



THE CONCEPT OF "BUSINESS MODEL" – ESSENCE, APPLICATIONS AND INNOVATIONS

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ABSTRACT

The aim of this work is the study of the concept of "business model", its application and related innovations based on ICT.

Methods: For the purpose of the study, clarifying the nature of the concept of "business model", the major publications from the period 2005 -2013 years were examined - literature reviews, monographs, dissertations and Internet sources.

Results: The basic definitions of the essence of the term "business model", business model concept and its elements are adopted. A classification of business models is presented. Applications of the concept and its relation to ICT and innovation are discussed. DTD document is created, which can be used for the XML description of the business models.

Conclusions: Business model is a part of the management toolkit. The concept of the business model is based on Meta data that describes the elements of any business. Internet influences more strongly on the business models and will require further research on new models that will arise.

Key words: business model, business model canvas, Meta data, DTD

INTRODUCTION

Stability and sustainability of a business are strategic goals of the management, whether it is conducted in a relaxed or dynamic economic environment. Achieving them requires flexibility of management approaches and the application of abstract structures in the analysis of processes of a business and its vision as models, diagrams, templates, and more. These same requirements would be a prerequisite for development and change of a business organization.

The aim of this work is to examine the concept of "business model", its application and related innovations that are characteristic of the information society, the era of the global business environment - Internet.

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The subject of the study is the business model concept as a key player in a business strategy that has helped, helps and could help companies to develop their business in today's Internet economy.

MATERIAL AND METHODS

For the purposes of the study, clarifying the nature of the term "business model adopted by academic and economic professionals, are reviewed over 50 sources from the period 2005 - 2013. Attention is paid to those considered major publications of basic literature searches on "business model", as well as certain monographs.

1. Business model - nature

Given that the model is a simple, scalable version of a real object, then its purpose is to improve our understanding for this object by removing its minor details. For this study, it is important to mention the synonyms of the

concept: template, prototype, benchmark, chart, and pattern.

Schematic and mathematical models are more abstract than the physical and represent conceptual relationships between objects and processes. Examples of schematic models are diagrams and schemes that help avoid costly mistakes and answer the question "What if ..."

There is great diversity in the formulation of the term "business model". The reason is that authors often apply different views depending on the specifics of the different categories of business they write about. Focus on individual aspects of the business model does not restrict the meaning of the term, and only proves the breadth of applicability of the general concept of it.

The business model describes:

- A) In the strict sense, the way in which the company or organization earns money. (1)
- B) In a broad sense - business model is the architecture of a business system, which includes flows of products, services and information, users with different roles and potential benefits and the model which generates revenue. (2)

This definition acknowledges that:

- Business should be seen as a system of interrelated elements as the system's approach of the management has accepted it.
- Organization of a business is a management of process, that cover the flows of products, services and information.
- Participants in the business system - customers, employees, partners, owners and society, are under its influence and benefit from its results.
- Business system generates revenues and profits that are crucial for its existence and development.

The business model is a new unit of analysis, an overall perspective on how companies do business. Emphasis or focus is on activities that confirms how important it is to create a value. (3, 5)

Definitions of the business model include basic concepts such as statement, description, presentation, architecture, concept tool or model structural template, frame, pattern (3, page 8).

Having different definitions of business model make the researches difficult. According to (2) it

is surprising that the majority of studies till 2010 are carried out without the explicit definition of the term: 37% do not define at all, but only 44% expressly define it or set the concept by listing the components of the model. 19% cite and are based on definitions from other publications. These conclusions have been drawn from (3) after examining 103 theoretical articles on the concept of "business model." It was found that most definitions overlap partially and there is no exact match.

Academic research on the business models behind the practice (3, 5). In publications made until 2005, were found five times more non-academic publications than in academic journals. This rate is the same for 2010, continues for 2013. This is a good motivation to study this topic and at the same time shows the importance of the concept "business model" for practice, especially if we consider fundamentally as a model in which the company generates revenues.

2. Business concept model - basic concepts and elements

As the first author introduced the term business model states Michael E. Porter (4, 5). He clearly defines the place of the concept of the business model in the field of business strategies.

