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The impact Of the Internet On The Development Of Web-Based Business Models

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Abstract

The paper is composed of three parts. In the first, a short overview of the development of the Internet and its impact on various spheres of functioning of contemporary organizations is given. In this section, the term 'business model' is defined and then the constituent components of business models are presented and discussed. The second part forms the core of this paper. First, the typology of business-to-consumer Web-based business models is proposed; taking into consideration the phases of the internet's development (i.e. Web 1.0 and Web 2.0). Next, the six basic types of business models which have developed in the electronic space are presented and analyzed. The first four emerged in the first phase of the Internet's development while the final two are strictly connected with the Web 2.0 phase. The characteristics of each are given along with examples from various industries and sectors. In the final part of the paper, the most significant conclusions and suggestions are offered.

Keywords: business models, Internet, Web 1.0, Web 2.0

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1. Introduction

Some of the most significant elements of the impact of the Internet as a new technology are the issues connected with the changes which have emerged in the business models utilized by organizations and the development of Web-based business models. These issues have become some of the most discussed elements connected with the influence of this global network on the functioning of enterprises and in many cases it has been underlined as the most important issue in this context.

The term 'business model' has been defined in different ways, to varying degrees of detail. In the simplest definition, it relates to the answers of such basic questions as (Magretta, 2002):

- Who is the customer?
- What does the customer value?
- How does the organization make money in the business it operates?
- What is the underlying economic logic which explains how the organization can deliver value to customers at an appropriate cost?

A 'business model' is more formally defined by Christensen, Johnson and Kagermann. According to them, it consists of four interlocking elements that include (Christensen, Johnson, Kagermann, 2008):

- customer value proposition,
- profit formula,
- key resources,
- key processes.

If the impact of the Internet on this aspect of an organization's functioning is considered, although its influence is mainly connected with the appearance of new business models which utilize the development of the electronic space, it also relates to the real world. Particularly in the first case, the shape and evolution of business models have been strictly connected with the phases of evolution and development of this global network: the first of which is called Web 1.0 and the second Web 2.0.

It is worth noticing that during the first phase of the Internet's development, a Web-based business model was a kind of "buzzword" commonly used in the context of companies called Web start-ups. Because of this, during this time certain element of the "old economy" such as an organization's strategy or competences, were commonly disregarded, while basing its functioning on a Web-based business model was regarded by most companies as an important guarantee of success (Magretta, 2002). Such an approach ended with the bursting of the dot-com bubble and the bankruptcy of many companies which operated according to this philosophy (Wielki, 2009). This was also a time when the correct ratios of all the elements connected with organizational functioning were restored, regardless of the whether they operated on- or off-line.

2. Business models connected with the first phase of the Internet's development

If the early phase of the utilization of the Internet is considered, the predominant trend in the context of business models was the replication of models characteristic for the real world, based on the utilization of the "physical" virtualization (see Wielki, 2008) of the infrastructure and the sale of various tangible products and certain categories of services. Hence, this phase was a time when diverse types of e-shops, e-malls, e-banks and virtual travel offices were established. Examples of new on-line business models during the early phase of the Internet's development were such solutions as the first Web-based bank (Security First Network Bank) and the Internet

Travel Network, which was one of the first and most well-known on-line travel agents (Wielki, 2000). Because of the fact that this type of business model has become a permanent element of our contemporary economy, solutions based on its utilization and of varying degrees of advancement, are being continuously created.

The second type of business model, which appeared with the emergence of the Internet into the economy, are models which replicate these characteristic for the real world, based on the "physical" virtualization of both the infrastructure and a product. They are connected with a certain category of products called *digitizable products* i.e. ones which can be easily converted into a digital form and relate to such sectors as the music and film industries, the publishing industry, the newspaper and magazine market and the aviation sector. In these industries, along with the development of the Internet, the process of digitalization of products has been taking place and the digital equivalents of material products such as e-articles, e-books, mp3 files, e-tickets and many more have become available in the marketplace (Wielki, 2007).

This type of business model has quickly spread through the press market, where numerous newspapers and magazines at first offered the sale of single articles and with the passage of time electronic versions of complete issues. Simultaneously, specialized Internet platforms based on this business model, focused solely on the sale of electronic issues of various newspapers and magazines have emerged. An example of such a solution operating in the Polish marketplace is the service eGazety.pl, which offers a range of press titles, both local and national, and, additionally, e-handbooks.

The third type of business model which emerged during the first phase of the Internet's development are those which replicate characteristics from the real world, based on "physical" virtualization of the infrastructure (or also a product), through the utilization of innovative solutions. Such an approach is used by various types of e-shops, which do not only limit themselves to the transfer of "carbon copies" of solutions implemented in the real world to the digital world, but rather try to utilize the new possibilities which have arisen with the application the Internet to a business model.

