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PLATFORM BUSINESS MODELS AS OBJECTIVE REALITY OF
DIGITAL ECONOMY

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Abstract

Digitalization of business is the most tangible consequence of the globalization of the economy today. Digital platforms are changing the economics of doing international business, reducing the cost of cross-border collaboration and transactions. They create markets and user communities on a global scale, providing enterprises with a huge base of potential customers and effective ways to communicate with them. The functioning of digital platforms accelerates and reduces the cost of production and exchange processes, eliminates unnecessary intermediary links from them, and dramatically increases the efficiency of markets and labor productivity. In the work, a business analysis of platform companies was conducted from the perspective of studying the features of the main elements of business models. The article presents the results of a comparison of traditional and platform business models with the identification of advantages and disadvantages. Examples of various types of platforms are provided. The features and distinctive features of platform business models with the identification of the specifics of the main components in relation to the basic template of the Osterwalder-Pigneur business model are revealed.

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1. Introduction

Recently, the term “business model” has often been used by many researchers to describe the organization’s process of creating value (Guo, Zhao, Tang (Goethals, 2009); Amit, Zott (Amit and Zott, 2001); Chesbrough (Chesbrough, and Rosenbloom, 2002; Chesbrough, 2006, 2010) and others), and the way income generation Stewart, Zhao (Stewart and Zhao, 2000); Drucker (Drucker, 2015). A business model, on the one hand, helps to understand the logic of ways of creating value that is unique to a company, primarily for customers, and on the other hand, explains the process of extracting and appropriating business income from a company (Al-Debei, & Avison, 2010).

The use of the business model in the research of organizations according to R. Amit and C. Zott (Amit and Zott, 2001) allows, firstly, to use a new, non-traditional level of analysis (in addition to industry, organization, network, etc.). Despite the fact that the business model refers to a particular company, the boundaries of the business model extend much wider and include networks, interaction with stakeholders, relationships with customers, suppliers, etc. Secondly, through the study of business models, you can try not only to answer the question of what companies produce to satisfy the needs of a particular market but also how they do it. Third, many researchers, in particular, Teece (Teece, 2010); Amit, Zott (Amit and Zott, 2001) analyze operational activities when considering a business model that helps to understand the logic of building and operating a business, its architecture that reflects strategic decisions. Fourthly, the focus of business model research is shifted from the consideration of the process of assigning value to the process of creating value, with the main emphasis being placed on the latter, not ignoring the first, which is shown in the study by Santos, 2012 (Santos, 2012). Thus, a business model is a new unit of business analysis. A business model can be seen as a system that consists of components, the relationships between them and the dynamic processes inside (Afuah and Tucci (Afuah and Tucci, 2001)); the focus is on activity; the main focus is value.

Among the researchers who developed the structure (templates, canvas) of strategic models as business models of startup projects for the development of organizations at different times, we can name the following: A. Brandenburger, & B. Nalebuff (Brandenburger and Nalebuff, 1996), Maughan, G., & Durnota, B. (Maughan & Durnota, 1995). B. Doll (Doll, 2005), I. Ezendu (Ezendu, 2010), R. Kolodziej (Kolodziej, 2003), H. Chesbrough (Chesbrough, 2006, 2010), K. Christensen, & M. Raynor (Christensen and Raynor, 2000), J. Magretta (Magretta, 2002), E. Maurya (Maurya, 2012), M. Mayo, & G. Brown (Mayo and Brown, 1999), A. Osterwalder (Osterwalder, 2004), A. Osterwalder, I. Pigneur & Ch. Tucci (Osterwalder, Pigneur, and Tucci, 2005; Osterwalder, Pigneur, 2013), M. Robotham (Robotham, 2011), R. Fitzpatrick (Fitzpatrick, 2004), L. Fiel (Fiel, Janssen, Faber, and Wagenaar, 2004), R. Ford (Ford, 2006), T. Hulme (Hulme, 2006), etc.

