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Commodification, information, value and profit

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Abstract This paper gives an overview on the processes of commodification and de-commodification of goods and services as a background for analysing developments in the emerging information society. It contributes to the current discussion on intellectual property rights in terms of political economics by connecting it to technology and law. Finally, as an illustration of the proposed view, selected trendsetting Internet-based companies are studied with respect to their strategies in making profit.

Zusammenfassung Als Hintergrund zur Analyse der sich herausbildenden Informationsgesellschaft gibt das Paper einen Überblick über Kommodifizierungs- und Dekommodifizierungsprozesse von Gütern und Dienstleistungen. In einer mit Technologie und Recht verknüpften Begrifflichkeit der Politischen Ökonomie wird ein Beitrag zur laufenden Diskussion über intellectual property rights geleistet. Zur Illustration der vorgebrachten Position werden abschliessend ausgewählte trendbestimmende Internet-Unternehmen bezüglich ihrer Gewinnstrategien untersucht.

Résumé Cet article fournit une vue d'ensemble sur les processus de marchandisation et de dé-marchandisation des biens et des services pour servir de

base à une analyse des développements en cours dans la société d'information. Il apporte une contribution à la discussion actuelle sur les droits de la propriété intellectuelle en termes d'économie politique en l'associant à la technologie et au droit. Enfin, pour illustrer le point de vue proposé, des sociétés génératrices de tendances basées sur Internet ont été sélectionnées et étudiées du point de vue de leurs stratégies de profit.

1 Introduction

Let us start elementarily with the notion of “useful things”. Useful things have many attributes and can therefore be used in many ways—more or less independent of the social structure they are in. The usefulness of a thing makes it a use-value, because by its intrinsic characteristics it can satisfy some human need, either physical or imaginary.

With the increasing division of labour and the emergence of markets, useful things have started to become sold and bought. They began a new career as commodities. Already Aristotle stated the twofold use of every object—which marks the definition of a commodity up till now: “the one is peculiar to the object as such, the other is not, as a sandal which may be worn, and is also exchangeable. Both are uses of the sandal, for even he who exchanges the sandal for the money or food he is in want of, makes use of the sandal as a sandal. But not in its natural way. For it has not been made for the sake of being exchanged“ (Aristoteles, “De Rep.” I. i. c. 9.).

More than 2,000 years later, in 1776, Adam Smith repeated Aristotle’s distinction, this time on the level of the value of an object: “the word value, it is to be observed, has two different meanings, and sometimes expresses the utility of some particular object, and sometimes the power of purchasing other goods which the possession of that object conveys. The one may be called ‘value in use’, and the other ‘value in exchange.’” (The Inquiry into the Nature and Causes of the Wealth of Nations, Book 1, Chap. 4).

2 Commodification processes

Nowadays, where we understand the economy as a social construction and are aware of the relativity of value given to objects, we are still confronted with the same distinction and also with the transition of objects adding to the attribute “use-value” the property of “value in exchange”. This process—in contemporary terms known as commodification—has not come to an end yet. Still we are witnesses of new transformation processes in which useful things enrich their

essence—they become commodities by showing the twofold character of value in use and value in exchange¹

2.1 Commodification of goods and services

History gives many examples of this process: medieval farmers grew livestock, vegetables and fruits mainly for their own needs; their products were directly consumed by themselves or by the feudal lord. Farmers of the twenty-first century produce nearly everything for the market, only a tiny fraction of their products is directly used.

But not only the output of farming was transformed into commodities. Work itself became commodified: while under the feudal mode of exploitation the labourers were chattel of the landlord who took a portion of the harvest from the peasant population under his control, and labourers were bound to the soil of their master, under capitalism labourers became separated from the means of production and were set free, free to sell their labour-power as the only commodity which was at their disposal. Labour-power up till now is the only commodity which—under certain conditions—is able to create more value in exchange than it is needed for its own reproduction. This difference is called surplus-value and is the basis of capitalist accumulation and economic growth. Later on we will come back to the precise conditions of the generation of surplus-value in an information society.

The development of capitalism expanded commodification to also other areas: money and shares. Nowadays one can borrow money at a certain price, the interest rate; and shares can be bought and sold, and create new opportunities for earnings and losses.