The scheme shows that the business model (BM) is not intended to model the business environment in which an organization works. The business environment is formed itself by the forces of competition, legislation, social and technological changes and changes in customer requirements. BM is the link between business strategy, organization and ICT. It is an intermediate level for the planning and implementation of business strategy.

The most cited definition of a business model as a concept belongs to Alexander Osterwalder (6, 7). It held that the BM is:

- Conceptual tool that contains a set of elements and their interrelations and show how the company generates income.
- Description of the value a company offers to one or several segments of customers.
- Architecture of the firm and its network of partners to create value.
- Business, delivering value and use of capital in order to generate profitable and sustainable revenue streams.

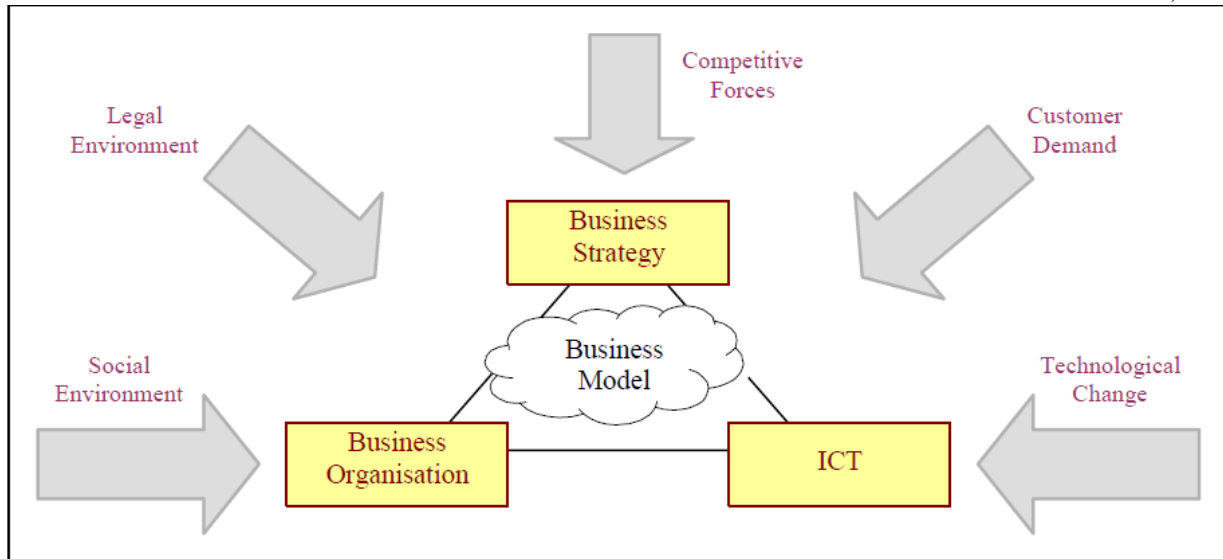


Figure 1. Environment, Business Models, Strategy, Process and Information Systems. (6)

