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Chapter 5
INNOVATIVE BUSINESS MODELS IN THE INTERNET BUSINESS ENVIRONMENT

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INTRODUCTION

The digital transformation of the economy and society can be named the digital revolution having a decisive impact on most areas of activities and in our opinion, it can be compared to the industrial revolution of the XIX century.

A significant impulse in the digital economy sphere came from the broadening of the Internet in the 1990s. It significantly changed the attitude towards digital communication of all market members. The development of digital business was the beginning of the process of digitalization and dissemination of information technologies. As of the end of the second decade of the XXI century, successful companies used information technology also for the development of fundamentally new business models, products and services. Not only do IT innovations support the modern economy, they allow to transform economic processes and value creation radically. This leads to changes in the structures of entire industries thus blurring the boundaries between industries.

In recent years, considering the rapid development of business activity on the Internet in Ukraine, the issue of analysis and practical application of the world experience of business activity on the Internet, taking into account Ukrainian realities, becomes really actual. However, the term "business model," which became relevant to business researchers only from the late 1990s-early 2000s is of particular interest. It is used to describe a wide range of informal and formal key aspects of business, including purpose, target customers, offers, strategy, infrastructure, organizational structure, trading practices, management processes and more. The business model is the basis for the existence and development of any form of entrepreneurship. The choice of a particular model is determined by the goals and objectives of the entrepreneurs as well as the trends of consumer behavior.

5.1. The genesis of the formation and development of the digital economy and Internet entrepreneurship

The history of the appearance and development of entrepreneurial activity on the Internet can be divided into several successive stages. Let us consider them.

In the first stage (1960-1989) the prerequisites for the appearance of entrepreneurial activity on the Internet were formed. There were two processes simultaneously:

first, the creation of global networks and the appearance of the Internet;

second, the creation and development of e-commerce and business systems.

We can divide these processes considering the events that proceeded in chronological order. They are presented in Table 1.

Table 1

Prerequisites for the appearance of e-commerce on the Internet

Years	Development of the Internet	E-commerce development
1960-1970	In 1961 Leonard Kleinrock formulated the key principles of global information networks. In 1962 J. Licklider published the work named Galactic Network. His prediction reflects the modern device of the Internet. In 1966 the project on creation of ARPA computer network has begun.	1960. The first e-commerce system SABER allows to reserve flights seats automatically. The mid-1960s. The appearance of the first magnetic credit cards, which made it possible to automate settlements
1970-1980	In July 1977, Vinton Cerf, program director of SATNET (ARPA department), firstly demonstrated data transmission using TCP under three different networks. The transmitted information passed the path of 150 thousand km and did not lost a single bit.	1971. Creation of the NASDAQ Electronic Securities Exchange. 1972. Telecommuting as a concept of work organization. The mid-1970s. The appearance of the first means of electronic data interchange (EDI) and translation of financial calculations (EFT).

Table 1. (Continued)

Years	Development of the Internet	E-commerce development
1970-1980		1976. The idea of digital signature; creation of FOREX electronic market. 1977. Creation of the system of SWIFT international bank payments
1980-1989	1983. ARPANET network has completely switched to the TCP/IP communication protocol. This day is considered the official date of birth of the Internet. In 1989, Tim Burnes-Lee developed the WorldWideWeb (WWW) standard, a global hypertext system.	1980-1984. The appearance of the first client banking systems.

With the commercialization of the Internet in the future, these processes start to intersect and a separate consideration of the development of e-business loses meaning, therefore, we will consider only the part that relates to business activity in the Internet.

The second stage (1990-1993) is the appearance of business activity on the Internet.

In 1990, commercial organizations were admitted to the development of the Internet infrastructure, their developments dramatically expanded the network's capabilities resulting in an increased audience and the Internet became interesting commercially.

The major events that occur over the years are presented in Table 2.

The third stage (1994 – now) is the development of business activity on the Internet. It can be divided into 2 waves: 1994-2000 and 2000-now, when the shares of Internet companies on the stock market crashed ("dotcom crash" in 2000), many companies went bankrupt and the development of Internet entrepreneurship slowed down.

