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Platforms as the Terms of Organizational Leadership in the Digital Economy

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Abstract The digital revolution that we are currently witnessing has led to the emergence of companies using the revolutionary business models represented by the digital platforms. Platforms growth is driven by network effects, not the concentration of physical assets. A feature of the platforms is that they can provide the user with a new and attractive value proposition. Platforms grow since users are united around them, between which new relationships appear. The number of platforms is increasing, and they are having a disruptive effect on a growing number of industries. In this situation, traditional business companies are at risk in accordance with the fact that the platforms are developing rapidly and capture large market shares. The article considers issues related to the mechanism of action of digital platforms, their differences from traditional business models, the direction of transformation of companies in the transition from a traditional business model to a digital platform model.

Keywords: *digital platforms, organizational leadership, digital economy, digital revolution*

1 Introduction

Until recently, companies that had a stable, mature business sought to optimize proven business models in the direction of increasing efficiency, reducing costs, and improving the quality of customer service. The digital revolution and information technology (cloud, mobile, social networks, artificial intelligence, etc.) are changing the traditional ways of doing business (MIT Sloan Management Review 2019). The emergence of digital giant companies raises the question for leaders about whether it is possible to maintain competitiveness in the long run if organizations stick to familiar business models.

At present, we are observing that many companies from North America, Europe, and Asia are actively transforming business models considering digitalization. At the same time, one of the most attractive models is the business model of the digital platform (Weill and Woerner 2019). The digital platform allows companies using network effects to achieve outstanding financial performance and form a huge customer base. Nowadays, Russian companies have not yet gained enough experience in transforming traditional business models to a digital platform model.

2 Methods

Currently, approaches to the consideration of business models based on the traditional theory of the company have become very widespread in the Russian market. Osterwalder and Pigne (2012) consider the business

model of the company as a structure reflecting the formation of a value proposition, ways to deliver it to the client, the necessary resources, and the monetization mechanism.

At the same time, the activity of digital platforms is based on other theoretical principles that are different from generally accepted ones. In order to conduct research, the authors used methods of system analysis, the theory of bilateral markets, company economics, management and organizational behaviour theory (Coase 2001; Samuelson 2015; Mintzberg 2019).

3. Digital platform: a characteristic of a business model

The digital platform is a new type of business model

The development of Internet technologies has led to the emergence of companies whose business model differs from traditional views on building organizations. The most interesting digital model is the platform.

In general, a digital platform is a technical infrastructure that enables almost any user to be an element of the platform's ecosystem. The platform allows you to connect various groups of users through the Internet who are interested in interacting with each other: sellers of goods and buyers, advertisers and target buyers, partners, communities, etc. (Srnicek 2019). In general, the main aspects of the platform are (Tyrol 2020):

- manufacturer/seller - sells goods and services;
- the buyer/end user of the product/service;
- platform/operator - organizes effective interconnection and mutual exchange of value between the parties to the platform.

Digital platforms can be one-sided and multilateral, due to the logic of interaction between participants (Table 1).

Table 1. Examples of two-way platforms

Manufacturer / Seller	Platform / Operator	Buyer / End User
Sellers	Marketplace	Buyer
Application developers	Operating system	Users
Game developers	Video game platform	Player users
Advertisers	Search system	Search Engine Users
Taxi drivers Homeowners	Sharing platforms	Consumers

Source: Own results based on Tyrol (2020)

The main distinguishing feature of digital platforms from traditional business models is their dependence on network effects. The success of the platform on the market directly depends on how efficiently the platform has taken advantage of network capabilities. The value of the platform does not depend on the volume of physical assets, like a traditional business, but on the number of users included in the ecosystem of the platform.

The more users the platform has, the more valuable it is to other users. This network effect allows platforms to grow at an accelerated pace and even move to exponential growth.

Classification of digital platforms

Currently, there are various approaches to determining the type of digital platforms. According to Moazed and Johnson (2019), there are two large groups of digital platforms:

- platforms for the exchange of value (platforms of goods, services, social networks and gaming platforms, communication platforms);
- platforms for creativity (content platforms and platforms for application development).