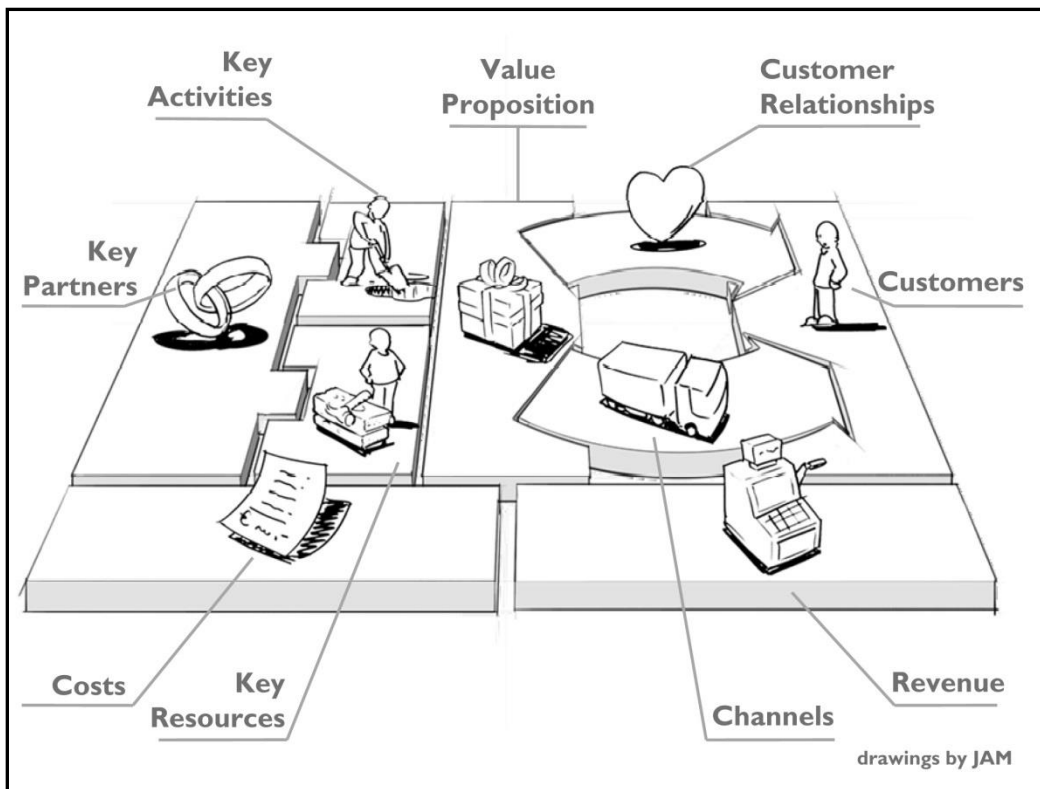


Figure 2. Business model canvas proposed by Osterwalder (7)

Osterwalder offers the template in **Figure 2**, which includes nine major elements of the business model: proposed value, customers, relationships with customers, channels for

service provision, key resources, key partners, key activities, income and expenses.

Presentation of BM by graphic pattern adds a high degree of clarity in understanding the

concept of the business model. The advantage of using a model with nine elements is that it is clear and sufficiently detailed to understand the essence of a particular business.

Grouping elements by field of activity reduces them to four items - clients, offering value, infrastructure and finance. For some authors four elements are: value offered to consumers, the profit formula, key resources and key processes.

Zott et al. (3, page 6), after studying the authors worked with the theoretical concept of "business model", made the following conclusions: 1) The BM is a new subject for analysis, 2) a holistic perspective on how the company makes business, 3) an emphasis on activities, 4) a confirmation the importance of value creation.

The same authors (3) group found publications on the subject of eight (8) groups according the way they defined BM. One major conclusion is that all the authors are trying to use the concept of BM to explain or analyze three phenomena: 1) e-business and ICT usage in organizations, 2) strategic topics such as value creation, competitiveness and performance of the company and 3) innovation and technology management.

3. Classifications of business models

Business models can be classified according their innovative impact and elements.

From table 1, wherein two types of models are represented - open or closed, can be seen the main difference between them. It is associated with technological innovation. In open models the innovations are the result from internal innovation as well as from external influences.

Table 1. BM types according innovative impact

Models	Closed	Open
Innovation paradigm Company	Closed	Open
Ideas for business	Generation and development only within the company	Generation and development within the company + result of the impact of the surrounding environment.
Technology Innovation		

With consecutive elements business models are classified as focusing on cooperation with the client and the nature of the assets and the sale of rights. (1)

Interaction with the customer defines the following types of business models:

- **Normal sale** - goods for money. For example, the company produces a product and sells it to its customers. If all goes well, the sales revenue outweigh the costs and company has a profit.

- **Subscription** - cyclic delivery of a product or service through prepaid. It applies to monthly, seasonal or annual subscription. This model is used by libraries, telephone companies, cables TV and Internet operators, providers of software products, consulting and accounting firms, sports clubs and traditional publishing houses.

- **Razor and blade** - basic product creates quarter market for additional product. This model is very suitable for:

- Manufacturers of computer hardware, copiers and printers, which offer machines at

relatively low cost and provide a market for consumables and maintenance.