Contemporary economies of the developed world do not only produce things or objects, they also produce more and more services on an increasing scale. About 70% of the gross domestic product stems from services. Because of the growing importance of service industries, let us take a closer look at them and compare them to material goods. Material goods cannot be consumed without destroying them, but they can be stored, accumulated, transferred or resold to

¹ Marx' *Capital*, vol. 1, begins with the following famous paragraph: "the wealth of those societies in which the capitalist mode of production prevails, presents itself as 'an immense accumulation of commodities,' its unit being a single commodity. Our investigation must therefore begin with the analysis of a commodity". (<http://www.marxists.org/archive/marx/works/1867-c1/ch01.htm#S1>). Later in the text Marx referred explicitly to Aristotle's and Adam Smith's concepts of commodities. Please take note that commodity has a different meaning in business (related to traded goods on world markets) than throughout this paper. The term commodification was first attested in 1975 (<http://www.etymonline.com/index.php?term=commodity>), in reference to art theory, still meaning the transformation of products of human creativity into goods for sale. But one should be cautious in using the term properly, because there is also another meaning of commodification in the context of software industry. David Stutz, an experienced software developer and musician, e.g. uses the term for software production whenever there exist stable standards and modularity. Although he quoted Marx on the term commodity, he quoted him very selectively, and only on aspects of value in use. Consequently all the attributes that David Stutz found essential are related to the value in use and presuppose the existence of a value in exchange. (http://www.synthesist.net/writing/commodity_software.html, http://tim.oreilly.com/articles/paradigmshift_0504.html#swcommod, see also Naetar F (2005) "Commodification", *Wertgesetz und immaterielle Arbeit*. Grundrisse 14:6–17.

other people. This is not possible for services. Their usual characteristic is that they are consumed synchronously with their production. In most cases they cannot be stored, neither accumulated nor resold after consumption. There are striking examples for that: if you have spent a visit to a rock concert you cannot transfer it to somebody else—the only thing one could transfer is the ticket you may have bought in advance, giving you the right to consume the service. This right you could move to another person, but not the service itself which disappears after consumption. This of course does not mean that there is no effect induced by the consumed service. There could be many and also important effects, but they can only happen in another production or consumption process.

From now on we will deal not only with physical things but also with services, when we refer to the output of any production by human beings. Nevertheless the difference between material products on the one hand and services on the other will keep us busy throughout the paper. What the two have in common is their ability to be sold on the market. Their value for the customers is appreciated by a price linked to them.

There are lots of examples for the commodification of services in the past: the preparing of meals mostly done by women at home has partly become the service of restaurants. Caring for a child is partly replaced by kindergartens, cleaning clothes is partly done in a laundry. The jobs very often done by women are now wage-earners instead of offering the service for free within a personal relationship called marriage. Former amateur activities in sports or services provided by networks of friends for charity become ruled by professionalisation and thus start to be marketed.

It is worthwhile to mention that commodification of services is a contradictory process, it can be demeaning and dehumanising, but also liberating and progressive, giving room for social innovation by destroying traditional bounds. Also, with commodification one can see a change from personal relationship towards often anonymous market relations. The relations between people are replaced by relations between people and things.

While the above examples refer to individuals or the family, we can see another institution of the civil society, the European welfare state, as a source of commodification. More and more services it provided once for free are transformed into services on a “user-pays” system. Education, public transport, health care, water supply, road works, which in many cases were financed out of tax revenue, have to be paid now directly by the customer. Under the current influence of neo-liberalism, in many cases private enterprises provide for services instead now. We call this commodification process privatisation.

Not only the family or other institutions of civil society and the state, but also private enterprises can become sources of commodification. In the last decades, the process of outsourcing has become a kind of fashion: accounting, placing or receiving telephone calls, transport, marketing, quality control, or even the production of some intermediary goods can be outsourced and is subsumed under the forces of the market.

Leasing of cars or machinery triggers a process of second order in commodification by exploiting the difference between the ownership of a commodity and the services provided by it. While the ownership of a car remains with the leasing firm, the services of the car are sold to the client, feeding now two markets instead of one.

But the process of commodification is no one-way-street. There are also processes of de-commodification. Former commodities can be moved into the realm of self-service: the assembling of furniture, the weaving of carpets, the baking of bread are only a few examples, where the former market for things is replaced by the marketing of the ingredients to construct, to produce or finalise the use-value at home. It is also true for services like in the case of bank-tellers, self-service restaurants or slot-machines, where the activities of former employees are replaced by the activity of the client herself or himself.

