question of why people spend money on virtual goods in the first place.

The paper consists of a theoretical part and an empirical part. In the theoretical part, I review previous literature on virtual asset trading, technology consumption and other consumption research to identify factors that could distinguish spenders from non-spenders. In the empirical part, I use data from a cross-country survey of *Habbo* users to test ideas put forward in the theoretical part, comparing different approaches to assess which explanations offer the best chance of predicting spending behavior. Finally, I discuss the theoretical and practical implications of the findings.

2 CONSUMING VIRTUAL GOODS

The possibility to spend money on virtual goods is a very recent addition to the contemporary consumer's choices. The first time virtual goods were traded for real money in any significant volume was in the early massively multiplayer online role-playing games (MMORPG) of the late 1990's (Lehdonvirta 2005). Players put characters, items and currencies earned through gameplay on sale at Internet auction sites like *eBay*, and other players bid for them. When an auction was completed, the buyer and the seller met up in the game world and the object was transferred to the buyer's game account. Payment was carried out using ordinary means such as check or money order. In North America and Europe, the first games involved were *Ultima Online* and *EverQuest* (Lehdonvirta 2005), while in Korea the leading title was *Lineage* (Huhh 2008).

Since then, it has been estimated that spending on virtual goods has grown to over 2 billion US$ per year globally, although the estimates are still rough (Lehtiniemi and Lehdonvirta 2007). This reflects the fact that MMORPGs have become a popular genre of games, the leading title being *World of Warcraft* with approximately 10 million subscribers (Blizzard 2008). While player-to-player sales of virtual goods continue to thrive, game publishers are also increasingly selling virtual items and currencies to their players (Lin and Sun 2007). This is particularly true in the Asian market. In September 2005, 32% of titles surveyed by Nojima (2007) in Japan used virtual item sales as their main revenue model. In October 2006, the share had grown to 60%.

Marketers are now attempting to take the virtual asset sales revenue model that emerged in the context of online gaming and introduce it into more mainstream consumer online services. Korean social networking site *Cyworld*, Chinese instant messaging service *Tencent QQ*, U.S. based social networking site *Facebook* and Finland based teenage "virtual world" *Habbo* are examples of very popular online services that earn revenues by selling virtual goods to their users. In 2006, it was reported that *Cyworld*'s virtual item sales amounted to nearly 300 000 US$ per day, or approximately 7 US$ per user per year (Schonfeld 2006). During the same period, advertising-heavy *MySpace* made only 2.17 US$ per user per year (*ibid*.). This suggests that virtual asset sales could rival advertising as the primary source of revenues in some types of consumer online services, representing a major shift in consumer online business.

Despite the growing prominence of virtual asset sales as a revenue model, relatively little research has been dedicated to understanding why and under what circumstances people buy virtual goods. Recently, there have been attempts to study the topic within the framework of Information Systems research (Guo and Barnes 2007; Choi et al. 2007). This approach centers on psychometric modeling of user motivations and intentions. The studies conducted so far suffer from theoretical shallowness, relying on highly abstract psychometric variables such as "perceived enjoyment" (Guo and Barnes 2007, p. 72) and "perceived fun" (Choi et al. 2007, p. 1) to explain purchase behavior. As a result, their practical and theoretical contributions are questionable. One study finds that for "intrinsically motivated buyers", defined as buyers who aim "to enjoy the process of the transaction" (Choi et al. 2007, p. 2), "perceiving fun is more significant than perceiving less transaction cost" (ibid., p. 9). For "extrinsically motivated buyers", defined as buyers who aim "to acquire items with less effort" (ibid., p. 2), the main finding is that "less transaction cost in trading is more important than fun" (ibid., p. 9). The findings are thus a direct consequence of the definitions.

Other earlier works on virtual goods purchases are similarly light on theoretical content, but contain useful case descriptions. In competitive MMORPGs such as *Ultima Online*, the virtual goods traded on player-to-player markets are typically powerful characters, items and currencies that help buyers to advance and prevail over other players (Lehdonvirta 2005). It has been suggested that purchase behavior in these markets is structured in such a way that older players who have entered working life use their increased financial resources to offset the fact that they are no longer able to devote as much time to advancing in the game (Lehdonvirta 2005). Tentative support is lent to this idea by an unpublished survey study of MMORPG players where it was found that older respondents were much more likely to purchase virtual goods on player-to-player markets than younger respondents (Yee 2005).

While explanations based on advancement and competitive advantage can be plausible in competitive gaming settings, they are difficult to apply in online hangouts like *Cyworld*, *Habbo* and *Second Life,* where no explicit gameplay goals are involved. Very little research has been published on purchase motivations in such services. Lehdonvirta (2005) suggests that virtual consumption in *Habbo* is related to collecting, decorating, expressing self-identity, roleplaying and game-like activities. Gamers and roleplayers in *Habbo* use virtual items as props to construct suitable settings for their various activities. Collecting, on the other hand, involves the pursuit of particularly rare, expensive or otherwise notable items that serve to create social distinctions between "haves" and "have-nots". Different choices of items also

paint different images of self-identity, while decorating involves the use of virtual items for self-expression and aesthetic purposes. Martin (2008) provides a similar analysis of the roles of virtual goods in *Second Life*. In general, it can be said that Lehdonvirta (2005) and Martin (2008) identify the same kinds of social and hedonistic functions for virtual items that sociologists have long associated with material goods. On closer look, social and hedonistic motivations can also be identified in competitive MMORPGs. Oh and Ryu (2007) provide examples of gameplay-enhancing items versus "decorative items" in Korean online games where players buy items from the game operator.

The above discussion provides a basis for understanding how virtual asset spending can be linked to specific activities and usage styles within a game or service. The shortcoming of the activity-based explanations is that they are quite specific to the particular game or service in question. In the following section, I consider a more general approach to predicting virtual consumption by tapping into mainstream consumption research.

3 SOCIO-DEMOGRAPHIC STRUCTURES OF CONSUMPTION

The most elementary way in which sociologists and market researchers seek to explain differences in spending behavior is by reference to basic socio-demographic variables such as age, gender, education, income and class identity. Although postmodernist thinkers have challenged the relevance of these traditional structures in contemporary "fragmented" consumer culture (Featherstone 1991), empirical studies indicate that they are still significant predictors of consumer behavior. For example, gender has a strong impact on the way individuals consume new technology. Women not only spend less time and money on technology (e.g., Räsänen 2008a; Räsänen 2008b; Dutta-Bergman 2005; Rice & Katz 2003), but they may also be relegated to "user only" roles, while men assume administrative roles and gain access to a wider range of features (Gill & Grint 1995).

In more conventional areas of consumption, the female gender is associated with home decoration, fashion, clothing and anything to do with appearance (Barnard 2002, p. 25; Lury 1996). This gender difference is clearly weakening, however. In most Anglo-American and European countries, trendy products aimed at men, especially clothes, cosmetics and fashion magazines, have emerged as a significant market (Barnard 2002, p. 123; Edwards 2000, p. 135). In Finland, young men aged 18–24 spend slightly more money on clothes than young women do (Statistics Finland 2001). According to Wilska (2003), new "cool" consumption styles involve a mixture of "masculine" technology and "feminine" trend consciousness.

Age is another significant predictor of spending behavior. Young children lack an independent consumer identity, but as they reach school age, they rapidly turn into consumers that are expected to find their "own style" (Schor 2004; Miles 2000). Very broadly speaking, young consumers are characterized by material consumption styles, hedonism, self-expression, visible consumption and an attraction to branded goods (Quart 2003; Wilska 2003; Slater 1997, p. 164). Young people are also quick to adopt new consumption styles, and the styles adopted by young consumers influence the consumption patterns of the whole population (Wilska 2003; Featherstone 1991, p. 100). As consumers grow older, their consumption landscape is increasingly dominated by work, family building and large consumption decisions such as buying a house or a car, while visible materialistic consumption decreases.