- Telephone operators who donated phones, then by monthly subscription fees, form long-term cash flows.
- Providers of Internet services or cable TV offer low cost or free router, and sign a contract for an annual subscription.
- **MLM** - involves working with distributors, networking them. Obtain profit from higher turnover .
- **Selling advertising** consists in providing space or time on advertising. This is practiced by newspapers, magazines, web sites, television, radio, billboards and more.
- **An auction** is organized by one of the main types: English, Dutch, and Sealed tenders and Vikrey. On-line auctions are popular in Internet. For example, eBay.
- **Real-virtual** business model combines the activities of real and virtual nature.
- **Network effect** - based on the number of users who already own a product or have access to a service. The offered value added service or utility for a potential client if it is used by other customers. Phone networks, email and social networks work via this model.

The kind of assets and rights of sale creates four groups of participants: creator, entrepreneur, landlord and agent. Table 2 shows their levels of rights.

Table 2. Distributions of assets and rights of sale between the main actors

Degree of sale	Entirely	Limited
Right of property	"Creator"	"Merchant"
Right of Use		"Landlord"
Right of mediation		"Agent"

E-business models are of particular interest. Through the Internet many old classic models reach new applications as they work through new technology and act in a new business environment. For example, the action is an old business model that has a new mining application through Internet. At the same time new business models are created that cannot exist outside the Internet. The value which is offered to the customers is an information service. Wikipedia works using such model named Open Content model.

Rappa, 2001 (8) Consider the following models used in the Internet: Brokerage (Mediation), Advertising, Informediary (Information intermediary), Merchant, Manufacturer, Affiliate, Community, Subscription and Utility. For each of these models, he provides a brief description, subspecies and gives concrete examples. Rappa distinguishes the models applying the characteristics like the nature of the proposed value and method of obtaining profit. The elements seen by Rappa are sustainability, flows of profits, cost structure and range of available values. The last three components are taken into account by Osterwalder too, but its list of features is extended to 9.

DISCUSSION AND RESULTS

1. Applications

The business model is a reflection of the realized strategy of the company. It explains three base phenomena: e-business and the use of IT in organizations, strategic issues such as value creation, competitiveness and performance of the company. When writing about the business model conception the following questions arise: Why the business model is used? Who should be familiar with it? Who should learn it?

There are three main situations where BMs would be particularly useful, namely:

- evaluation and modification of an existing business
- Start and design of a new business and
- implementing innovations.

In the world of business the analysis and comparisons are primarily directed at successful companies. The application of Osterwalder's business model canvas, is often carried out by external analysts for the companies. Sometimes this is done without the company's order. The business models of social networks and major ICT companies are of particular interest.

The BM of the social network Facebook is represented in the Figure 3 (10). The visualization of the model is implemented via color binding of the specific elements. This gives a more distinct view how the business is organized on the most popular social network.

For example, the user segment "Internet users" is connected with the interaction "Same-side network effects", the proposed amount "Connect

with your friends”, “Discover & Learn”, “Express yourself” and with the channel “Website”, “Mobile Apps”, as well as the flow Free. This range of specific elements can not bring any profit. The proposed value is free, but it causes another segment of consumers to pay for another offered value. For example, the advertisers and marketers pay for ads on the social network.

The creating of a concrete scheme is better to follow some order and the canvas should be fill in consistently. The best start is from offered value or values. The target group that would be interested or have requirements or needs for a given value must be well evaluated. This will ensure the correct choice of the means for

connection and channels for providing the products or services to the costumers. It is important to determine how the company will yield revenue from payments of the individual consumer segments.

The application of the concept of business model also has a place when the business strategy is being changed. The main reason for this is the visibility, clarity and sufficient depth examination. Canvas of Osterwalder has these characteristics. This makes it applicable also during renovation of a business. It is possible to be used for simulations that would be useful in the training of professionals in management and business strategies.

