

INNOVATIVE BUSINESS MODELS IN THE MEDIA INDUSTRY

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ABSTRACT: *In the modern media industry, in addition to the traditional business model of proprietary products selling, there are a number of new business models that involve free distribution of whole products, or some parts of the products. The advantage of the open business model is in the value creation by a large community of developers, whereas the proprietary business model means a simpler form of value capture. However, open and closed business models can not exist in pure form: the proprietary model does not give enough space for innovation, while the open model gives insufficient opportunities for generating profit. An investigation of the problem of optimal business model choice at the monopolistic market indicates that the fully closed business model is less efficient than the model with the closed core and open extensions; it is profitable for any firm to open all of those ideas and technologies that can not be used without the base module; the completely open business model is optimal if and only if a substantial part of the consumer value is determined by additional services or innovative activity of the users.*

Key words: business models, innovation, vertical differentiation, horizontal integration, proprietary products, open products, media industry, monopoly

JEL codes: O31, L17

Introduction

There are a number of new business models in the modern media industry that involve *open* (i.e. free) distribution of products or product parts in addition to the traditional business model of proprietary *products selling* (and / or rights of their use).

For example, a manufacturer can sell the products — articles, videos, audio records, software, etc. (traditional proprietary business model), can make them freely available on the Internet (open business model), or can place some parts of the products in the open access, and distribute the other parts on a commercial basis with limited access.

In this case, even if the product is distributed freely, it does not mean that the producer receives no profit from its distribution: for example it is possible to place commercials in freely distributed magazines and books, advertising banners on sites, etc.

It is clear that commercial firms can benefit from participating in the development of open source products (distributed freely and without charge) by selling additional products or services. As an example we can use the open encyclopedia *Wikipedia*, which is being developed by *Google* *OpenSolaris* and *OpenOffice* open software distributed by *Sun* in addition to selling servers, etc.

Even the brightest followers of the proprietary business models are changing their mind. For example, J. Allchin (manager of *Microsoft*, who was responsible for *Windows 2000* operating

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system distribution) said in 2001: "Open-source is an intellectual property destroyer. I can't imagine something that could be worse than this for the software business and the intellectual-property business" (Charny, 2001). *Microsoft* has recently changed course and does not exclude the possibility of distributing and using open source software. In particular, *Microsoft* is adopting several technologies to the free operating system *Linux* and other open platforms in cooperation with *Novell*: *Mono* project involves adopting the *.NET* platform for *Linux* operating system, *Moonlight* project is to develop *Silverlight* for *Linux*, and in July 2009 *Microsoft* agreed to distribute some of its technology for *Linux* under GNU GPL open license, which allows any interested users to change the original source codes (specifically, *Microsoft* has transferred 20,000 lines of drivers' source code to the *Linux* developers community under the *GNU GPL* — see (Crill, 2008)).

The main advantage of the open business model is that this model involves the value creation by the efforts of a large community of developers. On the other hand, the proprietary business model assumes a simpler form of value capture, since intellectual property rights remain under the control of the developer. However both the open and proprietary business models can not exist in the pure form: the proprietary business model gives very little space for innovation, while the open business model gives too weak opportunities for collecting profits.

Nowadays many media market players at the same time distribute complementary proprietary and open source products.

Such a business model, which we shall from now on refer as to *hybrid*, implies that the developer releases an open source *core*, and receives the income from the distribution of proprietary *extensions*, or sells a proprietary core, and distribute open extensions, which can only be used together with the core module, with the thought to enhance the popularity of the core module, and as a consequence, the number of its customers and profit from its distribution.

The hybrid business model makes it possible to combine the advantages of open and proprietary models.

Despite the mentioned arguments in favor of the hybrid business model, not all the firms in the real media market offer their products freely (as a whole or partially).

That's why the following questions should be considered:

- under what conditions a manufacturer maximizing his or her profits should apply the hybrid business model?
- if the firm follows the hybrid business model then what part of products should be opened, and what part should stay proprietary?
- is it better to open the core and leave the extensions proprietary or to make the core proprietary and distribute open extensions?

This research focuses on the answers to these questions.

Literature review

The changed situation, in which manufacturers of proprietary and open products coexist in the market, and also pirates, who copy proprietary products, and while not investing in their development, having an opportunity to secure a steady demand and profit by offering substantially lower price than the original licensed copies, has its effect on the state of management theory.

Over the past 15 years there has been a significant progress over the theory of price competition between vertically differentiated products, as well as between the producers of complementary goods, developed in the seminal book (Cournot, 1838): works appeared in which the network effects from consumers learning are investigated for intellectual products in total (Economides, 1996) and in applications to specific markets (Katz et al, 1985; Yu, 1998; Gawer et al, 2002; Varian et al, 2004; Soloviev, 2009a; Soloviev, 2009b).

In modern papers many features of the horizontally integrated markets have already been analyzed. In (McAfee et al, 1989) the situation with bundling the components is analyzed and the conditions are formulated when bundling is beneficial for the manufacturers. In furtherance of this

trend in (Choi et al, 2001; Nalebuff, 2004) the feasibility of entering the market with the bundle is investigated.