2.2 Concepts of productivity of labour

To understand the effect of such transformation of goods and services towards wider areas of profitability and increased access to markets we should analyse the different concepts of productivity of labour provided in economic theory. The concept of productivity allows us to create a link between the output of an activity and the basis of it. Depending on the specific perspective economists hold, their concept of productivity can be very different. Once again we try to start from an ideal environment early in history where markets were not yet in place. It leads us to the concept of

Productivity(1)

The first meaning of productivity could be imagined as an activity done within a group, a family or a tribe where people produce and consume jointly. One could also assume that money has not yet been invented. Productivity(1) relates to values in use to human labour applied. This is a kind of guarantee not to lose contact to the origin of wealth as stressed e.g. by Adam Smith. If there is a need for any good or service and there is anybody to produce it, the person creating the good or the service is a productive(1) labourer. One could measure productivity(1) by e.g. number of flintstones per year or maybe per hour, person or community. The measure itself will also inform us about the level of virtuosity the special tribe has established at a certain point in time. There are two aspects of this information. The first one deals with the quantitative measure of output which can be compared over time or between different groups, the second aspect is related to quality: what is the kind of output produced? Is the output a new one or is it a traditional one we have also seen before being produced? Productivity(1) can be measured in any society at any time, independent of the social order. The dimension of productivity(1) is a number measuring the output of a certain kind (value in use) divided by labour time.

Productivity(2)

The second meaning of productivity is related to a market society. This concept assumes the use-value of the commodities as given and addresses explicitly their value in exchange as products of human labour. To establish the concept we invent an ideal economy where only one kind of a material product is produced. We assume a price system which allows buying and selling the product according to the labour time needed for its production. People should buy and sell at a

price which is proportional to the labour time necessary for production. We assume for the sake of simplicity that all the workers have equal productivity(1) and are able to produce a surplus. As we define our economy in a way that the values in exchange are proportional to the physical amounts, measured in kilograms or tons, we also make sure that the physical surplus is proportional to the surplus value, measured in time units, or to the amount of profit accumulated, in monetary units.

But the assumption of a material product is crucial. The problem arises with the production of services. At first glance it is not clear what will happen if services are produced. Will service providers function in the same way as producers of things? While it is evident that the service providers also produce values in use, it is less clear if they also create values in exchange.

To test this case we specify our thought experiment: let us assume there is a tribe making a living out of agriculture. Every person is working as a farmer, and they are able to create a surplus—of let us say 10 tons of wheat, being stored in a silo. This amount was created as the aggregated results of individual efforts by each of the members of society.

Now, at the beginning of the next year, let us bring into this archaic society a service provider, a shaman, a witch, a priest or a teacher, and let us monitor what will happen to the surplus. If we assume that the service provider will just increase the well-being of the members of the society, but there is no effect on productivity(1), what do you expect will be left in the silo at the end of the year? In fact, there will be less wheat than in the year before. In money terms, there will also be less monetary wealth (= profit) with each member of the tribe than before. The reason is simple: the service provider could not add to the material product of the tribe, but had to consume from this fund to stay alive without being able to compensate the society in terms of value in exchange, notwithstanding that he contributes in terms of use-value.

What is the conclusion of this thought experiment? While producers of things produce value in use AND value in exchange, service providers, while also producing values in use, cannot contribute neither to the amount of value in exchange nor to value-added, because their contribution does not affect surplus value in a positive, but in a negative way. Instead of adding to the surplus product (proportional to surplus value and to profit), the service provider reduces it.

The conclusion therefore is that productivity(2) in a market economy depends on the kind of output. A producer of material products is productive(2), while a service provider is not. In other words one could say: a person increasing value in exchange (and surplus, surplus value and profit) by its work is productive(2), while another person not doing that is productive(1), but is tapping on the value-in-exchange produced elsewhere in the economy. Their level of productivity(2) is zero.

Productivity(3)

The third possibility of productivity is essentially linked to capitalist societies. Here we can observe that not only producers of things can make profits, but also service providers. The question remains: if service providers generate neither (physical) surplus nor surplus value (measured in labour time), where does the

profit they earn come from? The answer is straightforward: if there is no other source of profit than the producers of material objects, in capitalist societies a redistribution mechanism must be in place which transfers profits from its origin to the place of appropriation. The mechanism which can do that is the system of relative prices. In short we can call a labourer productive⁽³⁾ if he/she is mediating profits for his/her enterprise².