New approaches to the typology and configuration of business models are described in some research (Masyuk, Bushueva, & Bragina, 2018), Petrichev, Masyuk, & Bushueva, 2015, 2018 etc.). Despite this diversity, the template of the Osterwalder-Pigneur business model is generally recognized, which in this study, when analyzing digital platforms, is accepted as the base (Osterwalder et al., 2005).

The advent of digital platforms has greatly influenced the structure and content of business models. Digital platforms are the most important economic and social phenomenon of our time, which have put themselves at the service of Uber, Airbnb, Amazon, Alibaba, PayPal, eBay and other most

dynamically growing brands. Platforms are new business models that use technology to bring people, organizations, and resources together into an interactive ecosystem. At present, old, inefficient business models in a number of industries (banking, telecom, insurance, logistics) are being replaced by new models that meet the needs of modern consumers. So, with the advent of mobile devices and the development of mobile applications, the so-called "platform" business models are gaining more and more popularity (Tsifrovaya ekonomika: problemy i posledstviya sovremennykh tekhnologii, 2019).

A digital platform is a fully technology-based business model that generates profits through the exchange between two or more independent groups of participants. In the basic configuration, the platforms bring manufacturers and end consumers directly, who get the opportunity to interact without intermediaries.

2. Materials and methods

There are various approaches to classifying and comparing different business models. However, for the purposes of a comparative analysis of business models in the modern economy, some authors propose to previously divide them into traditional ("pipeline") and platform (ecosystems) (Garifullin and Zyabrikov, 2019). This study focuses on platform business models. As the main research method, a method for analyzing platform business models was adopted, highlighting the specifics of the main components.

3. Results

Recently emerging platform business models create value for customers through the use of digital technologies that allow various economic actors to interact in real-time using electronic digital communication channels that ensure equal access for all participants to information and its reliability. Thus, opportunities for abuse of monopoly position, unfair competition are sharply reduced, and confidence is returning to the economy.

The economy has not yet developed an established definition of a digital platform, although many authors offer their own definitions. According to the authors of this article, the most successful definition of a digital platform is as follows: "A digital platform is a system of algorithmic mutually beneficial relationships of a significant number of independent participants in an economic sector (or field of activity) carried out in a single information environment, leading to a reduction in transaction costs due to the use of the package digital technologies for working with data and changes in the system of division of labor" (Tsifrovye platformy: podkhody k opredeleniyu i tipizatsii, 2018).

The concept of a digital platform includes both the technological design itself and the platform business model and ecosystem (Geliskhanov and Yudina, 2018). The platform as a business model is a model of providing, through a technology platform, direct interaction and transactions between entities using new methods and forms of interaction, value creation, and pricing. This distinguishes the platform from traders and classic intermediaries, where there is no direct interaction between parties interested in each other, as well as from vertically integrated companies that unite one side of the market within a single ownership structure.

Digital platforms have actually led to the formation of new business entities - platform companies that become sources of market power, form new strategic alternatives for business development, new sources of competitive advantages and value-added, provide a transition from value chains to partner networks (collaborations), form an environment for the co-evolution of markets and companies that together form a platform economy.

Diana Farrell and Fiona Greig define a platform economy as an economic activity using an online intermediary that provides a platform through which independent workers or sellers can provide a particular product or service to customers and determines that all platforms have four things in common: connect employees or sellers directly to customers - allow people to work when they want; sellers receive payment immediately after completing work or providing goods (Farrell and Greig, 2016). Others also provide an opportunity for various companies to share information and thus significantly improve cooperation and create innovative products and solutions (Thomas, Autio, and Gann, 2014).

Compared with traditional business models, platform ones have a number of advantages, although they are also not without drawbacks (Table 1).