In 1994-2000, all the main types of Internet entrepreneurship appeared. However, not all of them immediately became effective and popular as for the active development of the market demand was little and the audience of the Internet was not large enough. Entrepreneurs and investors did not understand the features of the network and the rules of

doing business resulting in many organizations were unprofitable but at the same time were well evaluated on the stock market and attracted significant investments. It could not last long and the stock market crash happened, shares of all high-tech companies, even successful ones, fell. Over the next few years, entrepreneurs and investors reconsidered the meaning of the Internet paying attention to business models of business activity and their efficiency, which further led to the growth of the market and its civilization.

Table 2

The appearance of e-commerce in the Internet

Year	Development of the Internet
1990	Large private corporations were allowed to support and use the Internet and later administrative functions were transferred to private companies. Creating the first text browser greatly simplifies the use of the Internet for non-professionals.
1991	WWW standard was officially approved on May 17, 1991. The first Internet server has appeared.
1992	Creation of Mosaic browser allows to navigate on the Internet with a mouse and watch graphics. A few months after the creation of Mosaic, the number of used copies of the program exceeded one million and Internet traffic increased by 10 thousand times. The US Congress has approved the commercialization of the Internet. This is where the history of business development on the Internet begins.
1993	Dutch mathematician David Chaum invented mechanisms for the practical implementation of electronic money. For the first time, on October 26, 1993, the President of the United States was asked to create an electronic system for the purchase of products for state needs. This is how the B2G segment was created.

In our opinion, it is reasoble to divide the history of development of Internet entrepreneurship into separate types of business activities on the Internet and to consider them separately.

Particularly interesting is the history of website development. Although virtually all types of sites have appeared online very quickly, the leading types have consistently changed each other.

Information sites were the first to appear, along with the appearance of the World Wide Web, info.cern.ch appeared in 1990. The same site was the first catalogue (with author-filled content). Yahoo! foreign catalogue has appeared in 1994 and Ukrainian resources such as bigmir.net, ukr.net, meta.ua started to appear.

Searching systems, having appeared just as early (1990 – Archie, 1993 – Wandex, 1994 – WebCrawler, 1995 – AltaVista) have long been in the shadow of other resources due to a small amount of information on the web (there were quite a few search catalogues) and the imperfection of search technologies of that time. In Ukraine, the first searching systems appeared in 1996-1997 (1996 – Rambler, Aport, 1997 – Yandex). Google, the current world leader, emerged in 1998 and became one of the first searching systems to offer rankings of sites in search based on the number of links to them (similar to the index of citation of scientific papers and journals). As a result, search quality became much better than its competitors.

Searching systems development history suggests that pioneers are not always the leaders and new ideas and technologies can be the key to success.

Public mail services did not exist for a long time, although e-mail appeared long before the appearance of the World Wide Web. Hotmail.com mail service was opened in 1996, Russian Mail.ru, which is still the leader of the Russian e-mail market, appeared in 1998. Yandex.Mail opened in 2000 could not bypass a competitor. In addition, Ukrainian mail services, such as mail.i.ua, mail.ukr.net, mail.meta.ua and others, appear on the basis of large resources. But there is a new global leader Gmail mail service from Google opened in 2004 and is now one of the most popular in the world. The main competitive features of email services are the user-friendliness of the interface, the amount of storage space available and spam protection.

Social networks appeared in 1995 when Classmates.com was founded. However, the penetration of the Internet at that time was not so dense even in Western countries for a large number of friends to be found on the Internet. The rapid development of social networks began in 2002 with the appearance of Friendster, which, in fact, does not differ from dating sites. The network's audience has grown rapidly with new projects emerging accordingly. In 2003, LinkedIn, a professional business network appeared but the actual revolution took place in 2004 with the appearance of Myspace and Facebook sites. In the next few

years, social networks began to appear in the Russian market: Moi Krug in 2005, VKontakte and Odnoklassniki in 2006, My world@mail.ru and MirTesen in 2007. Google had been trying to enter the market since 2003 but its attempts were unsuccessful; its Orkut project was able to capture only the regional market of India and Brazil, where there were no competitors at that time. Therefore, Google is launching the social networking service Google+ in 2011, which has also not found much support from users.

