Analyzing the Impact of Game Vendors’ Actions on the Monetary Value of Virtual Goods

Kay F. Hildebrand, University of Cologne, Cologne, Germany
Tim A. Majchrzak, Department for Information Systems, University of Münster, Münster, Germany

ABSTRACT

Computer games have become an influential socio-economic phenomenon. Millions of people play online games regularly. At the same time, game vendors’ revenues are increasing. As a new emergence, virtual (i.e. in-game) goods are traded for real money. However, not much research has been conducted on the monetary effects of virtual economies. Therefore, the authors present the theoretical background and a study aiming to understand how game vendors’ actions reflect on the monetary value of virtual goods. The study is based on a huge dataset gained from Web shops that were monitored over a period of several months. The data was analysed in order to find out whether effects known from real economies apply to their virtual counterparts. A reset of the virtual economy allowed us to exactly follow price developments. The authors present and discuss their findings, as well as derive directions for future research.

Keywords: Economic Theory, Massively Multiplayer Online Role-Playing Games (MMORPGs), Monetary Value, Virtual Economy, Virtual Good, Virtual World

INTRODUCTION

Computer games have become an influential socio-economic phenomenon. Not only do game vendors generate high revenue, computer games are also an activity millions of people pursue regularly (Ducheneaut, Yee, Nickell, & Moore, 2006). Gaming is not a hobby solely for male teenagers anymore (Castronova, 2008). Recently developed games target younger women and middle-aged people (Lee, 2006). While many games offer a multiplayer option (Mulligan, 2003), persistent online worlds are rather new. Persistence allows users to store parts of their progress and resume a game at their convenience. Players do not start from scratch or load saved games. In fact, they log in to a world that is changed continuously by their actions.

Only games that have no fixed plot are suited for offering online worlds. They might, however, have a scripted (i.e. adaptive) plot or follow a generic storyline. Furthermore, a common option are individual static stories that are randomly (radiant) triggered by players’ actions. The most popular persistent online worlds can be found in Massively Multiplayer Online Role-Playing Games (MMORPGs)
(Bartle, 2003), which are a form of agent-based virtual worlds (Chaturvedi, Dolk, & Drnevich, 2011). Typically, players participate by means of an avatar (character) that can be developed in terms of constitution, skills, and belongings (items and some form of money). A player’s performance in non-persistent online games is only influenced by their own mastery of the game as well as some external factors, for example Internet connection latency. In persistent worlds, performance is also based on avatar status. Not only playing skills and decent strategy are required but players typically have to spend a lot of time playing. Some in-game belongings may require to be found and items found may not necessarily aid the player. Consequently, players trade items—especially those items considered to be very valuable.

In recent years, trading virtual goods has expanded into the world of electronic commerce. In-game items and currency are offered in online shops and auctions. Virtual goods are traded for real money. This so-called real-money trading market (RMT) is growing fast (Wasko, Teigland, Leidner, & Jarvenpaa, 2011). Estimated sales figures have exceeded USD 1 bn (Dibbell, 2007). Even forced work to earn virtual currency has been reported lately (Vincent, 2011), which hints at perceived possibilities for making income with virtual goods. It is not uncommon to see online shops that claim to have achieved over ten thousand sales within a few years. At the same time, little research has been done on questions arising from this form of economy (Sweedyk, DeLaet, Slattery, & Kuffner, 2005). Not only are impact and especially revenue unknown, there are few studies that try to determine the extent to which laws of real economies apply to virtual markets and the interrelations between virtual and real markets. However, increasing research interest is e.g. reflected by the special issue on “New Ventures in Virtual Worlds” of MIS Quarterly (35(3) 2011). The combination of high economic relevance, the chance to apply known instruments for analysis, and the otherness of the phenomenon persistent virtual worlds makes their trading dynamics and interchange with the real world a fascinating topic of research.

Due to the special kind of relationship between player and game vendor, virtual goods also have become subject to (civil) law literature (cf. Roquilly 2011). For example, whether indemnity claims may arise against vendors (Lober & Weber, 2006) is a juridical question that at the same time can have economic consequences. Therefore, our study has consequences beyond the economic implications we mean to reveal.

We conducted a quantitative study in which we examined four online shops each listing hundreds of products. This article greatly extends the paper by Majchrzak & Hildebrand (2011) and verifies their findings. By taking samples of prices at given dates, we are able to analyze the effect of vendor initiated changes to the game on the value of virtual goods and their real world pricing. Our main question for research is: do vendors of a game take influence on the monetary value of virtual goods by their changes to the game and its virtual world? An auxiliary research question we would like to answer at least partially is: Do economic laws apply to in-game economies and their interaction with the real world? Our study thereby contributes to the understanding of real world ramifications of actions taken in economies in virtual worlds.

Due to the novelty of the topic, scientific references were not available for some issues discussed such as policies of vendors or game rules. Consequently, we cite a few Web sites.

The paper is structured as follows: The next section sketches the theoretical background of virtual economies. Related work is discussed then. Afterwards, we present the study’s setup and describe detailed results. An elaborate discussion is given before we draw a conclusion.

THEORETICAL BACKGROUND

Both quantitative and qualitative assessments are required to understand interactions between real markets and virtual markets. The same is true for the question whether laws of economics apply to virtual markets, too. Our particular focus for this work is on game vendor’s influence on virtual markets and consequently the
AGATHE: An Agent- and Ontology-Based System for Gathering Information about Restricted Web Domains
www.igi-global.com/article/agathe-agent-ontology-based-system/3927?camid=4v1a