Table 1. Comparative characteristics of traditional and platform business models

Type of business model	Advantages	Disadvantages
Traditional Business Model	Low barriers to entry into the business	Communication with a client through an intermediary (call center, agent, etc.) Territorial and country restrictions Low speed of business processes
Platform Business Model	Direct customer interaction Lack of country and territorial restrictions High speed of business processes and transactions	High barriers to entry into the business (the cost of creating a platform)

An ecosystem or a platform business model is a multifunctional environment in which a user can perform all of the many (ideally all) functions he needs on the ecosystem profile, possible in cyberspace (calculations, project management, storage and retrieval of information, communication, organizer, etc.). Such an integrated service allows customers to save time and effort, to become more efficient. All ecosystems can be conditionally divided into transactional and innovative. Transactional ecosystems provide transactions (interactions) between ecosystem participants who would have difficulty finding each other without it (Uber, Alibaba, Airbnb, Google search, Amazon Marketplace, eBay, Waze, etc.). In contrast, innovative ecosystems are those in which a large number of developers located in distributed spaces in different parts of the world develop new applications/ services/products for the ecosystem (iPhone, Android, Windows, etc.).

The basis of the analysis of platform business models was the template of the classic business model of Alexander Osterwalder (Alexander Osterwalder) - Yves Pigneur (Osterwalder et al., 2005), which today is accepted by most studies as being universal or basic (Gassmann, Frankenberger, and Csik, 2016) (Figure 1). Its advantage is the original graphic solution (architecture), namely the matrix template, which the authors called the canvas of the business model (Business Model Canvas).

The Osterwalder - Pigneur model consists of nine main blocks (components). We will present them in the order adopted by the authors (Osterwalder et al., 2005): Target groups of consumers (Customer segments), Value proposition (Value proposition), Channels of promotion (Channels), Technology of customer relations (Customer relationship), Revenue streams (Revenue streams), Key resources (Key resources), Key processes, Key partnerships, Cost structure.

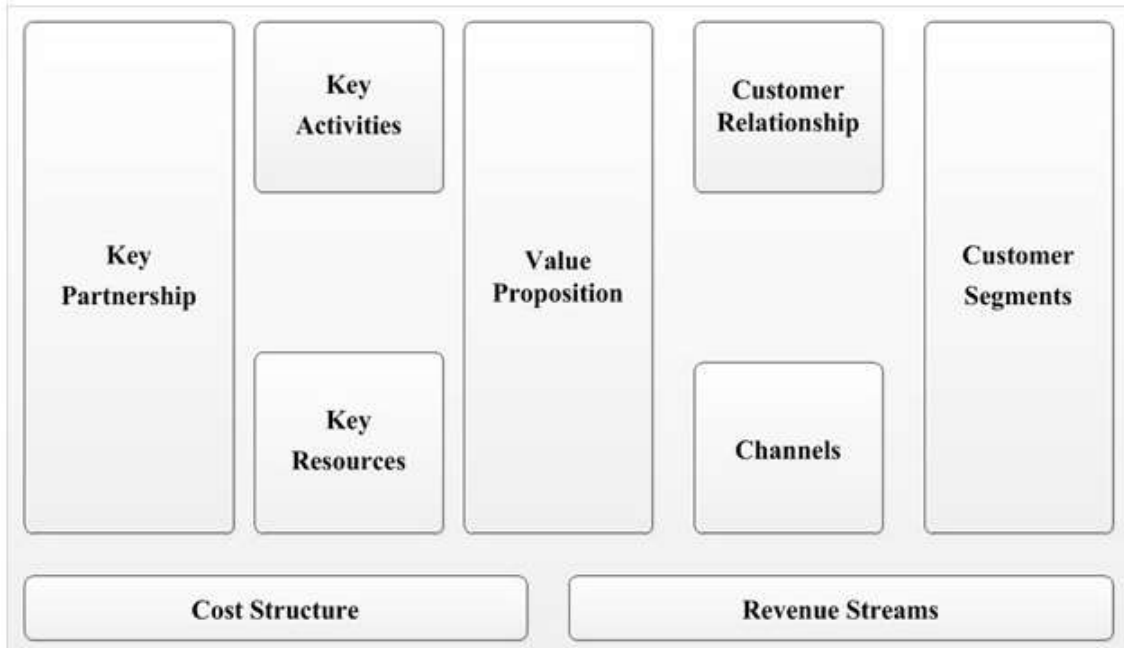


Figure 1. The outline of the business model of Alexander Osterwalder and Yves Pigneur

The analysis of platform business models with the identification of the specifics of the main components showed that the components “Value Proposition” and “Revenue Streams” undergo the greatest transformation. The main differences are the intangible assets or preferences that the platform provides. Let us consider each of the 9 components of the standard template of the Osterwalder-Pigneur business model in relation to the platform business model.