With the growth of the Internet audience, social networks are emerging as new leaders. It is worth mentioning that there is much more diversity in social services than in searching systems. This can include photos (e.g. Flickr) and video services (YouTube), blogging services (LiveInternet, LiveJournal, Habrahabr), microblogging (Twitter) appeared in 2006.

Let us now consider the development of trading business models on the Internet. One of the first online stores in the modern sense, Amazon.com, was founded in 1995. Starting with the book trade, today it offers virtually all manufactured goods. It is the largest online store in the world with an annual turnover of tens of billions of dollars. The first Russian analogue is OZON.ru store which appeared only in 1998. Now it is also one of Russia's largest online stores, but its leadership is not so clear. In Ukraine, the development of online commerce begins in the early 2000s with the appearance of price aggregators like price.ua, hotline.ua, and classic online stores rozetka.ua, sokol.ua, fotos.ua and others, most of which are now the leaders of the Ukrainian e-commerce segment.

It is difficult to determine the exact start time for virtual goods sales. In the same Amazon.com, music tracks and videos have been on sale since 1998. The largest Russian and Ukrainian SoftKey software store which was founded in 2001. The current world leader is the digital store named iTunes Store from Apple which opened only in 2003.

Throughout the history of the development of online stores, both real and virtual goods and their capabilities have changed gradually and not for a lot. The opportunities to compare products, evaluate them and write reviews appeared. According to the development of financial intermediaries, possible options and payment methods were added. Recently, online stores are overflowing with social functions: a list of goods that a person wants "as a gift," recommendations from friends, goods that are selected based on preferences and so on.

We can separately distinguish the industry of virtual reality merchandise. E.g. games can be virtual equipment for virtual warriors, homes for virtual residents and so on. Among the founders of this industry are games Second Life, 2003 and World of Warcraft, holding the title of leader since 2004.

Recently, more people are spending time on social networks, accordingly, games on social networks and selling goods in games are developing. Playing with acquaintances is much more interesting than playing with strangers. The leader in this industry is Zynga Corporation, creator of social networking games (since 2007).

The market for services emerged at the same time as the appearance of the network because sites needed to be created and developed and many other services were convenient to provide through the network. For example, EPAM Systems, a remote software development company, was created in 1993. The company is currently one of the world leaders in this field. Gradually, offers of other types of services from consulting to educational services started flowing to the network.

Paid services on the Internet began to appear as demand emerged. As well as in services, technical ones like domain registration, hosting (hosting) sites and all kinds of telecommunication providers appeared. As demand grew, attendance statistics systems, paid online games, B2B business services (online accounting) started to emerge and the opportunity to lease various software as a service (SAS systems) became available.

The AuctionWeb trading and intermediary service (online auction, “flea market”) appeared in 1995, and was renamed into Ebay in 1997. Hammer.ru, the Russian analogue, started operating in 1999 and has long been the market leader. However, in 2010, it was relegated to second place by another service – Avito, which was created only in 2007. Aukro.ua online auction establishes in Ukraine but later it is replaced with slando (olx) online classifieds.

The development of advertising intermediary services began with banner advertising systems. All systems of this kind operate on the following principles: the system exchanges banners of different sites, the service receives a certain percentage of banner impressions and sells them at a fixed price.

The operation principle of contextual advertising is usually different. There is an auction of sellers and buyers. Overture, the first such service, was created in 1997, and Google AdWords, the current

world leader, appeared in 2000. Russian systems emerged much later: Yandex.Direct appeared in 2001 and Runner in 2002. Ukrainian Internet entrepreneurs, as a rule, use advertising services from Google and Yandex.

Link exchanges allowing to promote sites in automatic mode appeared in 2004 (textlinkbrokers.ru) but their rapid development began in 2006 with the appearance of Sape.ru service.

Currently, contextual advertising and link exchange systems are combined by different aggregators adding additional tools and allow to work with multiple systems at once. The first of these aggregates Seopult, was created in 2006.