Age is also a significant factor in the consumption of new technology. While older people spend more time with television and other "traditional" mass media, younger people favor new technologies like mobile phones and the Internet (Räsänen 2008b; Räsänen 2006; Wilska 2003; Cummings and Kraut 2002). Young people are in general more open towards new products and technologies and adopt the requisite skills faster than the pre-Internet generations. In a series of surveys of the players of massively multiplayer online role-playing games (MMORPG), the median age was found to be 25 years and upper quartile 32 years (Yee 2006).

Education, income and social class can be linked with consumption behavior in various ways. Empirical studies show that socio-economically disadvantaged people tend to consume Internet services and other new technologies less than socio-economically advantaged people (Hsieh et al. 2008; Räsänen 2008b; Räsänen 2006; Parayil 2005). One interpretation of this is that working class people lack the necessary education and spending power to enter the digital age. Another interpretation is that higher classes are drawn to novel and expensive gadgets because of the gadgets' ability to create social distinctions (Yoshimi 2006, p. 76). In the history of the sociology of consumption, high class and high income have been associated with novel, frivolous and even counter-functional consumption styles (e.g., Veblen 1955[1899]). On the other hand, recent studies suggest that people of the lower income and education brackets use the Internet for frivolous entertainment purposes rather than for information retrieval or learning (North, Snyder and Bulfin 2008; Räsänen 2006; van Dijk 2005). Today's working class youth are also frequently associated with highly materialistic fashion and clothing consumption styles (e.g., Hayward and Yar 2006).

Teenagers' personal disposable income (e.g., pocket money given by parents, money earned from working) is not necessarily correlated with their family's socio-economic class position (Lintonen et al. 2007). A study of teenagers' disposable income in Finland found that young boys and children of single parents had the most money at their disposal (ibid.), although pocket money practices are likely to differ from one country to another. In the following section, I discuss cross-country differences in consumer behavior.

4 CONSUMER BEHAVIOR BETWEEN COUNTRIES

Spending on virtual commodities is a relatively global phenomenon in consumer societies. For example, a localized version of *Habbo* is currently available in 32 countries, including United Kingdom, Spain, Japan, United States and Mexico (Sulake 2008b). But the structural conditions of consumption outlined above vary between cultural settings. Cross-country differences are thus likely to exist in virtual consumer profiles as well.

Industry discussions involving cross-cultural issues in online gaming and virtual goods are usually framed in terms of a separation between the "Western market" and the "Asian market" (e.g., Allison 2008; Lehtiniemi and Lehdonvirta 2007). The Western market is understood to include at least North America and Europe, while the Asian market mainly refers to Korea, China and Japan. Consumers in the Western market mainly use games and hangouts produced in the U.S. and Europe, while the Asian market is characterized especially by Korean online games and locally produced online services. One of the few titles to become very popular in both markets is *World of Warcraft* by U.S. company *Blizzard Entertainment* (Blizzard 2008). For the most part, however, East Asian and Western consumers use different virtual worlds.

It is tempting to explain these differences in consumption behavior by making sweeping references to culture and cultural differences between the East and the West. Such explanations are too simplistic, however. Considerable cultural differences exist within regions: between Japan and China, between Europe and America, between Anglo-American and Latin countries, and so on. Charles Yuji Horioka (2006) argues that before resorting to cultural explanations, it is important to consider whether simple economic realities might account for cross-national differences in spending patterns. In his analysis of household consumption expenditures in G7 countries, Horioka finds similarity between Japanese and continental European consumers. He contrasts them with Anglo-American consumers, who spend a significantly larger proportion of their income on luxuries. According to Horioka, the difference between these two groups is explained by the Anglo-American consumers' greater affluence. The fact that East Asian and Western consumers use different virtual worlds might perhaps be explained by business realities such as domestic market advantage just as well as it is explained by some deep-seated cultural differences.

Economic-historical factors can also be used to explain differences in technology consumption between countries. North European and North American countries enjoy higher Internet penetration rates that less affluent South European and Latin American countries (Haythornthwaite and Wellman 2002). High penetration is associated with access becoming increasingly universal and less marked by gender, age and class differences (Räsänen 2006). Japanese technology consumption is characterized by the mobile phone as the primary information device, especially for young people.

In the context of online consumption, payment still presents a technical hurdle in some countries. Credit card is the payment method most typically accepted by online games and services, but credit card penetration varies widely between countries. In 2005, there were 1.74 credit and charge cards per capita in Japan, compared to 1.35 in UK, 0.75 in Spain and 0.13 in Mexico (Schmith 2008). Young consumers usually do not have credit cards, meaning that they have to involve an elder in the payment process. If the elder is not quite as favorably disposed towards virtual assets as the open-minded young consumer, the deal may be cancelled. *Habbo* is specifically targeted at teenagers, and hence offers a wide variety of payment methods other than credit cards; for instance, SMS mobile payments and scratch cards sold at ordinary brick-and-mortar outlets are available. However, parents may still have a say in the process by virtue of their role as financiers. In a survey of Finnish teenage mobile phone users, the majority of respondents reported that their parents paid all or most of their phone bills (Wilska 2003). In many cases, there were strict rules in place to limit the bills.

In summary, previous literature suggests several approaches to explaining virtual asset spending, from general socio-demographic predictors to specific usage related variables. In the following section, I proceed to compare these approaches empirically and to examine how the results vary between countries.

5 EMPIRICAL STUDY

To test the theories discussed in the previous sections of this paper, an empirical study was devised based on data from a survey of the users of *Habbo Hotel*. *Habbo* is a good target for a quantitative study into virtual consumer behavior, because it is popular, available around the world and has virtual shopping in a central role. One drawback is that the participants are younger than in some comparable services. The average age of *Habbo* users is approximately 15.5 years (Sulake, 2008a). In some ways, this can be an advantage, though, since teenagers are frequently seen as trailblazers of contemporary consumer culture (Wilska 2003, p. 441).

Habbo's revenue model is based on selling virtual currency to its users. The currency can be used to purchase virtual items ranging from kitchen tables to rubber ducks. The items can either be purchased from *Sulake*'s catalogue or traded from other users. When an item is purchased from the catalogue, the currency spent in the transaction is removed from circulation and must be re-purchased from *Sulake* using real money. Items last indefinitely and can be passed between users numerous times. New types of items are continuously introduced into the catalogue, many of which are available for only a limited time.

The sole dependent variable in the study is spending behavior. Respondents are divided into "spenders" and "non-spenders" based on whether they have purchased any *Habbo* currency within the past one month. Other variables are then used to explain which of these groups a respondent is most likely to belong to. This is a high-level measure of spending behavior that does not register details regarding the frequency, quantity or quality of spending, but sufficient for the purposes of the research problem at hand.

5.1 Research questions and hypotheses

The overall objective of the empirical study is to assess which approach offers the best method of distinguishing spenders from non-spenders globally. To this end, the following subsidiary research questions and hypotheses were formulated:

RQ1: What socio-demographic differences exist between spenders and non-spenders, if any?

If we consider *Habbo* spending a form of technology related consumption, then previous literature suggests that men are more likely to be spenders than women. On the other hand, the objects purchased in *Habbo* are ostensibly decorative in nature. If the whole activity is likened to fashion and home decoration, literature suggests that it is women who are more likely to be spenders. Gender differences in trendy consumption have been decreasing, however. It is thus hypothesized that men are more likely to be spenders than women.

Technology, trends and novel consumption styles are all associated with young age, which suggests that young people are more likely to be spenders than older people, particularly if the effect of income is controlled. On the other hand, the youngest users may not be old enough to make independent spending decisions, which could suggest a negative relationship between young age and *Habbo* spending. In any case, *Habbo* users are a relatively homogenous group in terms of age, meaning that significant age-based variations may not be detectable in the present study.

It is hypothesized that individuals with high personal income are more likely to be spenders than those with low personal income. The effects of education and class identity are more difficult to establish in the context of young people, and are not addressed in this study.

RQ2: What differences exist in the way spenders and non-spenders use the service, if any?