“Key Partners” - in the platform business model, this is all the many buyers, manufacturers, suppliers, developers, etc. who have never seen each other but have the ability to interact on the platform. A special role is played by the algorithmization of the interaction of platform participants, as well as the significance of the number of activity participants (scale) using the platform for interaction.

“Key Processes” - business processes occurring on the platform in an open digital environment. A special feature here is network effects, as well as equal access to all ecosystem participants to information.

“Key Resources” - there is a significant difference from traditional business models, since in this case all participants of the platform use external resources - ideas, information, customers, labor, etc. and can have very limited internal resources (crowdsourcing). For example, Uber has practically no material values, and the staff of this company employs only a few hundred people.

The “Value Proposition” in platform business models is not only the products and services sold on this platform but also the combination of advantages that the platform is ready to offer the consumer

during the transaction, as well as after it. This also includes the currency and form of payment with bank guarantees, which is important for consumers.

“Customer Relationship” - are the interactions of a significant number of independent participants in the ecosystem, the mutually beneficial relations of the participants of the platform in accordance with the principle of “win-win”.

“Channels (of Promotion)” are networks, a single information environment, electronic-digital communication channels, multi-channel marketing.

“Customer Segments (Target Consumer groups)” is the entire community of ecosystem participants. In a classic business process, the company controls the resources used. It helps to save. The platform, when managing the ecosystem, controls the unused resources for the production of one product or service, but the entire community.

“Revenue Streams” in platform models are provided by a variety of monetization sources - its own advertising platform, subscription model, the provision of additional privileges through integration with other systems, the provision of technical support and the sale of training materials, etc. This also includes charging a commission for using (transactions) the platform (eBay, Uber); payment for access to information on the platform (Science Direct, electronic media); differentiated access payment - the provision of benefits for certain categories of platform participants, in cooperation with which other participants are interested, making the full payment price (dating sites), etc.

“Cost Structure” is the cost of innovation, infrastructure modernization, and the development of new business applications. Practice shows that the cost of maintaining the platform is significantly lower than the cost of a traditional business, *ceteris paribus*. However, as noted above, the creation of the platform itself is an expensive pleasure, while the higher the uniqueness of the platform, the higher the cost of creating it.

4. Discussion

The main factor contributing to the development of the digital economies of the world is innovation (Tsifrovaya ekonomika: problemy i posledstviya sovremennykh tekhnologii, 2019). At the same time, experts note that the most successful innovations over the past few years were not technological. These were innovations in the field of business models (Amazon’s Generic Strategy, Intensive Growth Strategies, 2020; Temnova, 2019). Uber is an example - the revolution was not made by the platform itself, but by a new business model. As a result of this, a new expression appeared - “economic uberization”, which refers not only to the platform but it refers to the deep levels of transformation of the economy and society, which relate to how supply and demand interact.

The main trend of the leading economies of the planet is a cloud-based business method (“Cloud Firs”). Two key principles of the platform business - the service format of the product (everything-as-a-service / all-as-service) and the flexible payment format (pay-as-you-go / pay-on-the-go) - provide an unprecedented speed of new products output to markets and promise a much richer, more positive and productive experience for millions of consumers (Batkovskiy, Kalachikhin, Semenova, Telnov, Fomina, & Balashov, 2019)

5. Conclusion

1. The platform is a simple-looking, but revolutionary concept that radically changes business, the economy, and society as a whole.

2. Platforms are called the future of a market economy, examples of entrepreneurial business, the forerunners of new forms of economic exchange. Now the platform is called the virtual trading platform, and the totality of its users, and software, hardware and network systems, a business model and a company that implements it.