The first payment system (electronic money system) First Virtual was created in 1995. The opportunity to pay for goods and services online through Visa and Mastercard appeared in 1996. However, due to frequent data theft, use of cards was considered dangerous. PayPal appeared in 1999 and linked payment cards and online payments, adding the possibility of a refund guarantee and thus making payments safer. Other leaders in the Internet payments market – Webmoney and Yandex.Money appeared in 1998 and 2002, respectively.

Having considered the world and Ukrainian experience of entrepreneurial activity, we turn to the results. In general, analyzing the history of business development on the Internet abroad can draw the following conclusions:

1. Entrepreneurship on the Internet is a relatively new area of business that has less than 20 years of development (e-business – 50 years).

2. The Internet is a very dynamic market development strategy. But not always the pioneer company becomes a leader. The audience have to get “mature” and then the boom begins. The significant thing for companies is to get to the beginning (or at least the middle) of this boom until the audience is taken by competitors. And pioneers not only rarely become leaders, but they don’t always live up to the boom. For example, the first social sites appeared in 1994, but the size of the audience was insufficient and users were not ready for such kind of use of the network.

3. During the development of e-entrepreneurship its orientation changed. It was pure e-commerce at first, then the development was mainly in the field of B2B, and with the appearance and widespread adoption of the Internet, e-entrepreneurship has become more user-

oriented and covers all areas of traditional business (B2C). Now it is difficult to find an industry that is not represented on the Internet.

Having analyzed the history of entrepreneurship development on the Internet in Ukraine, we come to the following conclusions:

1. Entrepreneurship on the Internet in Ukraine is developing mainly simultaneously with the global entrepreneurship on the Internet and goes through same stages, similar projects are appearing.

2. The statement that the Ukrainian Internet is a few years behind the world (and was always lagging) is not entirely true. Some business models and types of sites appeared later, but some even earlier than their foreign counterparts. And it should be noted that before we had high-tech projects, but later – projects that require a large audience for their existence. This is due to two factors – technological and geographical.

The technological lagging has been restored relatively quickly. As for the geographical factor, the sheer size of the space and low population density lead to the slow development of the Internet infrastructure, primarily to cheap low-bandwidth network access. This is confirmed by the fact that the amount of investments of telecom operators into the development of the Internet still exceeds their income from its use. The rapid pace of Internet dissemination in Ukraine in recent years has almost completely offset this gap. It is worth noting that the "world" Internet market is usually understood to be the western, first of all, the US market, where the largest Internet companies operate. Ukraine looks, saying the least, worse in comparison to other countries. A similar situation is observed among social networks and other types of Internet projects. So, Ukraine is more likely to be compared with other developing countries and original Internet markets, such as China.

5.2. Formation of models of business activities on the Internet environment

It is impossible to build a modern, flexible and timely business model that is responsive to environmental changes without information technology in the XXI century. Modern information technologies affect all structures of the economy: horizontal (different markets) and vertical (objects of economy: enterprises, corporations). Due to the appearance of technology such as the Internet, which also includes the Internet of things, mobile Internet, etc., it becomes necessary to identify the key features of its impact on building an effective business model.

Before giving methodological approaches to the formation of effective business models in the Internet environment, it is necessary to try to give some historical perspective to the first methodological approaches to the construction of classic business models.

So, Paul Timmers[1], Director of the European Commission, was the first to classify business models and define this term accurately. In his work, the set of products, services and information flows, as well as the description of different participants in the business process, their roles, potential benefits and the description of sources of profit is defined as the concept of "business model". Other researchers, such Michael Vitale and Peter Weill[2], have defined the term "business model" as the relationship between customers, consumers, partners and suppliers.

Jane Linder and Susan Cantrell[3] of the Accenture Institute for Strategic Change identified three types of business models: component, dynamic and real-world business models.

Linda Applegate[4] perceives the business model as a holistic integrated system that clearly outlines its structure, shows the interconnections between the elements and offers the opportunity to study its interaction with the real world.

Joan Magretta[5] also perceives the business model as a single system, but, in her opinion, the model itself does not carry information about various possible outcomes and competition.