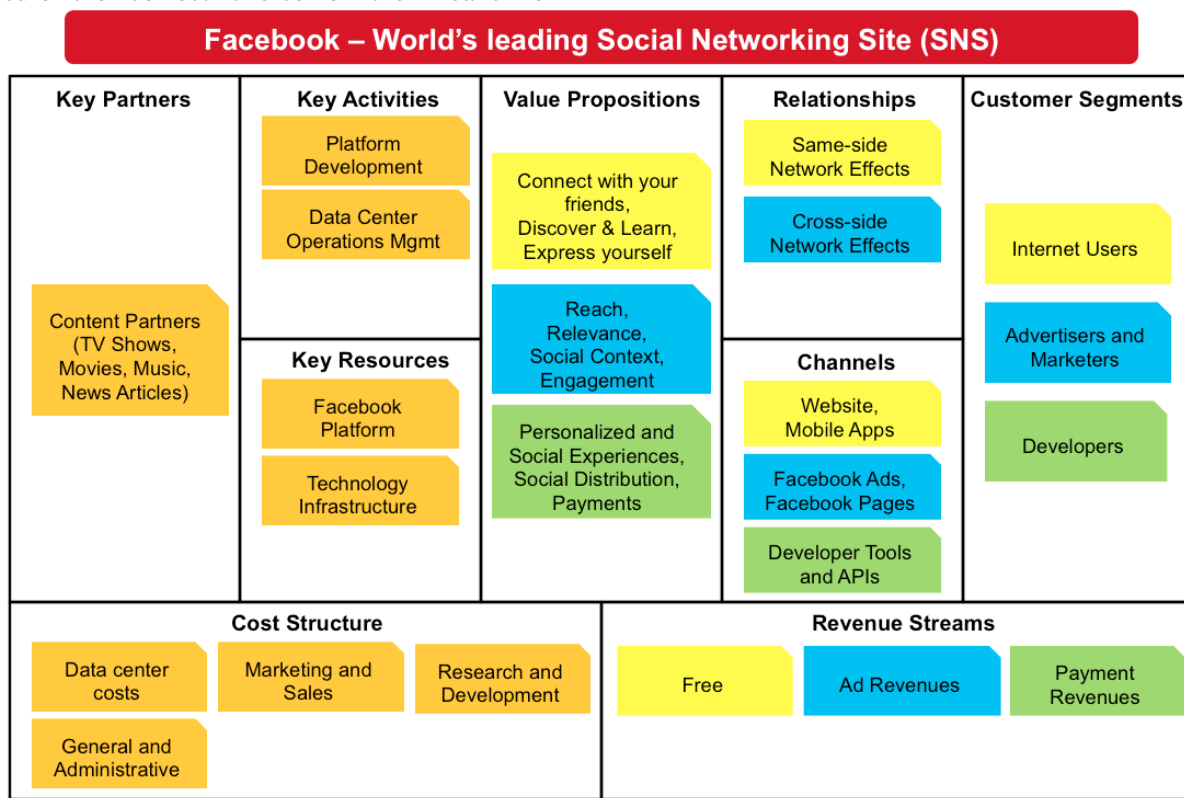


Figure 3. Business model of Facebook (10)

The concept of business model is applicable to the evaluation of failed business models and organizations or businesses that cannot qualify as socially responsible. Logically, for example, if the key partners coincide with consumers, the model is closed and its social significance is loosed.

2. Business model, ICT and innovations

When the term business model is considered as a concept a structured approach applies. It is understandable and suggests a natural demand for information and communication tools for its implementation. To generate the business model of a company different ICT tools could be applied. Most used means are Web based such as the site for generating business models supported

by Osterwalder (9) and the site Canvanizer (10). The concept based on nine elements can be applied using a word processor, spreadsheet or presenting software. Through them, one can create a template that can be filled element by element until a full picture of the particular business is obtained. There are freely available templates generated by cloud computing technologies (11, 12).

In terms of ICT the business model concept describes the specific businesses through Meta

data. These are the nine elements that define various aspects of the business. We assume that if they are described by a markup language, the further automate work with the concept model will be possible. According to this, we have created a DTD document which sets meta elements in the business model. It can be used to create an XML file to generate business models or to present them in different programming environments.

