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## **Application of the open source business model as a tool for corporate renewal<sup>1</sup>**

**Key words:** open source, business model, corporate renewal

### **Abstract**

The subject of this paper is the application of an open source business model for corporate renewal. At the beginning it deals with the potential for commercial application of open source projects and demonstrates that it is by using these projects that businesses can in fact create a certain innovative business model for their operations. This paper then moves on to show the benefits that introduction of this business model can bring and its relevance to corporate renewal programs, and finally it identifies the areas not related to creation of computer software in which business models resembling open source can be used.

### **Streszczenie**

#### **Wykorzystanie modelu biznesowego open source jako sposób odnowy organizacji**

Przedmiotem opracowania jest wykorzystania modelu biznesowego open source do dokonania odnowy organizacji. Autor na początku przedstawia możliwości komercyjnego wykorzystania projektów open source i pokazuje, że przedsiębiorstwa w oparciu o te projekty mogą tworzyć właśnie pewien innowacyjny model biznesowy działalności. Następnie autor pokazuje korzyści, jakie daje wprowadzenie tego modelu biznesowego oraz jego znaczenie dla programów odnowy organizacji. Ostatecznie autor pokazuje obszary nie związane z

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tworzeniem oprogramowania komputerowego, w jakich wykorzystane mogą być zbliżone do open source modele biznesowe.

## **Introduction**

In recent years open source projects have become more and more popular. A number of spectacular successes of similar ventures, such as Linux, Apache or Open Office have created interest in this subject not only among internet enthusiasts but also serious business organizations. For an organization, open source projects can be a means of overcoming stiff and unyielding procedures, releasing innovative spirit, and initiating new methods of operation, and this leads to corporate renewal.

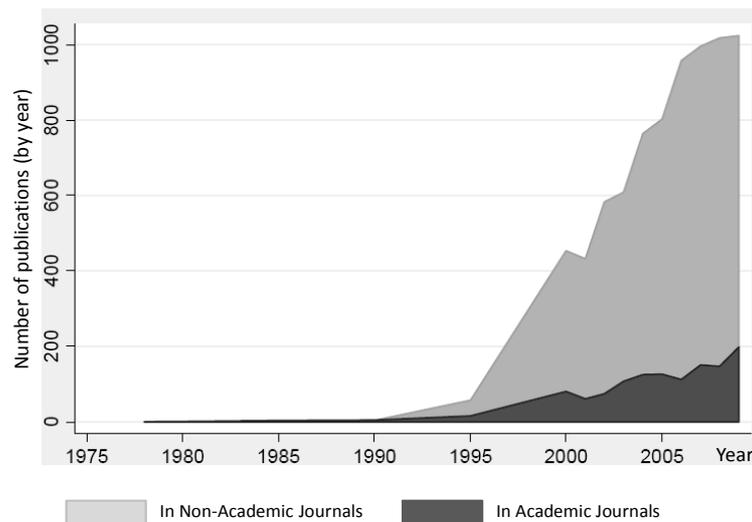
The aim of this paper is to provide answers to a few of the questions that arise on this topic:

1. Can open source projects become an element of a given innovative business model, making them commercially feasible?
2. What can open source projects bring to corporate renewal?
3. Is it possible to use similar models in areas other than the computer software sector?

## **The notion of a business model**

Recently the notion of the business model has begun to attract the attention of scientists and academics running organizations. Indeed this term was used for the first time as early as 1957 in an academic thesis [Bellman et al.; 1957], but was not made popular until the turn of the XX and XXI centuries, with the emergence of IT and the Internet [Ostenwalder et al.; 2005; Zott et al.; 2010]. It can be assumed that the principal reason for which this notion became popular were the new possibilities for running a business and achievement of an organization's financial objectives, arising due to new methods of obtaining, distributing and using information.

As interest in the notion of the business model grows, one can see, by analysis, that this definition is appearing in databases of academic works. An example of such an analysis can be seen on the diagram below.



**Diagram 1** Amount of publications containing the phrase “business model” in the EBSCO database between 1975 and 2009

source: Zott et al.; 2010; p. 3

As pointed out however by Ostenwalder et al. [2005], various writers use the term “business model” to mean various things:

1. A business model can be understood to mean the overall concept describing all possible methods of running a business and the elements that make up the description of a business.
2. Some writers prefer to talk about various types of business models describing certain special ways of running a business, distinguishing some types from others.
3. Some writers even talk about a business model as a term describing a method by which a specific individual business enterprise runs a business.

Thus this term is used on three different levels, and each level is contained within the previous levels.