Alexander Osterwalder[6] also studied business models. In his book called "Building Business Models: The Book of Strategists and Innovators," he gave the definition that most significantly describes the concept. So, according to Osterwalder, a business model is a certain plan of the company that determines in which direction it is necessary to move in order to be realized within its internal structures, processes and systems.

The strategy for building a business model proposed by A. Osterwalder is quite original. The strategy offers to use nine blocks that comprehensively describe the organization's activities: cost

[1] Timmers, P. (1998). Business Models for Electronic Markets. *Electronic Markets*, *8*(2), 3–8. doi: 10.1080/10196789800000016

[2] Weill, P., & Vitale, M. R. (2001). Place to space: Migrating to eBusiness Models. Boston, MA: Harvard Business School Press.

[3] Linder, J. (2000). *Changing Business Models: Surveying the Landscape*.

[4] Applegate, Lynda M. (2001) in *Information Technology and the Future Enterprise: New Models for Managers*, edited by Dickson, G. W., & DeSanctis, G. Upper Saddle River, NJ: Prentice Hall., 49-94.

[5] Magretta, J (2002), Why business models matter, *HBR*, May, 86-92

[6] Osterwalder, A. (2010). *Business model generation*. Hoboken, NJ: Wiley-Blackwell.

structure; revenue streams; key partners, resources and activities; customer relationships; value propositions; customer segments and sales channels. Thus, having considered them in detail, we can conclude that the Internet directly affects the characteristics of each of them.

This way, niche and mass markets, multidisciplinary enterprises and more can be distinguished in the consumer segment. This block describes the client base specific to a particular company; the variety of sub-points is determined by differences in sales channels, customer requests and company offers.

Value propositions are a set of products offered by the company, focused on a specific segment of consumers and have certain qualities.

Among the sales channels, the author distinguishes own and affiliate, noting the merits and disadvantages of each. They determine how the product will reach the ultimate consumer. Online and offline distribution channels are widely used by both small and multinational companies.

Customer relationships can be expressed in personal support, automated self-service, and so on, depending on the company's motives.

Company's income streams arise from the sale of assets, advertising, intermediary interest and the transfer of temporary rights.

The key resources are used by the company for profit and interaction with consumers. Different business models are characterized by their key resources, but there is no business model that can work without them. Thus, company's online resources (e.g. website) also have some value.

Key activities are the basic characteristics of a business model. There are activities such as manufacturing, service delivery and support. Some types of services, mainly in the IT field, are impossible without the existence of the Internet (e.g. internet banking).

Key partners are companies with which the organization during its existence enters into partnership arrangements and cannot support infrastructure that ensures the existence of its business model without them. For example, vendor-level arrangements (significantly simplified with the development of the Internet) or strategic non-competitive cooperation.

Cost structure includes all the expenses necessary for the existence of this business model. Modern information technologies allow to optimize them.

Thus, modern information technology enables modern businesses to identify new types of business models based on new sales channels, key resources and value propositions. For example, with the globalization using the Internet, the ability to provide services remotely in real time (e.g. internet banking) has emerged. The “free” model is widely used when a customer receives a core product for free, but is have to pay for the application needed to use it.

Thus, the impact of information technology is to create many new types of competitive business models: aggregator companies (B2B2C), the formation of “E-government,” online stores and software vendors. We can assume that with the deeper integration of the Internet into everyday life, fundamentally new business models that exist exclusively in the “virtual” space are beginning to appear.

Therefore, from the point of view of classical methodology of formation all business models are divided into the following types:

1. Franchising is a type of market relations, where one party gives the other the right to use some kind of activity (business). This contributes to the rapid expansion of the main company (franchises of online stores, online portals, etc.).
2. A direct sale is the sale of certain products/services that is carried out by the direct relationship between the seller and the consumer without the obligatory special facilities for trading (Amway, Oriflame, Choice).
3. B2B (Business to Business) is a business for business, that is, a kind of economic and informational interaction between legal entities.
4. B2C (Business to Consumer) is a business for the consumer, that is, a form of e-commerce in which the sale is made to the consumer without any intermediaries (Ikea, Amazon, eBay, Prom, Rozetka).
5. B2G (Business to Government) is a business for the government, that is, the link between business and government. Most often, this type of business is attributed to public procurement and leasing relations (the official website of the single information system in the field of procurement is Prozorro).
6. G2B (Government to Business) is a government for business, that is, some kind of online interaction between the executive and the commercial organizations (the official government resource of legislative framework zakon.rada).