Besides socio-demographic factors, previous literature suggests various ways in which spending behavior can be linked to an individual's use profile and activities within the service. In this study, I test whether a set of activities discussed by Lehdonvirta (2005) is connected to spending behavior in *Habbo*; namely hanging out with friends, making new friends, organizing games and activities, taking part in games and activities organized by other users, roleplaying and collecting virtual goods.

I also test whether more abstract use profile variables can predict spending behavior, namely use frequency, how long the person has been a user, and the number of avatars on a user's friends list. In MMORPGs, frequent use and spending have sometimes been seen as inversely related (Lehdonvirta 2005), but especially in free-form virtual worlds, frequent use can be expected to be an indication of enthusiasm that correlates positively with spending. The length of time a person has been a user may have a more complicated relationship with spending. Since the desirability of non-functional virtual goods stems in part from the symbolic value attached to them by other users, and functional goods often require some understanding of their method of application, it is reasonable to expect that new users will go through a period of "learning" before they come to appreciate the goods enough to spend

money on them. On the other hand, having used a service for a long time may be associated with a loss of interest in further spending.

The number of contacts on the friends list can be seen as a proxy for social activity in general, which may imply increased incentives for spending. On the other hand, increased social capital might also act as a substitute for other forms of capital, lessening interest in real-money purchases.

RQ3: Do the effects hypothesized above vary between countries, and if so, how?

As discussed in the theory section, the way in which consumption behavior is structured by socio-demographic and other factors varies from one country to another. *Habbo* is available in a number of countries and regions, so it allows us to examine whether similar variation exists in virtual asset spending.

5.2 Data and methods

The survey was administered between July 14 and July 21, 2008 using *LimeSurvey 1.70*, an open-source web survey engine. The survey was originally prepared by the author in English and translated into Spanish and Japanese by *Sulake* staff in collaboration with the author. Partial back-translations and other checks were used to ensure that the meanings of the questions were preserved. Respondents were recruited from three localized versions of *Habbo*: habbo.co.uk (intended for UK residents), habbo.es (intended for the Spanish speaking world) and habbo.jp (intended for Japanese speakers). A link to the survey was placed by *Sulake* staff on these sites on the first page presented to users after they log in.

The survey attracted 11255 responses, which was reduced to 9675 responses from 64 countries after a cleaning step was applied.[1] Respondents from Japan, United Kingdom, Spain and Mexico were selected for further analysis in this study, totaling 5288 responses. This selection was based on sample size and geographical diversity of the countries. Due to the data collection method used, it is not possible to estimate response rate, but the respondents' gender and age distributions in each of the four countries are consistent with the results of a recent larger survey of *Habbo* users (Sulake 2008a), except that the respondents of this survey are on average

[1] A decision was made to exclude cases in which 30 or more of a set of 33 five-point Likert scale items (not used in this study) had been given the same response, strongly suggesting that the survey had not been completed in earnest. Similar analyses were performed on two other Likert item sets. Respondents who reported their birth year as being before 1940 or after 1999 were also excluded on the grounds that they are either errors or extreme outliers. More detailed information on the data is available on request.

approximately half a year older. Both survey samples are likely to contain some self-selection bias. This is not a significant issue in the present study, however, because the objective is not to generalize from the sample to make statements regarding the population of all *Habbo* users. Instead, the objective is to compare the population "spenders" with the population "non-spenders". Assuming that samples from both populations are subject to the same biases, any patterns of difference identified between the samples should reflect genuine differences between the populations.

In the present survey, respondents were asked to indicate their country, gender, use frequency, number of contacts and the length of time they had been a user by choosing from a list of responses. Respondents were asked to indicate their birth year, disposable income and the amount of *Habbo* currency purchased within the past month by entering digits into text fields. They were also asked to indicate how much they engage in various activities inside *Habbo* using a five-point Likert-style answer scale. Other questions that are not used in this study were also asked. To facilitate the analyses described below, each answer was later categorized to a small number of categories. The categorizations were designed to yield groups that are roughly the same size, make sense in terms of interpretation and provide explanatory power as indicated by preliminary analyses. For example, age was categorized into preteen (<14 years), teenager (14-18) and adult (>18). Activities were dichotomized into those who do more of the given activity and those who do less. Income was converted into Euros and categorized in a logarithmic manner. The sums may seem small, but it must be remembered that most *Habbo* users are teenagers and pre-teens. Categorizations and frequencies for all the variables are presented in Table 1. The original questions can be found in Appendix A.

Table 1. Number of respondents by dependent and independent variables

Variable	Value	Japan	UK	Spain	Mexico
N		632	2133	1650	873
Spending behavior	Spender	295	1254	938	461
	Non-spender	337	879	712	412
Gender	Male	246	1006	1067	563
	Female	386	1127	583	310
Age	<14 years	229	438	245	115
	14-18 years	215	1530	1014	555
	>18 years	188	165	391	203
Personal income	>100 €/mth	87	555	181	175
	11-100 €/mth	310	1321	688	281
	1-10 €/mth	200	152	518	188
	0 €/mth	35	105	263	229
User since	<1 month	14	63	102	84
	1-3 months	61	146	195	173
	4-12 months	147	361	311	231
	>12 months	410	1563	1042	385
Use frequency	Every day	262	1531	1145	572
	4-6 times / week	163	353	279	160
	2-3 times / week	123	137	146	94
	Weekly or less	84	112	80	47
Number of contacts	>200 avatars	60	796	356	164
	110-200 avatars	118	507	407	203
	<110 avatars	454	830	887	506
Hanging out with friends	More	234	831	735	377
	Less	398	1302	915	496
Making new friends	More	185	1048	885	505
	Less	447	1085	765	368
Organizing games and events	More	340	1426	965	466
	Less	292	707	685	407
Participating in games and events	More	255	944	721	385
	Less	377	1189	929	488
Roleplaying	More	198	1085	662	345
	Less	434	1048	988	528
Collecting	Yes	454	1520	955	520
	No	178	613	695	353

To test the hypotheses presented above, a series of logistic regression models was generated from the data using *SPSS 16.0*. Logistic regression was chosen because it operates with categorical dependent variables and is a non-parametric method, and as such does not require that the variables are normally distributed (Hair et al. 2006, pp. 355-368). Categorical independent variables are supported through dummy coding (ibid.). The resulting models present the effect of a categorical independent variable on a categorical dependent variable in the form of odds ratios (*exp β*). This odds ratio is the relative increase or decrease in the probability of the case belonging to the selected outcome category (in this study, "spenders") when the examined independent category (e.g., "male") is compared to the reference category (e.g., "female"). A value of 1 indicates that the probabilities are equal, which

means that there is no effect. Chi-square statistics (χ^2) are used to indicate whether the probability differences are statistically significant. Only main effects are examined in this study; the literature review did not suggest compelling interaction effects so they are omitted in the interest of brevity.

In models with multiple independent variables, a pseudo-coefficient of determination (Nagelkreke pseudo R^2) is shown in order to provide an approximation of the amount of variance the model is able to account for, ranging from 0 to 1. The Nagelkreke measure is one of the most commonly used for this purpose.

5.3 Socio-demographic differences between spenders and non-spenders

To address the first research question, the effect of gender, age and personal disposable income on spending behavior is examined. The variables are first examined independently of each other by generating a separate model for each variable. To enable cross-country comparisons, each model is furthermore generated in four separate instances using data from each of the countries chosen for the study. The resulting 12 models are presented in Table 2.