Let us summarize where we ended up with these three definitions: the first notion of productivity is related to human beings who produce values in use, the second one is linked to the production of reified values in exchange and the third one with the attraction of profits associated to applied labour. With these distinctions in mind we are well equipped to continue now with contemporary phenomena of commodification where technological development and legal issues create a new framework.

3 The role of technology

Up to now we have looked for objects which had already existed before they were sold on the market and by that process commoditized. Now let us look for new ones, emerging by invention.³ The ingenuity of creative persons or groups was always able to invent new objects unseen before. Good examples are the invention of the steam-engine, the TV-set or the Personal Computer. In fact they were developed for the market and created large-scale industries, offering jobs and promising profits.

Product innovations are new objects stimulating economic development and enlarge the realm of marketable goods. They add to the amount of value in exchange prevailing in the economy, opening up new areas of commodities where all three measures of productivity can be established.

Process innovations like the steam-engine have an additional effect: usually they are reified in any kind of machinery and thus fulfilling the attributes of product innovations, but at the same time they will increase the productivity⁽¹⁾ of labour for goods or services produced by these new means of production elsewhere in the economy.

Technological innovations represent the classic form of expanding the realm of commodities. But with the emergence and tremendous expansion of information technologies, the computer and the Internet, a new field of commodification emerged. Information technologies allowing now everybody to store, transfer, copy, analyse and modify information, recently more and more on a digital basis and at falling costs. The process is not a really new one. It started with the human ability of painting and writing, with the invention of the printing press, photography and film fixed on paper or celluloid, and continued with tapes and records. Recently, the potential for storing information has grown

² "The productive labourer he that directly increases his master's wealth" see Malthus (1836) *Principles of Political Economy*. 2nd ed. London.

³ There is some fuzziness in the application of the term commodification. The precise meaning should be that an entity in the beginning was no commodity, but ended finally up as a commodity. Contrary to that, innovations refer to completely new entities without predecessor in the past. But because innovations end up with commodities in the end, we also apply the term here.

once more with compact disks (CD) and digital video disks (DVD) where information is coded in binary format.

3.1 Reification and reanimation

In the context of commodification we focus on technologies which might be used to store specific volatile activities on a carrier, physically or energetically. Pop or classical concerts, theatre performances, the actors posing for a movie, lectures, story tellers, but also the situation you have encountered in your holidays, the first steps of your child, are subject to reification. The carrier can be used to reanimate the activities of the past. They—like in a time machine—can be moved into presence. If the recorded and stored action is requested by the public, the placement of the “frozen action” on the market for sale seems obvious if the proper replay facilities are also available. In fact, two areas of commodification are exploited by big business: there is a market for carriers of information, representing reified services, and also a market for devices to bring them to life again, to reanimate and replay the past activity. In particular this is true for software development. The code is reified in computer programs on whatever carrier you like and can be read and (re)animated by computers.

3.2 Copying

But reification and reanimation is only part of the potential technology. While technology prepared the ground for commodification by creating the physical/energetic basis of a commodity, which therefore can be stored, re-sold and accumulated, it undermines the possibility of commodification at the same moment by the threat that the commodity can be copied and transferred via the Internet nearly without costs.

In such a situation free riders will show up. They will copy the content and will resell it at a lower price or—in the extreme—will give it away for free. Anyway, the market will be undermined and can no longer be used to end up with proper profits. The process of commodification is under the threat of being reverted. This situation creates opposite perspectives, depending on the interests of the persons. While the group of potential users of software and digital content will favour free riding, the management of the involved companies would like to see a situation which will enable them to sell the output at a proper price.

3.3 The role of the law

To assure this, lawyers have invented particular regulation mechanisms: copyrights, patents, licences, or generally speaking, intellectual property rights. The Law has been called for support. The laws provide people who would do copies with the threat of a fine. Even if laws cannot really make copying (technically) impossible, laws are sufficient to keep up a market for certain reified services. Under such preconditions the commodification process will be completed and will lead to the intended result: new sources of profits have emerged.