The cooperation and competition of manufacturers of complementary intellectual products is analyzed in (Brandenburger et al, 1996; Casadesus-Masanell et al, 2007).

(Farrell et al, 2000) consider the situation when a monopoly producer of one of the components enters in the competitive market of the second component, to reduce its price, and as a consequence, the price of the composite product.

In (Chen et al, 2006) the market with one-way essential complementarity is examined: when the first component can be used without the second, but the use of the second component is impossible without the first; it is shown that it is profitable for the manufacturer of the first component to enter the competitive market of the second component with its product, and to offer the product at zero cost, as a result the competitors in the market of the second component will be forced to join the monopoly.

Competition in the market of bundles intellectual and material products (like computers with software) is investigated in (Casadesus-Masanell et al, 2006b; Soloviev, 2009a; Soloviev, 2009b; Soloviev et al, 2009), and the impact of piracy on such competition is analyzed in (Soloviev et al, 2010a; Soloviev et al, 2010b; Soloviev et al, 2010c; Soloviev et al, 2010d).

The dynamics of competition between proprietary and open source products were studied in (Casadesus-Masanell et al, 2006a; Soloviev, 2008a; Soloviev, 2008b; Soloviev, 2008c; Soloviev, 2008d; Soloviev, 2009a; Soloviev, 2009b; Soloviev, 2009c).

Nevertheless, the problem of the business model optimal choice on the markets of intellectual products remains largely unexplored. This paper is devoted to this problem.

Research methodology

We consider that the product consists of the *core* (basic module) and *extensions* (modules, additional to the base). For example, the core may be an online encyclopedia (like *Wikipedia*), and extensions — the articles in the encyclopedia. The core may be the operating system while the extensions are the office suites, graphical and other packages. Finally, the core can be a hard copy of a college textbook while the problems to the textbook chapters and their solutions and tests can be the extensions.

Such a manufacturer has a choice of four business models:

- M1)** closed core and closed extensions;
- M2)** open core and closed extensions;
- M3)** closed core and open extensions;
- M4)** open core and open extensions.

The first result is that *in the monopoly market the completely closed business model (M1) is less efficient than the model with a closed core and open extensions (M3)*.

The proof of this case is based on the fact that a manufacturer who uses the business model of the closed core and open extensions gets all the benefits of innovative activities of the consumers, expanding product capabilities through the development of extensions, but leaves the market closed to competitors, as extensions are only compatible with the closed core.

The consequence is that *it's profitable for a firm to open all of those ideas and technologies that cannot be used without a core*.

Microsoft corporation practically illustrates the mentioned consequence by opening the *.NET* platform, as well as publishers of the books and articles are placing electronic supplements to these publications in the public domain, for example, the printed version of a textbook of mathematics can only contain statements of theorems and problems without their evidence and solutions that can be put in the public domain.

Another statement is: *the completely open business model (M4) is optimal if and only if a substantial part of the consumer product value is determined by additional services or innovation*

activity of users.

The essence of provided additional services leads to vertical differentiation of the product which is offered on a commercial basis (watching the movie in a cinema or listening a concert in the concert hall) and the free product (watching a copy of the movie or listening a record of the concert from the Internet), which makes it possible to induce a significant number of potential consumers of a product to purchase the additional service.

For example, it is sensible to distribute a movie with special effects or an organ concert through the Internet to attract the attention of more potential customers to the movie or the concert, because the consumers are not able to get the same level of service at their homes (in this case the picture and sound quality) like in a cinema or a concert hall. Even more striking example is the open distribution of not only the audio recordings of popular songs, but also the lyrics and the music for them, it allows the consumers not only to listen to the song, but also to perform it, while few music lovers are able to sing better, or at least no worse than the original performer.

Innovative activity of the consumers reduces the amount of the revenue collected by a firm from a single consumer, but increases the number of consumers. In addition, the firm delegates a significant part of the innovative development to the consumers and thereby reduces its costs. The best example is the operating system *Linux*, freely distributed by the community of developers. And while many cite as a counterargument the comparison of the wealth of the multibillionaire B. Gates — the founder of *Microsoft* and millionaire L. Torvalds — the founder of the *Linux* movement, this counter-argument is false: in fact, you should compare not the wealth of specific people, but the wealth (value) of the companies: *Microsoft* corporation wealth is defined by its market value, while the wealth of *Linux* developers community is defined by integral discounted salary of all the community members (it is more profitable for employers to hire programmers who contributed much to the development of *Linux* operating system and who are ranked high in the hierarchy of the project, and to set their salaries substantially greater than market average).

With the growth of innovative activity of consumers and quality of additional services it may happen so that business model of open core and closed extensions (M2) shall become optimal. A real world example is *Apple* corporation, which distributes the *MacOS X* operating system freely while receiving revenue from the proprietary additional software.

Conclusions

The main result of this work is that the application of the a pure closed business model on the markets of media production is not optimal. However, the proof of this result is presented only for the case of a monopoly. How will the optimal business model change in a competitive environment is a topic for further work in this direction. For the competitive markets it is reasonable to analyze not optimality criteria of various business models, but also the optimal reaction of a manufacturer of commercial media products for the competitor's adoption of a hybrid business model.

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