Table 2. Spending behavior by socio-demographic variables: logistic regression models with chi-square coefficients (χ^2) and odds ratios (exp ß); unadjusted effects only

Unadjusted effects	Japan, exp ß	UK, exp ß	Spain, exp ß	Mexico, exp ß
Gender, χ^2	2.8 (ns)	1.8 (ns)	19.4 ***	3.8 *
Male	(ns)	(ns)	1.6 ***	1.3 *
Female (a)	1	1	1	1
Age, χ^2	24.4 ***	1.8 (ns)	4.2 (ns)	18.5 ***
<14 years	0.4 ***	(ns)	(ns)	0.4 ***
14-18 years	0.4 ***	(ns)	(ns)	0.6 **
>18 years (a)	1	1	1	1
Personal income, χ^2	39.6 ***	26.1 ***	31.2 ***	48.6 ***
>100 €/mth	6.4 ***	2.6 ***	2.7 ***	3.6 ***
11-100 €/mth	3.7 ***	2.1 ***	2.0 ***	2.8 ***
1-10 €/mth	(ns)	(ns)	1.8 ***	2.1 ***
0 €/mth (a)	1	1	1	1

Note. *** = $p < .001$; ** = $p < .01$; * = $p < .05$; (ns) = $p > .05$; (a) = reference category

Table 2 shows that income is a significant predictor of spending behavior in all of the countries, while gender is only significant in the Latin countries and age is significant in Japan and Mexico. However, earlier research indicates that income, age and gender tend to be mutually related (e.g., Räsänen 2006).

The fact that young Mexicans are less likely to be spenders than older Mexicans may simply reflect the fact that they have less money at their disposal, as opposed to indicating a true age-based difference. Before drawing further conclusions, it is therefore necessary to generate a model where all the independent variables are included simultaneously and their effects adjusted to account for each others' influence. The results are shown in Table 3. Separate models are again presented for each country.

Table 3. Spending behavior by socio-demographic variables: logistic regression models with chi-square coefficients ($\chi 2$) and odds ratios (exp ß); main effects models

Main effects	Japan, exp ß	UK, exp ß	Spain, exp ß	Mexico, exp ß
Gender, χ^2	6.0 *	1.4 (ns)	19.5 ***	3.4 *
Male	1.5 *	(ns)	1.6 ***	1.3 *
Female (a)	1	1	1	1
Age, χ^2	10.7 **	5.2 (ns)	3.7 (ns)	9.1 *
<14 years	(ns)	(ns)	(ns)	0.5 **
14-18 years	0.5 **	(ns)	(ns)	0.7 *
>18 years (a)	1	1	1	1
Personal income, χ^2	26.6 ***	28.6 ***	30.8 ***	37.9 ***
>100 €/mth	5.2 **	2.7 ***	2.7 ***	3.1 ***
11-100 €/mth	4.2 **	2.1 ***	2.0 ***	2.7 ***
1-10 €/mth	(ns)	(ns)	1.8 ***	2.0 **
0 €/mth (a)	1	1	1	1
Pseudo R^2	.11	.02	.04	.09

Note. *** = $p < .001$; ** = $p < .01$; * = $p < .05$; (ns) = $p > .05$; (a) = reference category

The adjusted model reveals that gender is a significant predictor of spending behavior in every country except UK, although the effect is not strong. In Japan, men are 1.5 times as likely to be spenders as women, compared to 1.6 in Spain and 1.3 in Mexico. Age is a significant predictor only in Japan and Mexico, where younger users are approximately half as likely to be spenders as adults. Income remains significant in every country, although the differences between income categories are actually quite small for categories other than zero-earners. The notion that users who report zero average income can be spenders at all can be understood by considering occasional income or parents paying the bills. Conclusive cross-country comparisons of the size of the income effect would have to consider purchase power disparities and the price of *Habbo* currency in different countries.

According to the pseudo R^2 measures, none of the models presented in Table 3 go extremely far in predicting spending behavior. Only in Japan are the general socio-demographic variables able to explain more than 10% of the variation in spending behavior. In UK, they explain a meager 2% of it. In the

following sections, I proceed to examine whether variables that are more specific to the context are better at explaining who is a spender and who is not.

5.4 Differences in use profiles between spenders and non-spenders

To begin addressing the second research question, I examine the following independent variables: number of contacts a user has in their *Habbo* friends list, frequency of use, and the length of time a person has been a user. Unadjusted effects for each variable are presented in Table 4. The adjusted models are presented in Table 5.

Table 4. Spending behavior by use profile: logistic regression models with chi-square coefficients ($\chi 2$) and odds ratios (exp ß); unadjusted effects only

Unadjusted effects	Japan, exp ß	UK, exp ß	Spain, exp ß	Mexico, exp ß
User since, χ^2	4.1 (ns)	10.8 *	70.6 ***	39.2 ***
<1 month	(ns)	0.5 **	0.2 ***	0.2 ***
1-3 months	(ns)	(ns)	0.6 ***	0.5 ***
4-12 months	(ns)	(ns)	(ns)	0.7 *
>12 months (a)	1	1	1	1
Use frequency, χ^2	37.3 ***	76.9 ***	29.2 ***	9.3 *
Every day	4.9 ***	5.4 ***	2.7 ***	1.9 *
4-6 times / week	3.4 ***	4.0 ***	2.7 ***	2.2 *
2-3 times / week	2.4 **	2.8 ***	(ns)	(ns)
Weekly or less (a)	1	1	1	1
Number of contacts,χ^2	37.3 ***	38.9 ***	102.9 ***	65.3 ***
>200 avatars	5.4 ***	1.9 ***	3.9 ***	4.7 ***
110-200 avatars	1.9 **	(ns)	1.6 ***	1.7 **
<110 avatars (a)	1	1	1	1

Note. ∗∗∗ = $p < .001$; ∗∗ = $p < .01$; ∗ = $p < .05$; (ns) = $p > .05$; (a) = reference category

Table 5. Spending behavior by use profile: logistic regression models with chi-square coefficients ($\chi 2$) and odds ratios (exp ß); main effects models

Main effects	Japan, exp ß	UK, exp ß	Spain, exp ß	Mexico, exp ß
User since, χ^2	2.9 (ns)	9.4 *	49.6 ***	20.0 ***
<1 month	(ns)	0.5 *	0.2 ***	0.3 ***
1-3 months	(ns)	(ns)	0.6 **	0.6 **
4-12 months	(ns)	(ns)	(ns)	(ns)
>12 months (a)	1	1	1	1
Use frequency, χ^2	26.1 ***	67.8 ***	24.8 ***	9.0 *
Every day	4.0 ***	5.0 ***	2.6 ***	1.8 *
4-6 times / week	2.9 **	3.7 ***	2.6 ***	2.2 *
2-3 times / week	2.0 *	2.6 **	(ns)	(ns)
Weekly or less (a)	1	1	1	1
Number of contacts,χ^2	23.2 ***	24.7 ***	64.3 ***	41.4 ***
>200 avatars	4.2 ***	1.7 ***	3.2 ***	3.7 ***
110-200 avatars	1.5 *	(ns)	1.4 **	1.5 *
<110 avatars (a)	1	1	1	1
Pseudo R^2	.13	.07	.13	.14

Note. *** = $p < .001$; ** = $p < .01$; * = $p < .05$; (ns) = $p > .05$; (a) = reference category

The unadjusted and adjusted effects are quite similar, indicating that there is little commonality between these independent variables. The length of time a person has been a user is a significant predictor of spending behavior in every country except Japan. As hypothesized, users require a period of learning before they reach their full spending propensity. In Spain and Mexico, this period is more than three months, while in UK it is over after the first month. In Japan, no statistically significant difference was found between the spending probability of a first-month user and the spending probability of someone who has used the service for a year, which could be interpreted as suggesting that the learning period is over extremely quickly in Japan. However, the number of cases in this category is too low for any conclusions (see Table 1).

Use frequency has the expected effect on spending behavior, frequent users being more likely spenders than infrequent users in every country. However, the effect is much stronger in Japan and UK than it is in Spain and Mexico. Number of contacts also has a significant effect in every country, but only the hypersocials with more than 200 contacts have a notably larger spending probability than the reference group. UK stands out as having the smallest effect for this variable.

The pseudo R^2 measures in Table 5 indicate that the use profile based models are somewhat better at explaining spending behavior than the socio-demographic variables tested in Table 3. UK remains the most difficult country to explain with only 7% of the dependent variable's variance explained, while the other countries reach between 13% and 14%.