Srnicek (2019) divides digital platforms into the following groups:

- advertising platforms (Google) - carry out the fulfilment of customer searches and sell to advertisers the opportunity to promote goods and services to the audience of this platform;
- cloud platforms (AWS, Salesforce) - provide rental companies operating in the network, software and Internet resources;
- industrial platforms (GE, Siemens) - transform existing production business processes into services using Internet technologies;
- lean platforms (Uber, Airbnb) - allow you to provide the client with services based on maximum savings.

The following platform business models are distinguished (Loucks et al. 2018):

- ecosystem- is a standardized set of elements, modules that make up the "sandbox". Any consumer can connect to such an environment and use its elements to create new value (for example, the Apple ecosystem is very attractive for application developers, Google, Android);
- crowdsourcing - develops as a result of the interaction of participants offering new innovative ideas, unique information, knowledge (WikiLeaks, Quora);
- communities - a platform focused on the dissemination and receipt by users of relevant and useful information (YouTube, Twitter);
- digital market - a platform aimed at creating cost-effective relationships between users (Airbnb);
- data orchestrator - a platform that operates using IoT and big data technologies, telecommunication and geolocation technologies. It is used to obtain data from sensors on the functioning of equipment, production systems (GE, Cisco).

Consulting company Accenture (ANO “Digital economy” 2017) identifies the following types of models of digital platforms:

- marketplaces - direct interaction between the buyer and the supplier (Amazon, Alibaba);
- the economy of joint consumption - the acquisition of services for a short time (Uber, YandexTaxi, Airbnb);
- financial operations - an ecosystem for conducting financial and investment operations (PayPal, Sberbank);
- technologies - providing a platform for independent developers of software, applications and services (Apple, Google), using platform resources in the products of platform users (Azure);
- social networks - allow you to exchange between groups, communities, acquaintances, friends (Facebook, Twitter).

Platform mechanism

As mentioned earlier, the digital platform provides an interface that allows different groups of users to interact with each other (Srnicek 2019; Tyrol 2020). For the success of the platform, it is necessary to provide customers with easy and convenient access in order to constantly increase the number of users.

Platforms get a huge advantage over companies in traditional industries related to the ability to accumulate user data and subsequently use it for commercial and other purposes (Google, Facebook, Apple, etc.).

From an economic point of view, the platform’s business model is based on the theory of bilateral markets, which assumes that the parties to the market are interconnected. The presence of the other side is beneficial for one side, external effects or externalities are created between them.

The presence of external effects allows the platform to apply the principle of "swing" to achieve financial goals. On the one hand, the platform takes a minimal fee for connecting users to the platform, and on the other hand, users pay in double size. This approach to financing platform activities is called cross-subsidization.

To provide an excellent customer experience, platform owners are creating an ecosystem of suppliers that can compete. But the platform supports such competition in order to increase customer satisfaction. In some situations, platforms regulate supplier prices up or down depending on market conditions.

According to studies Moazed and Johnson (2019), the main activities of the platforms are:

- attracting an audience;
- coordination;
- the provision of tools and services;
- definition of rules and standards.

For the successful functioning of the platform, rules are often developed that support only ethical user behaviour, suggest the possibility of connecting certain groups of users to the platform, etc.

Very often, customers are provided with information about the reliability of suppliers using a rating system.

The research results show (see Table 2) that digital platforms cover an increasing number of industries: electronic commerce, fintech, media, transportation, social services, industry, travel, software development, etc. (Loucks et al. 2018).

Table 2. The number and capitalization of companies that are developing according to the model of a digital platform in the world

Region /Number of platforms	Capitalization, billion $
North America/64	3 123
Asia/82	930
Europe/27	818
Africa and Latin America/3	698
Total: 176	4 303

Source: Own results based on ANO "Digital economy" (2017)

Digital platform and traditional business model: features

In a developed industrial economy in the 20th century, companies adhered to the so-called linear business model. Its essence lies in the fact that the company produced a product or service and sold them to the consumer. At the same time, value grew sequentially along the supply chain.

Companies either fully controlled one supply chain, or part of this chain. Effective supply chain management, reducing costs all the way from the manufacturer to the consumer, was considered one of the main conditions for a company's competitiveness in the market. For this, various management tools were used: lean manufacturing, on-time delivery, automation of production and management activities, etc.