With the appearance and development of the Internet environment, new types and types of business models are beginning to emerge. In

addition, the Internet allows to update already tried and tested models. One of the most prominent scientists who initiated the methodology and classification of business models on the Internet was professor Michael Rappa[7] of North Carolina State University. In his paper entitled "Business Models on the Web," he classified the Internet-based business model, consisting of forty-one models, which fall into nine major categories, such as: 1) Brokerage Model; 2) Advertising Model; 3) Infomediary Model; 4) Merchant Model; 5) Manufacturer (Direct) Model; 6) Affiliate Model; 7) Community Model; 8) Subscription Model; 9) Utility Model.

Another scientist, Professor Linda Applegate[8], offers a different, more advanced methodological approach to the formation and classification of business models in an entrepreneurial online environment. In her paper called "Information Technology and the Future Enterprise: New Models for Managers," the author highlights the distinctive features of models, such as: possible revenues, possible costs, examples and trends that may affect the development of these models for each category. Let us take a closer look at some categories of business models by Linda Applegate: 1) Focused Distributor Models – they provide products and services within a specific industry or market niche. 2) Portal Models, where the Portal is the entrance, and on the Internet, the portal's business model provides input for clients so that they can access content and services. 3) Infrastructure Provider Models – unlike previous models using digital infrastructure, these models provide this infrastructure (computers, networking equipment and software).

As part of another methodological approach, Peter Weill and Michael Vitale[9] offered eight "nuclear business models". Instead of trying to make a complete list, as R Rappa[10] and Applegate[11] did, these authors identified 8 models that could be combined into different forms to reflect virtually any business model. Thus, nuclear business models:

1. Content Provider. Provides content (information, digital products and services) through intermediaries.

[7] Rappa, M. (n.d.). Business Models on the Web: Professor Michael Rappa. Retrieved November 24, 2019, from http://digitalenterprise.org/models/models.html.

[8] Applegate, Lynda M. (2001) in *Information Technology and the Future Enterprise: New Models for Managers*, edited by Dickson, G. W., & DeSanctis, G. Upper Saddle River, NJ: Prentice Hall., 49-94.

[9] Weill, P., & Vitale, M. R. (2001). *Place to space: Migrating to eBusiness Models*. Boston, MA: Harvard Business School Press.

[10] Rappa, M. (n.d.). Business Models on the Web: Professor Michael Rappa. Retrieved November 24, 2019, from http://digitalenterprise.org/models/models.html.

[11] Applegate, Lynda M. (2001) in *Information Technology and the Future Enterprise: New Models for Managers*, edited by Dickson, G. W., & DeSanctis, G. Upper Saddle River, NJ: Prentice Hall., 49-94.

2. Direct to Consumer. Provides products or services directly to the customer, often bypassing traditional distribution channel members.

3. Full Service Provider. Provides a full range of services within one industry (e.g. financial, healthcare, chemical) without intermediaries and tries to close the relationship with directly.

4. Intermediary. Brings buyers and sellers together by providing information.

5. Shared Infrastructure. Brings together many competitors who collaborate using a common IT infrastructure.

6. Value Net Integrator. Coordinates actions in the value network, collecting, combining and disseminating information.

7. Virtual Community. Creates and promotes a community of people with shared interests, thereby allowing them to interact and provide services.

8. Whole of Enterprise. It is a single point of contact through which you can access all the services of an organization that has many units.

A fundamentally new methodological approach to business model formation in the enterprise Internet environment has been offered by Armir Hartman and John Sifonis with John Kador[12]. In their paper called "Net Ready: Strategies for Success in the E-Conomy," they identified 5 (five) advanced business models that transform customer service practices. Successful "Internet Ready" organizations use 1 (one) or more of these models. Many experts consider the description of the model of the mediator in this book as one of the best. Thus, under the definition of the authors these are the following models:

1. E-Business Storefront. An organization that conducts business using both established and new distribution channels.

2. Infomediary. An organization that provides content, information, knowledge or experience that add value to an e-business deal. Also known as content aggregators.