5.5 Differences in activities between spenders and non-spenders

Finally, to provide more detailed insights into the second research question, I selected a number of quite specific activities identified in earlier research on *Habbo* (Lehdonvirta 2005) and tested their influence on spending behavior. One caveat that needs to be kept in mind when interpreting the results is that the variables relating to the activities are derived from answers to the survey as opposed to observations of actual behavior, so they reflect the respondents' self-image and attitudes towards the behaviors at least as much as they reflect actual time use. The unadjusted effects for each variable are presented in Table 6. The full models are presented in Table 7.

Table 6. Spending behavior by activity: logistic regression models with chi-square coefficients ($\chi 2$) and odds ratios (exp ß); unadjusted effects only

Unadjusted effects	Japan, exp ß	UK, exp ß	Spain, exp ß	Mexico, exp ß
Hanging out with friends, χ^2	16.8 ***	4.5 *	5.9 *	0.0 (ns)
	2.0 ***	1.2 *	1.3 *	(ns)
Making new friends, χ^2	2.9 (ns)	15.6 ***	1.3 (ns)	3.5 (ns)
	(ns)	1.4 ***	(ns)	(ns)
Organizing games and events χ^2	15.2 ***	48.3 ***	57.9 ***	32.6 ***
	1.9 ***	1.9 ***	2.2 ***	2.2 ***
Participating in games and events χ^2	1.3 (ns)	4.5 *	1.2 (ns)	2.4 (ns)
	(ns)	1.2 *	(ns)	(ns)
Roleplaying, χ^2	13.8 ***	6.1 *	6.3 *	6.1 *
	1.9 ***	1.2 *	1.3 *	1.4 *
Collecting, χ^2	18.5 ***	79.9 ***	170.7 ***	63.5 ***
	2.2 ***	2.4 ***	3.8 ***	3.1 ***

Note. *** = $p < .001$; ** = $p < .01$; * = $p < .05$; (ns) = $p > .05$. Odds ratios are presented for the value 'more' of each independent variable. The reference category in each case is 'less' (not shown).

Table 7. Spending behavior by activity: logistic regression models with chi-square coefficients ($\chi 2$) and odds ratios (exp ß); main effects models

Main effects	Japan, exp ß	UK, exp ß	Spain, exp ß	Mexico, exp ß
Hanging out with friends, χ^2	11.5 **	1.6 (ns)	5.1 *	0.0 (ns)
	1.9 **	(ns)	1.3 *	(ns)
Making new friends, χ^2	0.0 (ns)	8.4 **	6.0 *	3.8 *
	(ns)	1.3 **	0.8 *	0.7 *
Organizing games and events χ^2	10.7 **	25.3 ***	26.3 ***	23.2 ***
	1.8 **	1.7 ***	1.8 ***	2.1 ***
Participating in games and events χ^2	15.0 ***	1.1 (ns)	0.3 (ns)	10.2 **
	0.5 ***	(ns)	(ns)	0.6 **
Roleplaying, χ^2	5.6 *	0.2 (ns)	0.8 (ns)	1.8 (ns)
	1.6 *	(ns)	(ns)	(ns)
Collecting, χ^2	10.3 **	58.2 ***	138.8 ***	50.6 ***
	1.9 **	2.1 ***	3.5 ***	2.8 ***
Pseudo R^2	.12	.07	.16	.15

Note. *** = $p < .001$; ** = $p < .01$; * = $p < .05$; (ns) = $p > .05$. Odds ratios are presented for the value 'more' of each independent variable. The reference category in each case is 'less' (not shown).

The previous results suggest that social activity is associated positively with spending. In these models, hanging out with friends is a significant predictor of spending in Japan and Spain only. There is a slight effect in UK as well if other activities are not controlled. In Mexico there does not seem to be any relationship at all. The second independent variable, making new friends, presents an interesting cross-country difference. In UK, making new friends is positively associated with spending: those who report doing more of it are more likely to be spenders than those who do less of it. In Spain and Mexico, the effect is opposite: those who do more friend making are less likely to be spenders than those who do little. In practice, the effects are not strong but noticeable.

The pair of variables consisting of "Organizing games and events" and "Participating in games and events" presents another interesting pattern. In every country, organizers are approximately twice as likely to be spenders as those who report doing less organizing. Frequent participants, on the other hand, are more likely to be *non-spenders* than those who report doing less participating (in Japan and Mexico).

Considered in isolation from other variables, roleplaying is associated with spending in every country, although the effect is weak. When the effects of the other activities are controlled, roleplaying remains significant only in Japan. Perhaps not surprisingly, the activity that has the strongest link to spending behavior is collecting virtual items. The link is particularly strong in Spain and Mexico, where collectors are approximately three times more likely to be spenders, compared to two times in Japan and UK. The pseudo R^2 measures show that all the activities together are able to predict 12% of variation in

spending behavior in Japan, 7% in UK and approximately 15% in the Latin countries.

6 CONCLUSIONS AND DISCUSSION

The purpose of this paper was to examine what distinguishes those users who spend money on virtual goods from those users who do not spend any money despite using a service where virtual goods are available for purchase. General literature on the sociology of consumption, technology consumption and young people's consumption styles suggests that spending behavior is structured by socio-demographic factors and that the structures vary between countries. Literature on online games and virtual worlds suggests that spenders and non-spenders differ in the way they use the service. An empirical study was carried out to test these hypotheses and to assess which approach offers the best chance of predicting spending behavior.

The strongest predictor of spending behavior was found to be specific activities done by the user inside the service. A particularly strong predictor was collecting virtual items. This illustrates the practical shortcoming of the activities approach. While micro-level predictors can result in high statistical significance, the danger is that they do so because they are conceptually close to the dependent variable, as is the case with collecting. This limits the practical significance of the results. Instead of spenders and non-spenders, we are left wondering what distinguishes collectors from non-collectors.

Activities that are conceptually more distant from spending behavior can produce results with greater practical interest. One interesting pattern identified in this study is that making new friends is positively associated with spending in UK, but negatively associated with spending in the Latin countries. This may reflect some interesting differences in the role of commodities in relationship building. Further research would be needed to confirm the result, however.

Another interesting pattern is that organizers of games and events are more likely to be spenders, while frequent participants are more likely to be non-spenders. This is consistent with the fact that activities require props to organize and provide free entertainment to participants (Salovaara *et al.* 2005), but it is perhaps somewhat surprising that the internal economy has not evolved mechanisms to distribute the costs of organizing among the participants. This means that "creative playmakers" (*ibid.*) are a doubly important customer group for the operator: not only do they benefit the operator indirectly by creating content for other users, they are also an above-average source of direct revenues. Further research should examine whether

this double contributor role is the reality for creative segments in other online hangouts as well.

For an operator hoping to identify potential spenders among its user base (for the purposes of targeting promotions, for example), the activity approach may be difficult to apply in practice, because detailed information regarding users' activities may not be available. In this case, the more abstract use profile variables may be a more suitable approach, even if they offer slightly less predictive power. The longer a person has been a user, the more likely they are to be a spender. No loss of interest over time was observed in the survey, so those who lost interest in purchases probably lost interest in the whole service and left. A "learning period" during which new users reach their full purchase propensity was observed as hypothesized. Interestingly, in Spain and Mexico the learning period seems longer than in UK. It could be speculated that this difference is related to the fact that UK is the second oldest localized *Habbo* site after Finland. Johnson and Toiskallio (2005) describe how a large and active culture of "fansites" effectively communicates the social norms and beliefs around *Habbo* Finland. Fansites such as *habbox.com* exist for the UK version as well. Perhaps this active fan culture helps to socialize newcomers into *Habbo* consumption culture faster. Use frequency exhibited a similar geographical pattern as use length: the effect was stronger in Japan and UK than in Spain and Mexico.

Socio-demographic factors were found to be the least powerful predictor of spending behavior in terms of amount of variance explained, but they are not insignificant. For a developer designing a new online hangout, they provide a practical way of assessing which customer segments are likely to be most lucrative. Income predicts *Habbo* spending in all the countries examined; younger age is associated with lack of spending in Japan and Mexico; and males are approximately 1.5 times as likely to be spenders as females in Japan, Spain and Mexico. No difference between the genders was found in United Kingdom.