To assure the market of reified services, within the last 5 years the European Union has issued two European Directives on copyright in the information society. The “Directive 2001/29/EG on the harmonisation of certain aspects of copyright and related rights in the information society” of 22 May 2001 contains several regulations on net security,⁴ while the “Directive 2004/48/EC of the European Parliament and of the council on measures and procedures to ensure the enforcement of intellectual property rights” of 29 April 2004 intends to give a copyright owner proper instruments for the realisation of his rights.⁵ By these directives the European Union created an obstacle of second order against illegal copying. It no longer just puts the violation of the copyrights under fine, but it protects in addition the technical means, that make copying impossible or detectable, with legal instruments. It is quite interesting to see the wording by which the Directive reflects the ambiguity of technical measures. On the one hand it enables the rightholders to apply technological measures to protect their rights, on the other it calls for a harmonised protection against technological measures to circumvent the formerly requested measures:

Technological development will allow rightholders to make use of technological measures designed to prevent or restrict acts not authorised by the rightholders of any copyright, rights related to copyright or the sui generis right in databases. The danger, however, exists that illegal activities might be carried out in order to enable or facilitate the circumvention of the technical protection provided by these measures. In order to avoid fragmented legal approaches that could potentially hinder the functioning of the internal market, there is a need to provide for harmonised legal protection against circumvention of effective technological measures and against provision of devices and products or services to this effect. (Directive 2001/29/EG, Preamble, Par 47)

In the Directive 2004/48/EC the European Union (EU) specifies the technological measures for discs produced in the Community:

“Monitoring of the manufacture of optical discs, particularly by means of an identification code embedded in discs produced in the Community, helps to limit infringements of intellectual property rights in this sector, which suffers from piracy on a large scale.”

But even those targeted provisions could have side effects threatening the opening of the market. Immediately after having approved the identification code for discs to keep up their exclusivity and thus allow for taking advantage of property rights, the Commission hastens to assure free trade and deregulated markets:

“However, these technical protection measures should not be misused to protect markets and prevent parallel imports.” (Directive 2004/48/EC, Preamble, Par. 29)

⁴ 18 months after the Directive was issued the Member States had to bring into force national legislation necessary to comply with the Directive.

⁵ “Member States shall bring into force the laws, regulations and administrative provisions necessary to comply with this Directive by 29 April 2006” (Directive 2004/48/EC, Art. 20, Par 1)

3.4 Claims for extended commodification

How sensitive the issue of copyright can be, is illustrated in the following. At the time when this article was written, requests from IFPI⁶ the voice of European corporate copyright holders in the performing arts, could be heard to extend the expiration date of their copyrights. Copyright terms for individual creators in the US are awarded for the life of the author plus 70 years. US companies hold copyrights for 95 years before creative works return to the public domain. Currently in the EU, there are separate copyright terms for composers and performers. Composers are awarded copyright for the life of the author plus 70 years. Performers hold a copyright for 50 years from the first recording. It is the 50-year term the IFPI wants to extend. What would be the effect if the change would pass legislation? Stanford Law School professor Lawrence Lessig⁷ called their request “outrageous” and translated it into plain text: “they had a 50-year monopoly; they are asking for a welfare grant to say, ‘give us another 50-year monopoly.’ The justification from an economic perspective is absolutely baseless.” He compared the situation to an engineer signing a contract to build a bridge in London for \$2 million, then building a similar bridge in the US for \$4 million—and then after the bridges are done, demanding \$4 million for the London bridge, too. The background for this request: the issue of expanding copyright in Europe has flared up as the EU copyrights of famous rock ‘n’ rollers like The Beatles and Elvis are due to expire within the next several years.

The fight is not limited to copyrights in performing arts. More important is the ongoing struggle between the European council, the European Commission and the European Patent Office on one side and the European Parliament on the other on patenting software. In 2002, the European Commission’s Directorate for the Internal Market (under Monti’s successor Frits Bolkestein) submitted proposal 2002/0047 for a directive “on the patentability of computer-implemented inventions“. The directive was claimed to serve the purposes of harmonising Member State laws and clarifying some details with the aim of preventing excesses of the European Patent Office (EPO).⁸ The European Parliament intends to turn down the proposal of the European Commission because many MEPs are afraid of the damaging effects on innovation and competition. They expect that the directive could open up ways to patent business methods, education methods, health methods, via software patents. Members of the European Parliament prefer to keep up and enforce the existing Law which clearly prohibits patenting pure computer programs.

Contrary to an increased protection of proprietary content Lawrence Lessig, mentioned above, as an alternative founded Creative Commons⁹ a group that developed an internationally applicable system of flexible copyright licenses that enable sharing and remixing of creative works (with the author’s permission).

⁶ IFPI (international federation of the phonographic industry) represents the recording industry worldwide with over 1,450 members in 75 countries and affiliated industry associations in 48 countries.