3. Trust Intermediary. An organization that creates an atmosphere of trust between buyer and seller. These companies provide a secure environment in which buyers and sellers can make transactions safely.

4. E-Business Enabler. An organization that creates and maintains an infrastructure within which suppliers of goods and services can conduct transactions safely and securely.

[12] Hartman, A., Kador, J., & Sifonis, J. (2000). *Net ready strategies for success in the E-conomy*. New York: McGraw-Hill.

5. Infrastructure Providers/Communities of Commerce. Participants gather around complementary interests (goods, content and services) and markets. Communities of businesses organized around common interests through shared infrastructure.

Paul Timmers[13], another researcher, in his paper "Model for Electronic Markets," offered a methodology for building business models on the Internet based on benefits (for business, customers and suppliers). Within one separate category, "Business Models for Electronic Markets," the author identifies 11 (eleven) types of business models in terms of preferences. Thus, these are the following business models:

- e-shop;
- e-procurement;
- e-auction;
- e-mall;
- third party marketplace;
- virtual community;
- value chain service provider;
- value chain integrator;
- collaboration platform;
- information brokerage;
- trust services.

Denis Viehland[14], another author, adds 3 (three) new business models created through the Internet:

- virtual retailer;
- distributed storefront;
- buyer-led pricing.

The authors of the book "E-Commerce: Business. Technology. Society." Kenneth Laudon and Carol Traver[15] offer other methods to build business models online. Yes, they offer to create business models depending on the type or means of e-commerce:

- B2C (portal, e-tailer, content provider, transaction broker, market creator, service provider, community provider);

[13] Timmers, P. (1998). Business Models for Electronic Markets. *Electronic Markets, 8*(2), 3–8. doi: 10.1080/10196789800000016

[14] Viehland, D. (1999). Proceedings of the 17th Annual International Conference of the Association of Management. In *New Business Models for Electronic Commerce* .

[15] Laudon, K. C., & Traver, C. G. (2019). *E-commerce 2018: business, technology, society*. Upper Saddle River: Pearson.

- B2B (e-distributor, e-procurement, exchanges, industry consortia, single-company networks, industry-wide networks);
- others (C2C, peer-to-peer, mobile commerce).

It is necessary to highlight the innovative business models that have emerged in the context of the new globalization separately. The merger of technological, social and geopolitical developments has fundamentally changed the economy of doing business worldwide. There has been a radical reconsideration of globalization by combining growing economic nationalism, expanding digital reach and changing consumer behavior. Thereby, new characteristics of globalization were created where the world became even more connected and more dependent on all its subjects. However, many companies are finding enormous opportunities in this transformed global economy. And in many cases, such an opportunity arises from innovative business models. These models are less based on physical movement of products and fixed investments in markets and more on the use of digital communication and global ecosystems. I can distinguish the following business models used by companies to change the competitive environment in the new global era:

- A cross-border service model where the focus is on services for international ultimate consumers;
- A lightweight asset model where most assets are outsourced (for example, a taxi service without a fleet of vehicles; an online shop operating in several countries at the same time and not having a single warehouse and courier service);
- A model of value-adding through software that modifies or extends the capabilities of existing hardware and software and on this basis adds a new value-added software product to the underlying hardware;
- A model of global digital ecosystems that proposes to shape modern organizations and enterprises in the form of interaction between people and various digital assistants (Internet of things, robotics, etc.);
- A global personalization model where ultimate consumer behavioral data are accumulated and their preferences are explored using artificial intelligence;
- A multichannel (distributed) production model where the production of one final product is split into several countries (an example is a distributed assembly of cars when individual components are produced in one country and a car assembly in another).

Thus, it can be concluded that there are currently many forms and types of business models in the online business environment, however, the main purpose of any business model is to make a profit to maintain its existence. Accordingly, there are two fundamentally significant components of the business model of business activity in the Internet environment:

1. Value proposition (what customer needs the chosen business will fulfil).
2. Revenue model (the way a business or e-commerce project will generate revenue).