In the digital revolution, a linear business model involving supply chain management is no longer the main source of value creation for customers. The main feature of the platform model is the creation and transfer of value through interaction between consumers.

In a linear business model, the most valuable resources are the company's internal physical assets. The growth of business scale occurred gradually, as the volume of assets managed by the company increased (Table 3). For the platform, it is important not internal assets, but external networks that it creates on its own or connects to itself. In this case, the increase in the scale of the platform is due to the growth of an external network consisting of customers, partners, counterparties, etc.

Table 3. Description of business models: linear and digital platforms

Linear business model	Digital platforms
Value creation in the form of goods/ services along the value chain. Full control over assets and value chain elements	Creating value through the organization of interaction of network elements, stimulating operations between them
Business expansion and growth through the acquisition of physical assets	Business growth through network effects
Business performance is achieved through economies of scale and streamlined supply chains.	Efficiency is achieved through the optimal formation of the ecosystem, networks of users, suppliers, partners, increased transactions
Focus on one-time transactions, low product customization	Recurring transactions, high customization of the offer
Discrete revenue streams	Continuous revenue streams
Closed IT-architecture	Open IT-architecture with API and scalability

Source: Own results

The analysis shows that the digital platform model has enormous advantages and prospects in comparison

with linear models. The platform is currently one of the most attractive business models. It is used not only by digital giants, but also by companies from other sectors of the economy operating under the B2B and B2C scheme. Using a digital platform allows you to change company guidelines and put the customer, rather than a product or service, at the forefront.

Due to the growth in the number of customers and the accumulation of their critical mass, exponential growth of the company's business and the achievement of a market leader are possible.

According to the fact that the platform operates on other principles than the traditional business model of the company, companies from stable industries have no experience in creating a digital platform in an established business.

The leaders of the companies have a question, how to use such a business model? What strategic alternatives are possible for the organization in terms of growth priorities in the current environment? Let us consider the possible options for the company, presented in Table 4.

Table 4. Variants of a strategy for transforming companies when switching to a digital platform

Variants of a strategy	Priorities
Creating own digital platform	High
Collaborate with other partners and create a sharing platform	Medium
Entry into the existing ecosystem of the digital platform	Lower medium
Refusal to switch to a digital platform	Low

Source: Own results

4. The basic directions of the transformation strategy

As the foreign experience of companies that have transformed their business models from linear to digital, the following problems arise in this way. First, this is an undermining of the existing structure, technological base, system of work with clients and partners, which can lead to a short-term weakening of market positions and a decrease in the revenue stream.

The analysis shows that the transition to the platform's business model requires companies to have skills related to creating products / services together with partners in order to offer customers a comprehensive and customized offer. To create a critical mass of users, it is also necessary to cooperate with partners who specialize in digital services and make it possible to digitalize all points of contact between the company and customers.

It should also be noted that in addition to changing the technological base, organizational restructuring of the company is also necessary, which is associated with a large degree of uncertainty for the staff. If the leaders of the organization cannot inspire employees to make changes and lead them along, people may be rejected by the idea of transformation.

It seems to the authors that the transition from a linear business model to a digital platform should be based on the principles of systematic and phasing. Following the principle of phasing, the transformation process can consist of the following steps:

1. Assessment of the strengths and weaknesses of the company, the level of competitiveness in the market.
2. Identification of opportunities for building the capacity of resources in order to select a transformation strategy.
3. Determining the type of digital transformation (own platform, together with partners, entering the existing ecosystem of the platform, abandoning the platform project, automating business processes).
4. The transformation strategy.

Based on the principle of consistency, the authors proposed the basic directions of the transformation strategy during the transition of a company from a linear business model to its own digital platform. These directions include the following: i) customer service; ii) operational activities, technology; and iii) mission, strategy, leadership. The specific contents of the directions are presented in Table 5.