⁷ <http://www.wired.com/news/digiwood/0,1412,67783,00.html>

⁸ <http://swpat.fii.org/log/intro/index.en.html>. Expecting a change in European legislation the EPO has meanwhile granted more than 30,000 pure software patents in anticipation of the new legislation, and the number has recently been rising at a rate of 3,000 per year.

⁹ <http://creativecommons.org/>

Creative commons is a new system, built within current copyright law, that allows to share one's creations with others and use music, movies, images and text online that has been marked with a Creative commons license.

Tendencies for further commodification are not only targeted at software, they also point at nature itself. Nobody would have expected that patents could be claimed for chemical elements, before 1964 thought to be part of nature. But there is the story of Glenn Seaborg, who was credited with discovering two additional elements, americium (number 95, americium-241 is used in smoke detectors) and curium (96), on which he obtained patents in 1964, making him the only person ever to patent a chemical element.¹⁰ More recently a Harvard chemist, Charles Lieber, became holder of US-patent 5.897.945 in the field of nanotechnology, giving him the right on exclusively manufacturing nanostructures of oxides of 33 elements, nearly a third of the oxides existing on earth. The importance of patents in this area cannot be underestimated. "Nanotechnology is everywhere and is rapidly being commercialized. The quality of nanotechnology patents and licensing agreements will be significant in determining the success or failure of commercializing a nanotechnology innovation."¹¹ As nanotechnology will have extremely wide applications in many fields (in medicine, pharmaceuticals, mechanics, electronics), but the fundamental technologies for production are only a few ones, the outcome could be the opposite of the original intention of the patent to protect the inventor, but it could lead to monopoly.¹²

4 Trendsetting companies

In the following we look at a group of companies which are famous for their importance and success in emerging markets of the information society. They should provide us with insights into the maybe innovative processes of how profits can be gained via the Internet. Once again we analyse them in the context of commodification. We start with the classic enterprise in software production, Microsoft, and continue with new service providers on the Internet, Google (search engines), Amazon (shopping mall), eBay (auction-place) and PayPal (digital cash services). Interestingly enough there are strong interactions between them. eBay is one of the biggest advertisers (besides credit card companies) of Google which takes 99% of its revenues from advertising. PayPal began as a third-party assault on eBay, but finally succeeded to become eBay's preferred online-paying platform because it achieved the critical mass necessary to make a person-to-person service take off, although eBay has championed first BillPoint as electronic payment service. At last it was swallowed by eBay.¹³

¹⁰ <http://seaborg.nmu.edu/gts/>

¹¹ Featherstone DJ, Specht MD (2004) Nanotechnology patents: a Snapshot of Nanotechnology patenting through an analysis of 10 Top Nanotech patents. *Intellectual Property and Technology Law Journal* vol 16 Number 12:1–6

¹² Langenbach J (2005) Patente auf chemische Elemente? *Die Presse* 22 June:40

¹³ <http://www.fool.com/news/mft/2005/mft05062301.htm?source=eptyholnk303100&logvisit=y&npu=y&bounce=y&bounce2=y>

4.1 Microsoft

Thirty years ago, Microsoft was founded by two young Seattle men, Bill Gates and Paul Allen, a company which should become in their own words the “worldwide leader in software, services and solutions that help people and businesses realize their full potential”.¹⁴ The two were led by a vision which looked at that time quite improbable: “a Personal Computer on every desk and in every home...This revolutionary idea not only made technology a powerful tool for all of us, it also created a new industry that changed our world. Today, we continue to expand the possibilities of personal computing by developing new ways to empower our customers anytime, anywhere, and on any device”.¹⁵ Over the past 30 years Microsoft brought us BASIC, MS-DOS, MS-Windows in all its variants, MS-Office, server software and many other software products, and made Bill Gates one of the richest persons in the world. In the 12 months ending on 30 June 2004 the total revenue amounted to nearly \$37 billion, gross profit was around \$30 billion.¹⁶ In 2004 Microsoft employed more than 55,000 people in 85 countries and regions of the world.¹⁷

What is the secret behind this extraordinary growth? In the context of commodification we see that Microsoft’s output is the reified product of software programmers which is protected by copyright. Thus it fulfils all the criteria of a commodity, maybe with one restriction: like non-durable consumer goods their lifetime is limited. The software might become outdated because of new versions of Microsoft itself or new packages marketed by competitors. But why is there a difference to other traditional commodities? The answer is: the costs for copying are nearly zero. This is not only true for software, but also for any digital content—a new strand of commodification Microsoft is grasping at. After the production costs have been recovered from the first copies sold on the market, and after the mark-up for an appropriate profit was earned, every single copy will bring pure net profit (after taking into account any costs for copying, delivery, administration and taxes). From there Microsoft’s strategy resembles the printing of paper money. But Microsoft has done more than exploiting the low reproduction and transport costs of software packages. For many years it has successfully linked the selling of its operating systems on PCs to the hardware of another giant company, IBM. Even IBM-clones should buy software from Microsoft (even if there is a black software market on the Internet). Another strategy was to change Microsoft’s packages by frequently issuing new versions or updates. Competitors were not able to build up products in due time to enter the market.