3. Platforms are a new type of business model that uses technology to bring people, organizations, and resources together in an interactive ecosystem, in which an amazing amount of value is created, and distributed to users. Airbnb, Uber, Alibaba, and Facebook are just four examples of revolutionary platforms. There are others: Amazon, YouTube, eBay, Wikipedia, iPhone, Upwork, Twitter, KAYAK, Instagram, Pinterest, and dozens of others. Each of them is unique and focused on a specific industry and market. And each has harnessed the power of platforms to transform its segment of the global economy. And in the future, many similar transformations await us.

4. Platform business models give a new understanding of business openness, as well as set a new vector of competition and give a new impetus to a change in corporate strategy. Therefore, all traditional business leaders seek to incorporate digital platforms into their traditional business models.

References

Al-Debei, M.M., & Avison, D. (2010). Developing a Unified Framework of the Business Model Concept. *European Journal of Information Systems*, 19(3), 359-376. Retrieved from

<https://doi.org/10.1057/ejis.2010.21>

Afuah, A. & Tucci, C. (2001). *Internet Business Models and Strategies* (McGraw-Hill, New York, NY).

Amazon's Generic Strategy, Intensive Growth Strategies. Retrieved from <http://panmore.com/amazon-com-inc-generic-strategy-intensive-growth-strategies> (accessed: 21.02.2020).

Amit, R. & Zott, C. (2001). Value Creation in eBusiness. *Strategic Management Journal*, 6-7 (22), 493-520.

Batkovskiy, A.M., Kalachikhin, P.A., Semenova, E.G., Telnov, Y.F., Fomina, A.V., & Balashov, V.M. (2019). Elección adaptativa de los modelos de negocio de empresas de red (Adaptive choice of business models for network companies). *Espacios*, 40,12.

Brandenburger, A. & Nalebuff, B. (1996). *Co-opetition* (New York: Doubleday).

Chesbrough H. (2006). *Open business models: How to thrive in the new innovation landscape*. Boston, MA: Harvard Business School Press.

Chesbrough, H. & Rosenbloom, R. (2002). The role of the business model in capturing value from innovation: evidence from Xerox Corporation's technology spin-off companies. *Industrial and Corporate Change*, 11 (3), 529-555.

Chesbrough, H. (2010). Business model innovation: Opportunities and barriers. *Long Range Planning*, 43 (2/3), 354-363.

Christensen, C. & Raynor, M. E. (2000). Meeting the challenge of disruptive change. *Harvard Business Review* 78, (2), 66-77.

Doll, B. (2005). Business design game. *Business Model Template*. Retrieved from <https://www.slideshare.net/MarcinKokott/business-design-game-business-model-template-43653862>

Druker, P. (2015). *Practica menedzhmenta*, Per. s angl. (M.: OOO Mann, Ivanov i Feber, 620).

Ezendu, E. (2010). Advancing Business Model. Retrieved from <http://advancingbizmodel.blogspot.com/>

Farrell, D., & Greig, F. (2016). Paychecks, Paydays, and the Online Platform Economy. (2016). *Big Data on Income Volatility, JPMorgan Chase & Co, 1*, 44.

Fielt, E., Janssen, W., Faber E. & Wagenaar, R. (2004). Design Trade-offs for Electronic Intermediaries. In W. Janssen, S. Marijn, G. Henk, R. Wagenaar (Eds.). Retrieved from <https://doi.org/10.1080/10196780802420760>

Fitzpatrik, R. (2004) How to Actually Do Customer development (and Not Waste your Time). Retrieved from <http://www.slideshare.net/robfitz/how-to-actually-do-customer-development-and-not-waste-your-time>

Ford, R. (2006). How Students Can Use Learn Startup Principals for Better Grades in Less Time. Retrieved from <http://www.roryford.com/lean-startup/how-students-can-use-lean-startup-principals-for-better-grades-in-less-time>

Garifullin, B. M. & Zyabrikov, V. V. (2019). Vidy biznes-modelei kompanii v tsifrovoi ekonomike. *Kreativnaya ekonomika*, 13 (1), 83-92. Retrieved from <https://doi.org/10.18334/ce.13.1.39720>

Gassmann, O., Frankenberger, K. & Csik, M. (2016). *Business models: 55 best patterns* (Moscow).