The boundaries distinguishing between business model notions and strategy are also not clear. In the opinion of most writers, however, the term “strategy” incorporates competition on a given market and rather the implementation of a business model. Therefore many firms putting their strategy into practice might apply a specific business model to do this.

For the purpose of this paper the definition used is the definition given by Afuah i Tucci [2002; p. 20]:

*“A business model is a method adopted by a business of increasing and making use of resources to offer customers products and services of a value higher than those of the competition and which at the same time ensures that the business has the capacity to generate income”.*

According to this definition there can be many types of business models each differing from the other. Specifically, to give at least one example, Zott et al. [2010], describe various typologies of business models in their work.

### **The definition of open source**

The origins of the notion of open source can be found in the so-called free software movement, dating as far back as the 1980s. The pioneer of this movement of computer programmers and computer users involved in promoting free access to software for all users was hacker Richard M. Stallman at the Massachusetts Institute of Technology. He formed the Free Software Foundation (FSF) – a foundation mainly dealing with the promotion of free software and development of the GNU project – an operating system similar to UNIX.

According to the Free Software Foundation the definition of free software is as follows<sup>2</sup>:

*“‘Free software’ is a matter of liberty, not price. To understand the concept, you should think of ‘free’ as in ‘free speech’, not as in ‘free beer’. Free software is a matter of the users’ freedom to run, copy, distribute, study, change and improve the software.”*

According to this definition software users are entitled to four fundamental types of freedom listed by the Free Software Foundation, numbered 0 to 3. Software is classified as “free” when its users can exercise all of the freedoms listed below:

- *“The freedom to run the program, for any purpose (freedom 0).”*
- *“The freedom to study how the program works, and change it to make it do what you wish (freedom 1). Access to the source code is a precondition for this.”*
- *“The freedom to redistribute copies so you can help your neighbor (freedom 2).”*

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<sup>2</sup> <http://www.gnu.org/philosophy/free-sw.html>, 2010-09-22

- *“The freedom to distribute copies of your modified versions to others (freedom 3). By doing this you can give the whole community a chance to benefit from your changes. Access to the source code is a precondition for this.”*

The name open source did not come into existence until 1998, when Netscape Communications Corporation distributed the source code for the Netscape Navigator search engine on a license guaranteeing everyone the right to freely use, modify, and redistribute the code. This was the start of the entire open source movement. The open source movement, as opposed to the free software movement, places greater emphasis on technical and organizational issues relating to freedom of the code, and pays somewhat less attention to ideological issues. In practice any free software is open source software at the same time, but not all open source software is free software at the same time.

The argument that free software should be promoted solely on the basis of its technical superiority was formed by Eric S. Raymond in the well-known essay entitled “The Cathedral and the Bazaar” [2000], presented for the first time at the Linux Congress on 27 May 1997<sup>3</sup>.

In this essay Raymond [2000] juxtaposes two different models for developing software:

1. The cathedral model, in which the source code is made available with each new version of the software, but the devised code is only known and created by a small group of programmers.
2. The bazaar method, in which the code is created on the Internet in a way visible to everyone and with the participation of anyone interested. According to Raymond this method was created by Linus Torvalds, coordinator of Linuks’ core project.

Open source was meant to be, by its nature, a concept more readily acceptable to business than free software. The idea of free software grew after all out of opposition of users to corporations creating software and demanding payment for its use. The open source movement did not reject the idea of commercialization of software, but rather placed emphasis on its creation.

In connection with the movement the non-profit organization Open Source Initiative (OSI) was created, which promotes the idea. The reference point for measuring success of the

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<sup>3</sup> [http://pl.wikipedia.org/wiki/Open\\_source](http://pl.wikipedia.org/wiki/Open_source) , 2010-09-22

concept was the level of involvement in open source projects of many firms, such as IBM, Corel, and Sun Microsystems, in addition to programmers themselves.

Despite the fact that the open source movement grew out of the free software movement, nowadays there is strong ideological antagonism between the free and open software groups. There are however many elements that the movements have in common. The software common to both trends is described as FLOSS (Free/Libre Open Source Software).

### **Open source as a business model**

It could appear at first that open source cannot be used as a business model. This is because open source projects involve making software with an open code, i.e. a code which is not protected against modification, copying and distribution, available for free. It could appear at first that it is difficult to find an element ensuring that something of value for the organization can be generated by that process.