6.1 Limitations and avenues for further research

The gender difference discovered in the study is a theoretically interesting result, because the user population from which the sample is drawn is already a selected group. Previous literature makes it clear that there are differences in technology adoption rates between men and women, but this result shows that a spending behavior difference also persists between men and women who have already adopted the same service. One way of understanding this is that men and women assume different types of roles and power positions as users

(Gill and Grint 1995), and that this is reflected in their spending needs. Certainly some activities in *Habbo* give the appearance of being more feminine and some more masculine. It could even be speculated that a graphical virtual world is more conducive to reproducing gender based consumption differences than a more abstract virtual asset platform. A follow-up study using the same data could address this by controlling the influence of gender in the activity-based model (Table 7). Due to sample size limitations, large models combining the approaches were not attempted in this study.

Another angle for interpreting the gender difference is to consider the way parents control their children's' spending. Computer-related spending and spending in general is more socially acceptable for male children (Wilska 2005). Further research on virtual consumer behavior should seek ways to examine the context outside of the virtual world more thoroughly. In the present study, it was not possible to examine the effect of the parents' income, for example. Gendered differences among mature virtual consumers can hardly be explained by parents' attitudes, but other outside factors are possible. UK was the only country in the study where gendered differences in spending behavior were not detected. This is consistent with the idea that North European countries are broadly speaking more egalitarian than Latin or Asian countries. For example, in post-war Japan, it is women who are expected to exercise financial discipline in a household, while the male sex is associated with frivolous spending (Gordon 2006, p. 155-156).

The study found several interesting cross-country variations, some of which were supported by earlier research and some of which were unexpected. In interpreting the results, it is important to keep in mind that such variations may represent differences in the developmental trajectories of individual online communities just as well as actual national differences. Follow-up studies that repeat the analyses in different virtual asset platforms would help in assessing the generalizability of the results.

REFERENCES

Allison, T. 2008. "A Path To Western Online Games Success In Asia," *Gamasutra* 24 June, URL: http://www.gamasutra.com/view/feature/3701/a_path_to_western_online_games_.php (accessed 10 September 2008).

Barnard, M. 2002. *Fashion as communication* (2nd ed.), London: Routledge.

Blizzard Entertainment. 2008. *World of Warcraft Reaches New Milestone: 10 Million Subscribers.* URL: http://www.blizzard.com/us/press/080122.html (accessed 10 September 2008).

Choi, B., Lee, I., Lee, K., Jung, S., Park, S., and Kim, J. 2007. "The Effects of Users' Motivation on their Perception to Trading Systems of Digital Content Accessories: Focusing on Trading Items in Online Games," *Proceedings of the 40th Hawaii International Conference on System Sciences (HICSS'07)*, Washington DC: IEEE Computer Society Press, p. 161.

Cummings, J. N., and Kraut, R. 2002. "Domesting Computers and the Internet," *The Information Society* (18:1), pp. 221-31.

Edwards, T. 2000. *Contradictions of consumption*, Buckingham: Open University Press.

Dutta-Bergman, M. J. 2005. "Access to the Internet in the context of community participation and community satisfaction," *New Media & Society* (7:1), pp. 89-109.

Gill, R., and Grint, K. 1995. *The gender-technology relation: Contemporary theory and research*, London: Taylor & Francis.

Guo, Y., and Barnes, S. 2007. "Why People Buy Virtual Items in Virtual Worlds with Real Money," *The DATA BASE for Advances in Information Systems* (38:4), pp. 69-76.

Gordon, A. 2006. "From Singer to Shinpan: Consumer Credit in Modern Japan," in *The Ambivalent Consumer: Questioning Consumption in East Asia and the West*, S. Garon and P. L. Maclachlan (eds.), London: Cornell University Press, pp. 137-162.

Johnson, M., and Toiskallio, K. 2005 "Fansites as Sources for User Research: Case Habbo Hotel," *Proceedings of the 28th Conference on Information Systems Research in Scandinavia (IRIS'28)*. URL: http://www.soberit.hut.fi/johnson/Johnson_IRIS_2005.pdf (accessed 10 September 2008).

Hair, J. F., Black, B., Babin, B., Anderson, R. E., and Tatham, R. L. 2006. *Multivariate Data Analysis* (6th ed.), Upper Saddle River, NJ: Prentice Hall.

Haythornthwaite, C., and Wellman, B. 2002. "The Internet in everyday life: An introduction," in *The Internet in everyday life*, B. Wellman and C. Haythornthwaite (eds.), Oxford: Blackwell, pp. 3-41.

Hayward, K. and Yar, M. 2006. "The 'chav' phenomenon: Consumption, media and the construction of a new underclass," *Crime, Media, Culture* (2:1), pp. 9-28.

Horioka, C. Y. 2006. "Are the Japanese Unique? An analysis of Consumption and Saving Behavior in Japan," in *The Ambivalent Consumer: Questioning Consumption in East Asia and the West*, S. Garon and P. L. Maclachlan (eds.), London: Cornell University Press, pp. 113-136.

Hsieh, J. J., Rai, A., and Keil, M. 2008. "Understanding Digital Inequality: Comparing Continued Use Behavioral Models of the Socio-Economically Advantaged and Disadvantaged," *MIS Quarterly* (31:1), pp. 97-126.

Huhh, J.-S. 2008. "Culture and Business of PC Bangs in Korea," *Games and Culture* (3:1), pp. 26-37.

Lehdonvirta, V. 2005. "Real-Money Trade of Virtual Assets: Ten Different User Perceptions," *Proceedings of Digital Arts and Culture DAC 2005*, Copenhagen: IT University of Copenhagen, pp. 52-58. URL: http://virtual-economy.org/files/Lehdonvirta-2005-RMT-Perceptions.pdf (accessed 10 September 2008).

Lehtiniemi, T. and Lehdonvirta, V. 2007. *How big is the RMT market anyway?* URL: http://virtual-economy.org/blog/how_big_is_the_rmt_market_anyw (accessed 10 September 2008).

Lin, H., and Sun, C.-T. 2007. "Cash Trade Within the Magic Circle: Free-to-Play Game Challenges and Massively Multiplayer Online Game Player Responses," *Proceedings of DiGRA 2007*, Tokyo: University of Tokyo, pp. 335-343.

Lintonen, T. P., Wilska, T.-A., Koivusilta, L. K., and Konu, A. I. 2007. "Trends in disposable income among teenage boys and girls in Finland from 1977 to 2003," *International Journal of Consumer Studies* (31:4), pp. 340-348.

Lury, C. 1996. *Consumer Culture*, Cambridge: Polity.

Miles, S. 2000. *Youth lifestyles in a changing world*, Buckingham: Open University Press.

Nojima, M. 2007. "Pricing Models and Motivations for MMO Play," *Proceedings of DiGRA 2007*, Tokyo: University of Tokyo, pp. 672-681.

North, S., Snyder, I., and Bulfin, S. 2008. "Digital Tastes: Social class and young people's technology use," *Information, Communication & Society* (11:7), 895-911.

Oh, G., and Ryu, T. 2007. "Game Design on Item-selling Based Payment Model in Korean Online Games," *Proceedings of DiGRA 2007*, Tokyo: University of Tokyo, pp. 650-657.

Parayil, G. 2005. "The Digital Divide and Increasing Returns: Contradictions of Informational Capitalism," *The Information Society* (21:1), 41-51.

Quart, A. 2003. *Branded. The buying and selling of teenagers*, Cambridge, MA: Perseus Publishing.

Rice, R. E., and Katz, J. E. 2003. "Comparing Internet and mobile phone usage: Digital divides of usage, adoption and dropouts," *Telecommunications Policy* (27:8-9), 597-623.

Räsänen, P. 2006. "Information Society for All? Structural Characteristics of Internet Use in 15 European Countries," *European Societies* (8:1), pp. 59-81.

Räsänen, P. 2008a. "The Persistence of Information Structures in Nordic Countries," *The Information Society* (24:4), pp. 219-228.