Focusing on these two important components, we can choose a viable business model for Internet-based entrepreneurship.

Thus, the basis of effective development of business models in the Internet environment are the following management and organizational principles:

1. Organizational and innovation processes;
2. The concept of business formation;
3. Processes of continuous optimization of activity;
4. Effective management with respect to trends and changes in the external environment.

For the development of business models of Internet entrepreneurship, it is necessary that the models take into account the change of the environment, which can be achieved due to the dynamic properties, which is due to the dynamism of the Internet market in which they operate.

In addition to the above properties, various metrics are used to analyze the effectiveness and efficiency of business models in the online environment. Metric development is an effective tool for evaluating chosen business model, controlling costs, social media performance and selling products and services. These dimensions help to choose the most effective areas for development. Almost any measurement can be a measure of performance and efficiency (KPI) if data collection is feasible.

Thus, researchers F. J. Riggins and Mitra, S.[16] offered a methodology for collecting information for metrics of three different

[16] Riggins, F. J., & Mitra, S. (2007). An E-valuation framework for developing net-enabled business metrics through functionality interaction. *Journal of Organizational Computing and Electronic Commerce*, *17*(2), 175-203. doi:10.1080/10919390701294129

types, which should be taken into account when evaluating the efficiency and effectiveness of e-business development.

Another scientist, F. F. Reichheld[17], offered a method of assessing consumer satisfaction or a consumer loyalty index based on determining customer satisfaction with a purchased service or product. The buyer is asked only one question: what is the probability that they will recommend a product or service to another person, such as a friend? If the buyer intends to recommend the company to friends, acquaintances or loved ones, they can be considered extremely loyal to the brand.

Also, a lot of work is devoted to quantitative methods of assessing the effectiveness of e-business such as determining the cost of customer acquisition, calculating the lifetime value of the customer, as well as methods of evaluating the effectiveness of the sales funnel – an indicator of the number of customers who have passed from the category of potential buyers to the category of real buyers. Quantitative metrics are an effective tool for modeling and managing the process of Internet entrepreneurship development using which we can predict, control and analyze its main stages.

CONCLUSIONS

E-business is a relatively young type of business and its appearance dates back to the mid-90s of the XX century, primarily in connection with the spread and popularization of the Internet. Innovative business models are possible by the technological, geopolitical and social forces that are changing the global business, enabling companies to leverage significant growth opportunities in the form of access to new markets and new ways to add value to their customers. The very development of business models on the Internet is closely linked to the dynamics of scientific and technological progress.

The current pluralism of approaches to the definition of types of business models allows to note the rapid development of the sphere of innovative entrepreneurship on the Internet.

Regarding our country, factors such as the advancement of information technology, expansion of the range, introduction of innovations, growth of the audience of potential and regular customers create new opportunities for the development of this industry in Ukraine. Analyzing the history of business development on the Internet in

[17] Reichheld, F. F. (1993). Loyalty-Based Management. *Harvard Business Review, 71*(2), 64-73.

Ukraine, we can draw the following conclusions: 1.) Internet business in Ukraine is developing mainly simultaneously with the global business on the Internet – passes same stages, similar projects appear. 2.) The statement that the Ukrainian Internet is a few years behind (and always behind) the world is not entirely true. Some business models and site type later appeared, some even before their overseas counterparts. And it should be noted that the first in Ukraine appeared high-tech projects, later – projects that require a large audience, which is related to two factors – technological and geographical.

SUMMARY

Background, a step-by-step study of the appearance of the Internet and the appearance of business in it allowed the authors to conclude that there is a pluralism of approaches to the definition of types of business models nowadays, which testifies the rapid development of the sphere of innovative entrepreneurship on the Internet. And with the shortest period Internet entrepreneurship has changed the nature of the market as a whole, provided new driving forces and key success factors and most importantly, created the conditions for the development of new e-business business models. Competitive application of e-business methods and models for many companies are becoming one of the main competitive resources. It is important that the electronic business form allows to track customer satisfaction within a specific business model and adjust it for improvement.

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