Undoubtedly, the emergence of Amazon.com is the most spectacular example of this type of business model. In spite of the fact that this dot-com was seemingly a virtual copy of a typical bookshop functioning in the real world, from the very beginning its existence was based on varied, previously unused, innovative approaches. The basic element was a rich, unprecedented, set of information connected with every book being sold in the marketplace. Apart from basic data about each book (such as author, title, date of publication, publisher etc.), customers were able to review opinions and comments about them from not only other readers but also those published in the specialist magazines.

Another significant and innovative element of the business model utilized by Amazon.com was the very sophisticated recommendation system which was based on both the previous purchases of a particular customer as well as other customers who had bought the same type of products. Another feature established from the beginning of the company's existence was a system of co-operation of thousands of virtual bookshops, called Amazon.com Associate, which became an extremely important element of its business model (Wielki, 2000).

Over time, Amazon.com has expanded its business activity and it has stopped functioning solely as a Web-based bookshop. Through the replication and development of the above mentioned elements of its business model into other both tangible and intangible categories of products and services, Amazon.com has become the biggest on-line retailer (Rosenbloom, Stone, 2009). In

addition, the functioning of other Internet “giants” such as the auction platform, eBay, is based on the utilization of the same type of business model. Like Amazon.com, this company utilizes solutions which exist in the real world (see – Timmers, 2000), and enriches them with numerous possibilities which are inaccessible without the frames of real world auctions. Operating globally, eBay is one of the biggest employers in the world (Reynolds, 2006).

The fifth type of business model is a category which includes completely new models, which have become typical for the virtual world. Their emergence was principally connected with the possibilities which have emerged with the entrance of the Internet to the contemporary economy and the development of the electronic space. A very good example of the utilization of this type of model, relating to the first phase of development of this global network, is the Web site Bottomdollar.com, which offered a service called “comparison shopping”. As a matter of fact, a pioneer in this area was the experimental project Bargain Finder, but comparing with it the platform Bottomdollar.com made it possible to search various Web sites, compare prices of thirteen categories of products and providing a potential customer with information about those e-shops which offer the best prices for a particular product (Wielki, 2000). Over time, Web sites offering such services have been developing dynamically, competing with each other and becoming a kind of commonplace market standard (Wielki, 2007).

Simultaneously, multiple solutions of various size and meaning have started to develop within this type of business model. They encompass such varied platforms as, on the one hand, all kinds of Internet portals and, on the other, small Web sites such as the project The Million Dollar Homepage (see Bounds, 2005).

It is worth noting that the development of business models connected with the utilization of the Internet, relating to all four of the types presented above, refers to not only the business-to-consumer market, but also to the business-to-business one. Their usage provides both strong, international corporations (e.g. Dell) and micro companies with numerous and unprecedented opportunities. A good example relating to the latter case is the two-people Polish company PSP Audioware. Thanks to application of a business model based on the utilization of the Internet, it was able to start operating effectively on a global scale, in the “niche” market of software for mixing and processing audio recordings (Reynolds, 2006).

3. Business models connected with the Web 2.0 phase

Besides the four types of business models presented above, the development of the Web 2.0 phenomenon saw two additional groups emerge, which are strictly connected with the second phase of the Internet’s development and the associated opportunities it provides. The first group is connected with the practical utilization of a concept which Anderson has termed “long tail” (Anderson, 2004). This concept is based on the observation that the sale of many less popular products can be a source of higher profits than those generated from a segment of the most popular and mass selling items. Simultaneously, a significant element of the realization of a business model based on this concept is the ownership of a very broad range of products (Anderson, 2006).

In the music industry, a pioneer of the utilization of this type of business model was the website MP3.com which was established in 1997, but could, in fact, only be fully implemented a few years later through such projects as those belonging to the Apple company, which owns the biggest mp3 e-shop, the. iTunes Store (Anderson, 2006). The functioning of the leading search engine (Google) is also based on this type of business model. In this case, the “long tail” consists of the sale, for small prices, of advertisements and key words to millions of small and medium enterprises, established by the company’s self-service model, which is based on the

AdWords service (Battele, 2006), (Shuen, 2009).

This type of business model is also utilized by companies selling tangible products. The most known examples of these are such Internet potentates as eBay and Amazon.com (Anderson, 2006). In the case of the latter, the utilization of this model, relating to books, is possible because of the earlier mentioned completely new way of functioning compared to traditional bookshops and because of the low level of the titles "physically" stored in their warehouses (Anderson 2006), (Wielki, 2000).

The second type of business model connected with the second phase of the Internet's development features models based on the application of Web 2.0 tools. Undoubtedly the most popular "trends" within this type are solutions based on two basic pillars: the exploitation of the engagement of users and an approach called *freemium* (Wilson, 2006). The first of these is connected with the characteristic features of Web 2.0 (see Wielki, 2009) and the role the growing participation of Internet users play in generating content available on-line. The second element is based on the philosophy whereby a user gets a basic product or service for free, but has to pay for its extended or enriched version (*premium*) (Anderson, 2009).