Geliskhanov, I. Z. & Yudina, T. N. (2018). Digital platform: A new economic institution. *Quality – Access to Success*, 19 (S2), 20-26.

Goethals, F. (2009). The unified business model framework. *IESEG School of Management*, 23 (9), 16-47.

Hulme, T. (2006) Visualizing your business model. Retrieved from <http://inspirationkit.nl/kit-detail/850/visualizing-your-business-model>

Kołodziej, R. (2003). Business Model Canvas cozy Lean Canvas. Retrieved from <http://cocreation.bblog.pl/wpis.business;model;canvas;czy;lean;canvas>

Magretta, J. (2002, May). Why business models matter. *Harvard Business Review*, 86-92.

Masyuk, N., Bushueva, M. & Bragina, Z. (2018, November 5). Innovative Business Model of the Cluster as an Ecosystem. *Proceedings of the Innovative Economic Symposium*, Beijing, China.

Maughan, G., & Durnota, B. (1995). MON: An object relationship model incorporating roles, classification, publicity and assertions. In OOIS'94 (pp. 166-180). Retrieved from http://doi.org/10.1007/978-1-4471-3016-1_13.

Maurya, A. (2012). *Running Lean. How to Iterate from Plan A to a Plan That Works* (Published by O'Reilly Media, 03-06).

Mayo, M. & Brown, G. (1999). Building a competitive business model. *Ivey Business Journal*, 63 (3), 18-23.

Osterwalder, A. (2004). *The Business Model Ontology – a Proposition in a Design Science Approach*: Doctoral Dissertation (University of Lausa N.N., Switzerland).

Osterwalder, A., Pigneur, Y. & Tucci, Ch. (2005). Clarifying Business Models: Origins, Present, and Future of the Concept. *Communications of the Association for Information Systems*, 16, 1-25.

Osterwalder, A., & Pigneur, Y. (2013). Designing Business Models and Similar Strategic Objects: The Contribution of IS. *Journal of the Association for Information Systems*, 14(5), 237-244. Retrieved from <https://doi.org/10.17705/1jais.00333>

Petrishchev, P., Masyuk N., & Bushueva, M. (2015). Typology of university business models in the context of its international alliance. *Scientific Review*, 24, 330-337.

Petrichev, P., Masyuk, N. & Bushueva, M. (2018, November 15-16). Typology of the University Business Models for Integration into the International Strategic Alliances. *Proceedings of the 32nd International Business Information Management Association Conference (IBIMA)*, Seville, Spain, 4577-4587.

Robotam, M. (2011). *Business Models*. Growth management consulting LTD.

Santos, F. M. (2012). A positive theory of social entrepreneurship. *Journal of Business Ethics*, 111, 335-351.

Stewart, D. W. & Zhao, Q. (2000). Internet Marketing, Business Models, and Public Policy. *Journal of Public Policy and Marketing*, 19 (2), 287-296.

Teece, D. (2010). Business Models, Business Strategy and Innovation. *Long Range Planning*, 16 (6), 172-194.

Temnova, N. K. (2019). Biznes-model' i strategicheskiie resheniia liderov rynka tsifrovyyh uslug. *Vestnik Natsional'noi akademii turizma*, 2 (509), 27-31.

Thomas, L. D., Autio, E. & Gann, D. M. (2014). Architectural leverage: putting platforms in context. *The Academy of Management Perspectives*, 28 (2), 198-219.

Tsifrovaya ekonomika: problemy i posledstviya sovremennykh tekhnologii: kollektivnaya monografiya. (2019). (Rossiiskaya akademiya narodnogo hozyaistva i gosudarstvennoi sluzhby pri Prezidente RF, Srednerusskii institut upravleniya, Orel).

Tsifrovye platformy: podkhody k opredeleniyu i tipizatsii (2018). Rostelecom. Retrieved from https://files.data-economy.ru/digital_platforms.pdf