For the idea of open source to be able to be used as an element of a business model, at least a general understanding of the licensing rules according to which open source software is to be made available is however vital. Two extreme examples are given below. [Nojszewski et al.; 2010]:

1. The license that contains the greatest restrictions is the GNU General Public License. This contains a ban on sale of software and also requires that a similar license be used for all products that make use of a given source code. This means that the possibility for commercial use of products with this license is highly restricted.
2. The most liberal licenses are the BSD License and MIT X License. These two types of license are unusually similar. They allow the source code to be modified in any way and to be enclosed with commercial products.

Between these two extremes there are a number of indirect types of licenses.

The diversity of open source licenses, including a lot of liberal licenses as far as commercialization of recorded data is concerned, makes open source projects potentially valuable. The most popular models, are, according to Nojszewski et al. [2010]:

1. Optimization of software from the point of view of hardware – the costs of development of software are covered by the firms producing the hardware for which

the software is produced. This helps to bring that hardware into general use. At the same time the sale of the hardware, and not the software, generates revenue.

2. Enhancement of value on the basis of open source software – open source projects are a base, and complement commercial products, but help to bring about popular use of those products, and make them more adaptable to customers' specific expectations.
3. Generation of profit by way of additional services – profits are gained not from the sale of software but rather installation, configuration and technical support related to use of that software. Demand for additional services of that kind, given the high level of complexity of the main product itself, is sufficient.
4. The sponsorship model – thanks to support of a sponsor for the open source software this weakens competition and has the potential to increase sales of its related services or products. In such a case the sponsor needs to direct and specify the objectives of the project.
5. Provision of services via the Internet – it is not the software alone that is sold, but a service performed online using that software.
6. In-built software in a device – an open source program becomes part of the device sold (for example a mobile telephone, MP3 player).
7. A double license – various types of license are sold for the software. This helps to bring about common use of the standard, and the creation of a certain critical mass of users.
8. The buying up of open source projects by commercial firms – projects can be bought in order to liquidate and mitigate competition or development, and, for example, commercialization.

To summarize, in each of these models the open source software there is only one of the vital elements ensuring that the business' financial objectives are met to a lesser or greater extent. This software gives an organization using a given model an advantage over the competitors not using open source. According to the definition of a business model, the approaches described above therefore fulfill the criteria for a business model. It should be noted however that we are not dealing with one type of open source business model, but rather with many

subtypes of that model that share common features. These features are described in the table below.

**Table 1** 9 elements of the open source business model

<b>Pillar</b>	<b>Element building the business model</b>	<b>Description in the open source model (common to all subtypes)</b>
<b>Product</b>	Proposed value	Software or hardware connected in whole or in part with open source software, while this software increases the attractiveness of the whole
<b>Customer interface</b>	Target customer	Various segments of users of hardware or software, extra significance of users who want to improve the code or adapt it to their own needs.
	Distribution channel	Main channel – the Internet
	relationship	customer – prosumer – is actively involved in creating elements of a product or service. A chain of entities communicating with each other. Features: <ul style="list-style-type: none"> <li>• Peer-to-peer</li> <li>• Information Symmetry</li> <li>• Operating in real time</li> </ul>
<b>Infrastructure management</b>	Value configuration	The key significance of people outside the organization involved in developing open source software.
	Key competence	The ability to attract and maintain people collaborating with the organization outside of the organization. Determining the direction in which open source software is to be developed.
	Partner network	A network consisting to a large extent not of formal organizations but of individuals.
<b>Financial aspect</b>	Cost structure	Covering of costs by the sponsor organization. Some resources (people collaborating with the organization) do not give rise to costs.
	Revenue model	Revenue obtained mostly not from the open source software itself but from additional elements (additional services, hardware, additional software, etc.)

Source: own research

Two elements distinguishing the open source business model are key to further discussions in this paper.

- Application of open source software as a key factor enhancing a business's competitiveness
- Application in a business's operations, in revival of the products offered by people developing software, of which at least some have quite a loose relationship with a given business (the bazaar model described by Raymond).

Also important are the relations that come into existence between a business and the people working with that business within a network, a hyperarchical structure, as Płoszajski [2007] calls it, is created, with features such as:

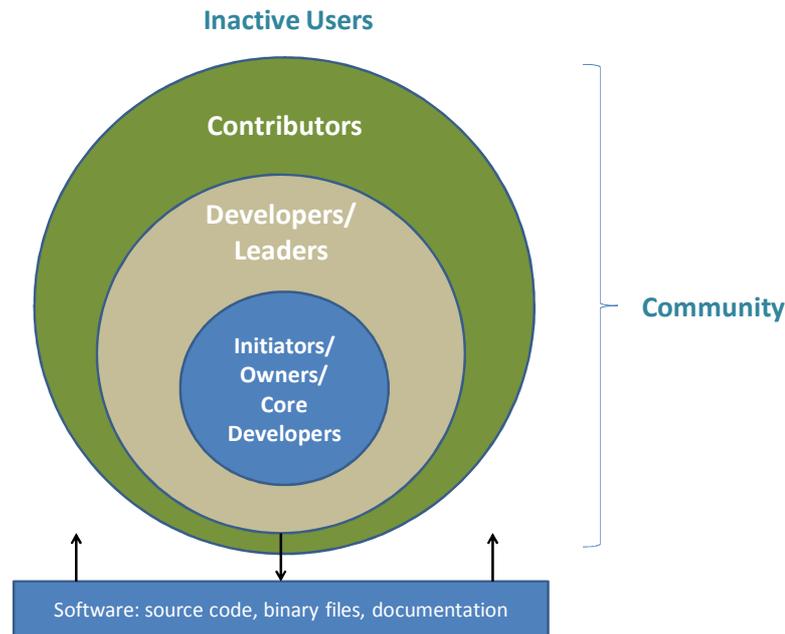
- Peer-to-peer – networks of a certain type are created, in which the business is not the centre of the network at all, but an element. Each element of the network can however be connected directly to the others. To get from one element of the network to another it is not necessary to go through the hierarchical structure, it can be done directly. The hierarchy becomes irrelevant or even ceases to exist.
- Informational symmetry – each element of the network can have the same full access to information, no one stands out or gets preferential treatment.
- operation in real time – the effects of activities can be seen immediately, with no delay.

It seems that all of these elements create a completely new challenge for management of an organization making use of an open source business model, but also completely new possibilities for building, development and revival of an organization.

### **The impact of use of an open source business plan on corporate renewal**

To understand the notion of revival of organizations making use of an open source business model it is vital to understand the organizational structure connected with open source projects, which does not have a lot in common with the formal organizational structure of traditional organizations. As mentioned above, an open source project (in particular when we are talking about a type of project based on the metaphor of the bazaar used by Raymond) creates a community made up mostly of people loosely connected to one another.

The structure is show in the diagram below:



**Diagram 2** Organizational structure of an open source project

Source: Sturmer (2005; p.14)

The notion of corporate renewal involves implementation of far-reaching changes in an organization that are a factor contributing to its success. The application of an open source business model in a traditional organization implies a fundamental revolution in the way it functions. First and foremost this means a readiness to liaise with the surrounding community, and this means greater influence over the organization's operations of the community of people who are formally outside of the organization [Goldman et al.; 2005; p. 87]. This leads to better application of knowledge flowing from that surrounding community, reduction of the risk connected with operation, faster reaction to market trends appearing in the surrounding community. In the opinion of Vujovic et al. [2008; p. 152], the openness of an organization to external influence guarantees the following:

- obtaining higher market share;
- obtaining market power;
- (better adoption of a product and thereby) establishing standards;
- shifting competitive advantage to another architectural layer;

- making the product more ubiquitous;
- speeding development (delivering faster time-to-market);
- getting fresh ideas from outside the company, spurring innovation;
- complementing a revenue core stream;
- fostering a new technology;
- blocking a competitor.

Goldman et al. [2005] have expanded this list of potential benefits to include among other things benefits resulting from the gaining of new knowledge for the organization, finding of resources not available in the case of a different business model, an improvement in the quality of products, closer relationships with users, and prevention of closure of the organization.

In light of those opinions it seems indisputable that application of the open source business model could be a strong prerequisite for radical corporate renewal. Of course application of this business model also leads to serious difficulties and dangers. The most serious problem seems to be that of the possibility of the channeling of the actions of the community created around the organization and management of an organization with such a complicated structure. This problem cannot be analyzed in this paper however due to the broadness of the issue.

### **Going beyond open source**

The final conclusion that be drawn from the discussions presented above relates to the relevance of the issues discussed above to areas other than just open source computer software. More and more organizations, even those outside of IT-related industries, are beginning to realize the benefits of business models similar to the open source model. This is because building of virtual communities developing specific solutions, and business projects, could be useful in many other industries, not only those relating to software. An example might be projects that are indeed closer to the IT industry such as Wikipedia, but there are other phenomena appearing at a much greater distance – new slogans in some way connected with the presented model such as open innovation or crowdsourcing. Some theoreticians see a use for this model also in science, for example, [Hessel; 2005], provision of legal services

[Jones; 2005], or in general projects requiring that a lot of people with various qualifications work together [Shah; 2005]. In every case the building of a hyperarchical community gives rise to a new incentive for the development of an organization, although also with a re-working of today's management models. These issues could be examined in further research and analysis.

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