The reaction started in 1984 at MIT with Richard Stallman’s founding of the GNU-project¹⁸ and continued 1991 with Linus Thorvalds’ Linux, which was merged with GNU. 1998 Eric S. Raymond and Bruce Perens founded the Open Source Initiative (OSI) with the explicit goal to market free software. Bruce Perens left OSI later on because he found the movement too close to activities of

¹⁴ <http://www.microsoft.com/msft/corpinfo.mspx>

¹⁵ <http://www.microsoft.com/museum/mustimeline.mspx>

¹⁶ <http://finance.yahoo.com/q/is?s=MSFT&annual>

¹⁷ <http://www.gamblinggates.com/news/gaming/bill-gates-knighthood75011.html>

¹⁸ GNU is not UNIX, a free version of source code contrasting the proprietary UNIX code.

capitalist firms. Nevertheless Microsoft sees OSI-products and Linux as competitors: “we continue to watch the evolution of open source software development and distribution, and continue to differentiate our products from competitive products including those based on open source software. We believe that Microsoft’s share of server units grew modestly in fiscal 2004, while Linux distributions rose slightly faster on an absolute basis. The increase in Linux distributions reflects some significant public announcements of support and adoption of open source software in both the server and desktop markets in the last year. To the extent open source software products gain increasing market acceptance, sales of our products may decline, which could result in a reduction in our revenue and operating margins”.¹⁹

4.2 Google

Google does not directly price its search engine it is famous for but makes profit indirectly out of intelligently selling space for ads on its website or metadata about their users and user-profiles. Google reported record revenues of \$805.9 million for the third quarter 2004, up 105% over 2003. Income from operations was \$11.1 million for the quarter. Income from operations included the effects of a non-recurring, non-cash charge of \$201.0 million related to the previously announced settlement of warrant and patent disputes with Yahoo! Without it the income would have been \$212.1 million.²⁰ At the Initial Public Offering (IPO) in 2004 the market value of the company was estimated to be as high as \$36 billion—the eight biggest IPO in US history. Google reported that it had 2,292 employees at the end of the second quarter 2004, up from 1,907 employees 3 months earlier.

For the moment, Google’s original service remains free of charge; in fact, the company invests a lot of money to improve its search engine technology. But to be honest, its business concept is not at all new: we see a similar development we have observed before with free satellite TV stations in Europe completely financed by advertising firms.²¹ But we can be sure that this is not yet the end of the day. Recently there are rumours that Google would launch its own micro-payment spin-off and other services like assistance in setting up websites for small- and medium-sized enterprises.

4.3 Amazon

Amazon’s mission was to be “Earth’s most customer-centric company—a place where people can find anything they might want to buy online at the lowest possible price.” This was a big idea that finally, after 10 budget-busting years, has brought Amazon.com big success. Although Amazon faced many threats such as competing traditional book and music sellers, it could not only expand

¹⁹ http://www.microsoft.com/msft/ar04/nonflash/10k_fr_da.html, taken from Microsoft’s Management’s Discussion and Analysis (“MD and A”) which is intended to help the reader understand Microsoft Corporation. MD and A is provided as a supplement to, and should be read in conjunction with, Microsoft’s financial statements and the accompanying notes.