Undoubtedly Flickr, which is a platform which allows users to share pictures with one another, was one of the pioneers utilizing these type of business models. It provides all users with a limited amount of storage space for their data or pictures, but unlimited space and full resolution pictures for those users who pay a monthly subscription. Additionally, subscribers can have advertisement-free displays. Polish examples of the practical utilization of this type of business model are such portals as *nasza-klasa.pl* or *spryciarze.pl*.

Within the confines of the group of business models connected with the utilization of Web 2.0 tools, there are also other approaches which aim to take advantage of a range of on-line communities. Examples are such solutions as *social lending* or *group buying* projects, but also those which are connected with popular blogs. In the first example, the specialized social networking Websites operating on auction-based mechanisms (see eGospodarka, 2008) are a kind of middleman between users who lend each other money, making profits from the commission paid on every transaction (Hulme, Wright, 2006). The most globally known of this type of social networking websites are the American site Prosper and the British site Zopa, while in Poland it is *Kokos.pl* and *Finansowo.pl* (Samcik 2009).

The second type of solution is based on the offering, through specialized social networking Websites, of products or services at a discounted price. The offer is valid on the condition that a certain number of interested people will come together (e.g. twenty). Examples of social networking websites operating based on this type of business model are such services as *Gruper.pl* or *CityDeal.pl*. As with the earlier mentioned social networking sites which operate in the social lending market, these services also make profits on commissions, but in this case the commission is received from the companies offering their products or services (Grynkiewicz, 2010), (Grynkiewicz, 2010a).

In the third case, the most popular bloggers attract to own blogs often tens thousands or even millions of readers, and the bloggers receive an income from advertisements displayed along with their blog (Kaihla, Sloan, 2006). In this case, the business model is in fact based on mechanisms also utilized by a number of social networking websites i.e. *community first, ads later*.

A summary of all business models outlined above are presented in fig. 1. It is worth mentioning

that very often organizations rely on the utilization of more than one type of business model connected with use of the Internet. An example of such an organization is Amazon.com which for some of its products categories, uses mixed business models (3 and 5, Fig. 1). This is also the case for eBay.

In the context of business models, it is worth mentioning one more issue. Namely, the impact of the Internet as a technology not only limited to new business models developing solutions in the electronic space, but also connected with their creation in the real world. An example of such a situation is an innovative business model called *car sharing*, implemented by the Zipcar company and related to a completely new approach connected with the ownership and usage of a car, and satisfying consumers' automotive needs. As distinct from previously used solutions such as the purchase or lease of an entire car, customers instead buy just the "amount" of car they actually need, incurring all costs connected with its usage in proportion to the time it is used. The functioning of this business model is based on a complicated management system of a single set of cars which are shared by many users, which would not be possible without an advanced IT system, including high-speed Internet connections, wireless technology and mobile devices.

Replication of models characteristic for the real world, based on utilization of „physical“ virtualization of the infrastructure	Replication of models characteristic for the real world, based on utilization of „physical“ virtualization of the infrastructure and product	Replication of models characteristic for the real world, based on utilization of „physical“ virtualization of the infrastructure (or also product), with application of innovative solutions	Creation of completely new business models, specific to the virtual world	Creation of new business models, based on the „long tail“ concept	Creation of new business models, based on the utilization of Web 2.0 tools	Phase of the Internet's development
1	2	3	4	5	6	
↓	↓	↓	↓	↓	↓	Web 1.0
						Web 2.0

Figure: 1 Types of business models developing in the electronic space
 Source: author's own

The company has created this system, called a *car-sharing platform*, which controls all operations and enables a user to reserve a specific vehicle for a specific day, time and place (Griffith, 2009).

4. Conclusion

The development of the Internet and its entrance into the contemporary economy has influenced in practice all aspects of its functioning as well as the organizations operating within its confines.

In the case of companies, new business models aimed at the utilization of possibilities connected with their functioning in the electronic space have become some of the key aspects of the impact of this global network and the opportunities that have arisen with its development as a new technology and as a global business platform. In many cases these models were based on the replication of those functioning in the real world, but very often taking into consideration the specific opportunities available in the electronic space.

As the Internet develops, in the context of business models, the quality changes which have resulted from the processes of its evolution and the emergence of new tools based on Internet technologies have become increasingly noticeable. Hence, compared to business models connected with the first phase of its development, new models connected with the “social phase” of the Internet, Web 2.0, can be distinguished, offering new approaches and philosophies, based on the utilization of the growing activity of users (Kelly, 2005). Because of this, the second part of the first decade of the new millennium was a time of emergence of business models based on elements of the Web 2.0 phenomenon, which have developed along with well ingrained “classical” solutions based on models from the first phase of the Internet’s evolution. Undoubtedly the following years will bring continuing development of new business models and the evolution of those so far used.

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