Räsänen, P. 2008b. "The aftermath of the ICT revolution? Media and communication technology preferences in Finland in 1999 and 2004," *New Media and Society* (10:2), pp. 225-245.

Salovaara, A., Johnson, M., Toiskallio, K., Tiitta, S. and Turpeinen, M. 2005. "Creative Playmakers and Their Motivations in Four Multiplayer Game Communities," *Proceedings of the ACM conference on Advances in Computer Entertainment Technology (ACE2005)*, New York, NY: ACM Press, pp. 334-337.

Schmith, S. 2008. *Credit Card Market: Economic Benefits and Industry Trends*. International Trade Administration, U.S. Department of Commerce. URL: http://www.ita.doc.gov/td/finance/publications/creditcards.pdf (accessed 10 September 2008).

Schonfeld, E. 2006. "Cyworld Attacks!" *Business 2.0*, October 2. URL: http://money.cnn.com/magazines/business2/business2_archive/2006/08/01/8382263/index.htm (accessed 10 September 2008).

Schor, J. B. 2004. *Born To Buy. The Commercialized Child and the New Consumer Culture*, New York: Scribner.

Slater, D. 1997. *Consumer culture & modernity*, Cambridge: Polity.

Sulake Corporation. 2008a. *Global Habbo Youth Survey*, Helsinki: Sulake Corporation.

Sulake Corporation. 2008b. *Habbo – Where else?* URL: http://www.sulake.com/habbo/ (accessed 10 September 2008).

Statistics Finland, 2001. *Household expenditure survey 2001. Statistical dataset,* Helsinki: Statistics Finland.

Veblen, T. 1899/1955. *The Theory of the Leisure Class*, New York: Mentor Books.

Wilska, T.-A. 2003. "Mobile Phone Use as Part of Young People's Consumption Styles," *Journal of Consumer Policy* (26:3), pp. 441-463.

Wilska, T.-A. 2005. "Gender differences in the Consumption of Children and Young people in Finland," in *Lifestyles and social change. Essays on Economic Sociology,* T.-A. Wilska and L. Haanpää (eds.), Turku: Turku School of Economics and Business Administration.

Yee, N. 2005. *Buying gold*, URL: http://www.nickyee.com/daedalus/archives/001469.php (accessed 10 September 2008).

Yee, N. 2006. "The Demographics, Motivations and Derived Experiences of Users of Massively-Multiuser Online Graphical Environments," *Presence: Teleoperators and Virtual Environments* (15:3), pp. 309-329.

Yoshimi, S. 2006. "Consuming America, Producing Japan," in *The Ambivalent Consumer: Questioning Consumption in East Asia and the West*, S. Garon and P. L. Maclachlan (eds.), London: Cornell University Press, pp. 63-84.

APPENDIX A: SURVEY ITEMS USED IN THE STUDY

Variable	Question / responses	Instructions
country	**Which country do you live in?**	
	(list of countries)	
gender	**Are you:**	
	Male	
	Female	
birth year	**In what year were you born?**	**Use four digits (e.g. 1993)**
income	**On average, how much money do you have For your own use per month?**	
user since	**When did you create your first Habbo character?**	
	Less than a month ago	
	1-3 months ago	
	4-12 months ago	
	Over a year ago	
	Over two years ago	
	Over three years ago	
	Over four years ago	
use frequency	**How often do you visit Habbo nowadays?**	
	Several times every day	
	Once every day	
	4-6 times a week	
	2-3 times a week	
	Once a week or less	
	This is my first time	
contacts	**How many Habbos do you currently have as friends in your Habbo Console?**	**Please enter a number**
activities	**Compared to an "average user", do you think you are doing more or less of the following activities in Habbo at the moment?**	**1 = much less; 3 = about the same; 5 = much more**
	Hanging out with friends	
	Making new friends	
	Organizing competitions, games and events	
	Participating in competitions, games and events organized by other Habbos	
	Roleplaying	
collecting	**Do you currently collect furni? Collecting means obtaining furni that you do not need for any other purpose than to add to your collection.**	**Check all that apply or leave unchecked if you do not collect anything.**
	Yes, I collect any furnis.	
	Yes, I collect rares.	
	Yes, any furnis of a certain series.	
	Yes, any furnis that fit my theme.	
	Yes, a specific furni (e.g. Club sofa)	
coins bought	**During the past month, approximately how many Habbo Coins have you bought?**	**Please enter a number**

ARTICLE FIVE

Lehdonvirta, Vili (2008)

Real-Money Trade of Virtual Assets:
New Strategies for Virtual World Operators

Published in *Virtual Worlds*, ed. by M. Ipe, 113-137.
Icfai University Press: Hyderabad.

Real-money trade of virtual assets: new strategies for virtual world operators

Vili Lehdonvirta

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.

Keywords: virtual goods, online communities, market structure, status hierarchy, digital consumption, case study

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 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 for sale, while SOE provides a safe marketplace for player-to-player transactions.[1]

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

[1] See case studies below.

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 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*.[2] Computer games and computer-mediated communities 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) advices 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 MUD[3] 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

[2] Other terms occassionally used to refer to the same concept include "persistent worlds" and "synthetic worlds" (e.g. Castronova 2004).
[3] MUD stands for "Multi-User Dungeon", a text-based precursor to MMORPGs.

alleviate some of these problems. This approach eventually leads to a classification of RMT strategies.

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"[4] 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 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"[5] (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"[6] (Balkin 2004: 126-

[4] 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.

[5] Bugs that enable players to duplicate their assets, creating new assets out of thin air.

[6] 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.

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 thus far.[7] 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.

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.

[7] Although in the case study concerning Habbo Hotel, I describe one actual regulatory confrontation involving virtual world operator Sulake.

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

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.[8] 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.

[8] Although a tiny secondary market for Habbo Hotel assets has emerged, on which more details in the case study.

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.[9] 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.[10] 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.[11]

Table 3.1. Market configurations (i.e. 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**

[9] See case study on Ultima Online, below.

[10] 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.

[11] The gaps in the matrix are places where the operator would be transacting with itself or where there is no market.

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 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.[12] The important 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.

[12] See case study on SOE and EverQuest below.

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

4.1 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 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 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[13] 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.[14] 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 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-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

[13] Huuto.net is a Finnish auction site similar to eBay.

[14] 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.

EUR 15 million, up from EUR 4.9 million in 2003 and EUR 2.3 million in 2002 (Sulake 2004).

4.2 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.

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 tody 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.[15] 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

[15] 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.

fact, EA should actually be able to command a premium, due to the near-zero risk of fraud associated with dealing 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[16] 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 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 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

[16] There are no official Ultima Online forums, but developers use the Stratics.com forums to communicate with the player community.

ceiling for moderately skilled avatars. EA is also currently preparing to start selling certain game items for real money.[17]

4.3 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 not match the sellers description. Aggrieved customers had no-one else besides SOE to complain to,[18] 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).

---

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

[18] 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>

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.

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 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.

4.4 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 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 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 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 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[19]

		Buyers			
		All parties	Non-operator	Operator	None
Sellers	All parties	**Project Entropia**	**Ultima Online** avatar skills		
	Non-operator	-	**Ultima Online** other assets	-	
	Operator		**Habbo Hotel**		
	None				**Ever-Quest**

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 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.

[19] 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 attributes)
Price floor	Operator enters the market as a buyer	-
Price window	Operator enters the market as a supplier and a buyer	Project Entropia
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 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 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 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.[20]

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,

[20] See Table 3.2.

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.