Table 3. contains the DTD structure proposed by the authors.

```

<!DOCTYPE BUSINESSMODEL [
<!ELEMENT VALUEPART (VALUEDESCRIPTION+)>
    <!ELEMENT VALUEDESCRIPTION (#PCDATA)>
<!ELEMENT INFRASTRUCTUREPART (KEYPARTNER+,KEYRESOURCE+,KEYACTION+)>
    <!ELEMENT KEYPARTNER (PARTNERNAME,CONTRIBUTION+)>
        <!ELEMENT PARTNERNAME (#CDATA)>
        <!ELEMENT CONTRIBUTION (#PCDATA)>
    <!ELEMENT
KEYRESOURCE (RESOURCENAME, RESOURCETYPE, RESOURCEDESCRIPTION)>
        <!ELEMENT RESOURCENAME (#CDATA)>
        <!ELEMENT RESOURCETYPE (#PCDATA)>
        <!ELEMENT RESOURCEDESCRIPTION (#PCDATA)>
    <!ELEMENT KEYACTION (KEYACTIONDESCRIPTION)>
        <!ELEMENT RKEYACTIONDESCRIPTION (#PCDATA)>
<!ELEMENT CUSTOMERSSPART (CUSTOMERSSEGMENT+, RELATIONSHIP+,CHANNEL+)>
    <!ELEMENT CUSTOMERSEGMENT (SEGMENTNAME, SEGMENTDESCRIPTION)>
        <!ELEMENT SEGMENTNAME (#CDATA)>
        <!ELEMENT SEGMENTDESCRIPTION (#PCDATA)>
    <!ELEMENT RELATIONSHIP
(RELATIONSHIPNAME, RELATIONSHIPDESCRIPTION)>

```

```

<!ELEMENT RELATIONSHIPNAME (#CDATA)>

<!ELEMENT RELATIONSHIPDESCRIPTION (#PCDATA)>

<!ELEMENT CHANNEL (CHANNELNAME,CHANNELDESCRIPTION)>

<!ELEMENT CHANNELNAME (#CDATA)>

<!ELEMENT CHANNELDESCRIPTION (#PCDATA)>

<!ELEMENT FINANCEPART (COSTSTRUCTURE,REVENUESTREAMS)>

<!ELEMENT COSTSTRUCTURE (COSTTYPE+)>

<!ELEMENT COSTTYPE (COSTDESCRIPTION+,COSTVALUE)>

<!ELEMENT COSTDESCRIPTION (#PCDATA)>

<!ELEMENT COSTVALUE (#PCDATA)>

<!ELEMENT REVENUESTREAMS (STREAMTYPE+)>

<!ELEMENT STREAMTYPE (STRESMDESCRIPTION,STREAMVALUE)>

<!ELEMENT STREAMDESCRIPTION (#PCDATA)>

<!ELEMENT STREAMVALUE (#PCDATA)>

]>

```

ICT is a source of innovation for organizations. This is particularly evident when a business is updated. Naturally, then, some of the proposed values for the customers could be changed on the base of new ICT tools and services. The innovations may also affect the relationships with customers, the distribution channels supplying the values, and the entire infrastructure - key resources, activities and partners.

The study of the development and application of the concept of BM suggests an investigation of the impact of innovation in the ICT sector on its implementation.

"Innovation is the use of new ideas, processes, products, services and practices more or less commercial way, based on new application of the science and/or technology." (Source Wikipedia.org)

In the twentieth century, Joseph Schumpeter gives following definition of the innovation: "Amendment in order to implement and use new types of consumer goods, new production and transport resources, markets and forms of organization in production. The end result of the process is creating a new product, service, process or organization form."

These two definitions support the claim that ICT are a source of innovation for the business organizations. And the question is which ICT means and tools can provide separate elements of the concept of the business model.

CONCLUSIONS

This study led to the following findings and conclusions:

1. The Business model is a part of the management toolkit. It is an essential tool for analyzing the condition of a business. It is

needed in the design of a new or reorganizing an existing business.

2. The concept of the business model is based on Meta data that describes the elements of any business.

3. The proposed DTD can be used to find new software methods for representing business models.

4. Internet influences more strongly on business models. Creation of new technologies and tools, working in the global network will lead to the emergence of new business models. In this connection, new studies on this topic will be required.

5. Future research may include the following areas:

a. describing the general business models and their topology through ICT tools on a solid conceptual basis;

b. exploring the components of business models for e-business, which will surely influence of innovation coming from the ICT sector;

c. study of ICT tools and instruments for technology management;

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