Table 5. The basic directions of the company's transformation strategy in the transition from a linear business model to a digital platform

The basic directions of the transformation strategy	The content of the strategy directions
Customer service	Formation of a comprehensive value proposition through own and partner products/services. Providing an excellent customer experience at all points of contact with the customer. Creating a high level of adaptability and customization of value.
Operations, Technology	Partner ecosystem formation. Creating Open Source Platform Software with API Suggestions Programming Interface. Creating an internal platform to provide an integrated and integrated approach to customer experience.
Mission, Strategy, Leadership	Development of a company mission aimed at providing customer focus. Create a culture conducive to trust, creativity, support. Introduce horizontal organizational structures. Establishing a close relationship between employees, customers, partners, suppliers. Promoting employee leadership at every workplace. Extensive use of analytics in decision making. Innovative policies aimed at improving customer service and developing networking. Financial strategy aimed at the formation of a constant stream of income through subscription fees.

Source: Own results

5. Acknowledgments and discussion

Many studies confirm the hypothesis that the model of a digital business platform is extremely attractive not only for digital companies, but also for organizations from traditional sectors of the economy. The results of our study indicate that the activity of digital platforms differs from the traditional functioning of the company and is subject to the provisions of the theory of bilateral markets.

The results obtained confirm the studies of the functioning of digital platforms conducted by foreign researchers (Gansky 2011; Loucks et al. 2018; Linz et al. 2019; Moazed and Johnson 2019). The authors have proposed suggested a systematic approach to the transformation of a linear business model to a platform.

Based on the principle of consistency, the authors proposed the basic directions of the transformation strategy during the transition of a company from a linear business model to its own digital platform. These directions include the following: i) customer service; ii) operational activities, technology; and iii) mission, strategy, leadership.

According to the authors, the research prospects are related to the definition of industry specifics of the transition to digital platforms, as well as the development of specific management tools and practices.

6. Conclusions

Overall, an interesting question emerges: Why do companies such as Apple, Amazon, Android, Alibaba achieve outstanding market success? Our answer to that is that this is primarily because their activities are built on the business model of a digital platform.

The authors are grateful to the researchers who analysed the features of this business model and published interesting and in-depth materials.

Inspired by these materials, the authors decided to study the experience gained in the functioning of digital business models and determine the basic directions of transformation during the transition of a company from a linear business model to its own digital platform.

References

ANO "Digital economy" (2017) Digital economy as an economy of platforms and new business models https://data-economy.ru/top_education#mdl_1. Accessed 04 Apr 2020.

Bostrom N, Superintelligence. Paths, Dangers, Strategies, 1st edn. (Moscow: Mann, Ivanov and Ferber, 2016), 760 p.

Coase R, The nature of the firm. Origins, evolution, and development, 1st edn. (Moscow: Delo, 2001), 360 p.

Gansky L, Mesh-model. Why the future of business is in sharing platforms, 1st edn. (Moscow: Alpina Publisher, 2011), 420 p.

Linz C, Muller-Stewens G, Zimmermann A, A Radical Change in Business Model: Adaptation and Survival in a Competitive Environment, 1st edn. (Moscow: Alpina Publisher, 2019), 311 p.

Loucks J, Macaulay J, Noronha A, Wade M, Digital vortex. How today's market leaders can beat disruptive competitors at their own game, 1st edn. (Moscow: Eksmo, 2018), 400 p.

Mintzberg H, 42 stories for a manager or bedtime story by Henry Mintzberg, 1st edn. (Moscow: Olympus-Business, 2019), 160 p.

MIT Sloan Management Review, Digitalization: Practical Guidelines for Switching a Business to Digital, 1st edn. (Moscow: Alpina Publisher, 2019), 210 p.

Moazed A, Johnson N, Platform: The practical application of a revolutionary business model, 1st edn. (Moscow: Alpina Publisher, 2019), 288 p.

Osterwalder A, Pigne I, Building business models. Handbook of the Strategist and Innovator, 1st edn. (Moscow: Alpina Publisher, 2012), 330 p.

Samuelson P, Nordhaus W, Economics, 18th edn. (Moscow: Publishing House Williams, 2015), 1360 p.

Srnicek N, Platform Capitalism, 1st edn. (Moscow: Publishing House of the Higher School of Economics, 2019), 128 p.

Tyrol Jean, Economics for the Common Good, 1st edn. (Moscow: Publishing house of the Gaidar Institute, 2020), 696 p.

Weill P, Woerner S, Digital Transformation of Business: Changing the business model for the organization of a new generation, 1st edn. (Moscow: Alpina Publisher, 2019), 260 p.