²⁰ <http://itvibe.com/news/2945/>

²¹ currently more and more pay-TV stations are starting up

its market position against them but also defend its place against new market entrants. New online service providers could not take over yet because Amazon has name recognition. Thus it is able to attract more customers and therefore have more of a chance to directly connect consumers to publishers. In the meantime Amazon does not only sell English books, but also books in several other languages (German, Spanish, Japanese and Chinese) and electronic and photo devices, music, DVD, software, games, toys and everything for kitchen, home and garden. A growing market segment comes from its role as mediator between small scale or individual suppliers and customers. Everybody can first buy a book directly at Amazon.com, but could also resell this book after she/he has read it. The second-hand facility is not restricted to books bought originally at Amazon, it is also available for all other used or new books. A rather essential step was also to activate the growing network of the customers to rate the offers and also to evaluate the individual or small-scale suppliers. In 2004 Amazon could gain \$1,602 million of gross profits, with net sales of nearly \$7 billion. It employed about 9,000 people.²²

4.4 eBay and PayPal

eBay Inc. provides online trading services by developing eBay Marketplace, an Internet-based community in which buyers and sellers are brought together to buy and sell various products. The Company's online service permits sellers to list items for sale, buyers to bid on items of interest, and eBay users to browse through listed items in a fully automated service that is available online 7 days a week. Through its PayPal service, eBay enables various businesses or consumers with email in 45 countries to send, and in 44 countries to receive online payments. At the end of 2004, the company had websites directed towards 23 countries of the world.²³ In 2004 eBay sold stuff of a value of \$3,271.3 million, and could gain a gross operating profit of \$2,833 million, all this is done with 8,100 employees.

Founded in 1998, PayPal, located in San Jose, California, was acquired by eBay Inc. in October 2002. It enables any individual or business with an email address to securely, easily and quickly send and receive payments online. PayPal's service builds on the existing financial infrastructure of bank accounts and credit cards and utilizes the world's most advanced proprietary fraud prevention systems to create a safe, global, real-time payment solution. PayPal has quickly become a global leader in online payment solutions with 72 million account members worldwide (June 2005). Available in 56 countries around the world, buyers and sellers on eBay, online retailers, online businesses, providers of voice over IP like Skype as well as traditional offline businesses are transacting with PayPal. There is about \$1 billion on account at any time.²⁴ PayPal—evidently under competitive pressure from Google—looks for new market segments. With a new product called Website Payments Pro (WPP), PayPal will streamline the buying process (“three clicks and you're out”). WPP will feature express checkout purchases, offer an application programming interface (API) for

²² <http://phx.corporate-ir.net/phoenix.zhtml?c=97664&p=IROL-IncomeStatement>

²³ <http://moneycentral.msn.com/investor/research/profile.asp?Symbol=EBAY>

²⁴ <http://www.internetnews.com/ec-news/article.php/3513686>

implementing PayPal services, and support for phone, fax and mail orders. Using the API, merchants can process credit card payments directly on their web sites. PayPal's annual payment volume increased in 2004 to \$18.9 billion, a 55% year-over-year increase from the \$12.2 billion in 2003. Fourth quarter 2004 volume was \$5.6 billion, a 51% increase from 2003 and a 21% increase from the third quarter. PayPal revenue grew to \$200 million, up 53% from the prior year and 20% from the prior quarter.²⁵ I could not find recent information about the number of employees, but they may now be around 1,000.

5 Conclusions

What can we learn from these examples in the context of commodification?

- From Google we can learn that one can make profit on a large scale by giving away the main product, search engines and their services, for free. This strategic decision towards de-commodification combined with a successful strategy to increase network effects produced enough value in use to create a new market in selling ad space. The latter is a good example of commodification of services. In other words: by offering honey (the free search engine on the web, maybe also on the desktop of each customer) Google attracts many bees that pollinate blossoms. Without their own intention but by their mere presence, surfers increase the attractiveness of Google's websites to potential advertisers.
- From Amazon and eBay we can learn that by activating the customers (to write their own book assessment or to evaluate the quality of services of individual sellers or smaller firms) the main business becomes more attractive. The network serves as a use-value creating vehicle to improve the services of the company.
- eBay reanimated the auction in selling consumer goods, an interesting feature of markets many of us have thought it has been expelled from consumer markets since in the middle of the nineteenth century the first market with fixed prices was opened in Paris. The auction feature once again creates higher attraction to customers who think they can buy cheaper than anywhere else.
- PayPal exploits a direct commodification strategy being placed on a new type of service—electronic payment—which had emerged with e-commerce.

I am fully aware that the examples chosen are not representative ones; they are just the peak of an iceberg consisting of a huge amount of small- and medium-sized companies also trying to conquer the Internet and to suck up profits. Anyway, in my opinion they signal some new developments in the value-creating process within an emerging global information society by establishing a new balance of values in use and values in exchange. They might be templates to be followed by other start-ups or traditional companies.

²⁵ http://www.paymentsnews.com/2005/01/paypal_reports_.html