REFERENCES

Books, articles and papers

Balkin, Jack M. (2004). Virtual Liberty: Freedom to Design and Freedom to Play in Virtual Worlds. 90 Virginia Law Review 2043. <http://ssrn.com/abstract=555683>

Bartle, Richard A. (2004). Pitfalls of Virtual Property. The Themis Group. <http://www.themis-group.com/uploads/Pitfalls of Virtual Property.pdf>

Burke, Timothy (2002). Rubicite Breastplate Priced to Move, Cheap: How Virtual Economies Become Real Simulations. <http://www.swarthmore.edu/SocSci/tburke1/Rubicite Breastplate.pdf>

Castronova, Edward (2001). Virtual Worlds: A First-Hand Account of Market and Society on the Cyberian Frontier. CESifo Working Paper Series No. 618. <http://ssrn.com/abstract=294828>

Castronova, Edward (2002). On Virtual Economies. CESifo Working Paper Series No. 752. <http://ssrn.com/abstract=338500>

Castronova, Edward (2004). The Right to Play. State of Play Conference Proceedings, New York Law School.

Johnson, Mikael and Toiskallio, Kalle (2005). Fansites as Sources for User Research: Case Habbo Hotel. Proceedings of IRIS'28, August 6-9.

Lastowka, F. Gregory and Hunter, Dan, (2004). The Laws of the Virtual Worlds. 92 California Law Review 1.

MacInnes, Ian (2004). The Implications of Property Rights in Virtual World Business Models. Presented at the Americas Conference of Information Systems (AMCIS 2004), New York. <http://web.si.umich.edu/tprc/archive-search-abstract.cfm?PaperID=382>

MacInnes, Ian (2005). Virtual Worlds in Asia: Business Models and Legal Issues. Paper presented at DIGRA 2005, Simon Fraser University, Burnaby, BC, Canada. <http://www.gamesconference.org/digra2005/viewabstract.php?id=308>

Ondrejka, Cory R, (2004a). Escaping the Gilded Cage: User Created Content and Building the Metaverse. State of Play Conference Proceedings, New York Law School. <http://www.nyls.edu/pdfs/escapefinal.pdf>

Ondrejka, Cory R. (2004b). Living on the Edge: Digital Worlds Which Embrace the Real World. Linden Research. <http://ssrn.com/abstract=555661>

Salen, Katie and Zimmerman, Eric (2004). Rules of Play. Massachusetts: MIT Press.

Simpson, Zachary B. (1999). The In-game Economics of Ultima Online. Presented at Computer Game Developer's Conference, San Jose, CA; Mar 2000. <http://www.mine-control.com/zack/uoecon/uoecon.html>

Taylor, T.L. (2002). Whose game is this anyway? Negotiating corporate ownership in a virtual world. In Frans Mäyrä (Ed.), Computer Games and Digital Cultures Conference Proceedings. (pp. 227-242). Tampere: Tampere University Press.

Press releases and online materials[†]

CNET News.com (2000). Sony to ban sale of online characters from its popular gaming sites. Greg Sandoval, 10 April 2000. <http://news.com.com/2100-1017-239052.html>

CNET News.com (2001). eBay, Yahoo crack down on fantasy sales. Greg Sandoval, 26 January 2001. <http://news.com.com/2100-1017_3-251654.html>

Electronic Arts (1999). Press release: Bidding for UO accounts on Popular Internet Auction Site Reaching Into the Thousands of Dollars. Press release 13 April 1999. <http://retailsupport.ea.com/corporate/pressreleases/uo_ebay.html>

Finnish Consumer Agency (2004). Consumer Ombudsman concludes negotiations with Sulake Labs Oy: New rules for virtual hotel. Press release 6 May 2004. <http://www.kuluttajavirasto.fi/user_nf/default.asp?id=14751&site=36&tmf=7420&root_id=7420&mode=readdoc>

[†] All online materials were last accessed on 31 July 2005. Archived copies may be available at the Internet Archive, <http://www.archive.org>.

Guardian Unlimited (2005). $26,500 virtual property owner speaks. Aleks Krotoski, 16 June. <http://blogs.guardian.co.uk/games/archives/2005/06/16/26500_virtual_property_owner_speaks.html>

SOE (2005). Sony Online Entertainment announces official online game auction site. Press release 20 April 2005. <http://www.soe.sony.com/corp/press_releases/042005_StationExchange_announce.html>

Stratics (2002). MMOG Weekly Volume 41: Of Mountains and Molehills. <http://www.stratics.com/content/mmogweekly/mmog/vol41.shtml>

Stratics (2003). Project Entropia Business Model. <http://www.stratics.com/content/portals/entropia/content/gameplay/guides/pebizmodel.php>

Sulake (2004). Strong Growth in Sulake's Revenues and Profit - Habbo Hotel online game will launch in the US in September. Press release 6 September 2004. <http://www.sulake.com/pressroom_releases_06092004_1.html>

Sulake (2005). Virtual community attracts teens worldwide. Press release 11 July 2005. <http://www.sulake.com/Habbo-4-million.htm>

Woodcock, Bruce S. (2005) An Analysis of MMOG Subscription Growth – Version 18.0. 10 June 2005. <http://www.mmogchart.com/>

Yee, Nicholas (2001). The Norrathian Scrolls: A Study of EverQuest (version 2.5). <http://www.nickyee.com/eqt/report.html>

TURUN KAUPPAKORKEAKOULUN JULKAISUSARJASSA A OVAT VUODESTA 2008 LÄHTIEN ILMESTYNEET SEURAAVAT JULKAISUT

A-1:2008 Maria Alaranta
”This has been quite some chaos.” Integrating information systems after a merger – a case study

A-2:2008 Maija Vähämäki
Dialogi organisaation oppimisessa. Itseohjautuvan muutoksen mahdollisuus tuotantotyössä

A-3:2008 Lauri Salmivalli
Governing the implementation of a complex inter-organizational information system network –The case of Finnish prescription

A-4:2008 Harri Terho
Customer portfolio management – The construct and performance

A-5:2008 Aki Koponen
Essays on technological development and competition in local bank markets

A-6:2008 Minna Halonen-Rollins
Customer information usage and its effect on seller company’s customer performance in business-to-business markets – An empirical study

A-7:2008 Anne Linna
”Se on niin väärin!” Kokemus johtamisen oikeudenmukaisuudesta ja sen muuttaminen kuntaorganisaatiossa

A-8:2008 Jussi Hätönen
Managing the process of outsourcing – Examining the process of outsourcing product development activities in software firms

A-1:2009 Teppo Rakkolainen
Essays on optimal control of spectrally negative Lévy diffusions in financial applications

A-2:2009 Murat Akpinar
Understanding primary stakeholders of a firm response to market integration in the European Union – Volkswagen, 1960-2005

A-3:2009 Johanna Österberg-Högstedt
Yrittäjänä ammatissaan sosiaali- ja terveysalalla – yrittäjyyden muotoutuminen kuntatoimijoiden ja yrittäjien näkökulmasta

A-4:2009 Samil Aledin
Teenagers’ brand relationships in daily life – A qualitative study of brand meanings and their motivational ground among teenagers in Helsinki and London metropolitan areas.

A-5:2009 Kati Antola
Customer-supplier integration in the forest industry

A-6:2009 Harri Lorentz
Contextual supply chain constraints in emerging markets – Exploring the implications for foreign firms

A-7:2009 Pekka Koskinen
Supply chain challenges and strategies of a global paper manufacturing company

A-8:2009 Tuomo Kuosa
Towards the dynamic paradigm of futures research – How to grasp a complex futures problem with multiple phases and multiple methods

A-9:2009 Hannu Makkonen
Activity based perspective on organizational innovation adoption. A contextual approach to five adoption processes within the food industry

A-10:2009 Svein Bergum
Management of teleworkers – Managerial communication at a distance

A-11:2009 Vili Lehdonvirta
Virtual consumption

Kaikkia edellä mainittuja sekä muita Turun kauppakorkeakoulun julkaisusarjoissa ilmestyneitä julkaisuja voi tilata osoitteella:

KY-Dealing Oy
Rehtorinpellonkatu 3
20500 Turku
Puh. (02) 481 4422, fax (02) 481 4433
E-mail: ky-dealing@tse.fi

All the publications can be ordered from

KY-Dealing Oy
Rehtorinpellonkatu 3
20500 Turku, Finland
Phone +358-2-481 4422, fax +358-2-481 4433
E-mail: ky-dealing@tse.fi