

THE INFLUENCE OF E-BUSINESS MODELS ON THE DEVELOPMENT OF INNOVATIVE MODELS

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Abstract: It can be said to a large extent that e-business has a great influence on the development of business and innovative models, which are often completely based on the Internet and are mainly presented as a business platform. Current business models primarily focus on the customer, then customers are actively involved in product development and content creation. So today, users can design shoes to their liking or their own note of perfume over the Internet. Client networking has led to the emergence of crowdsourcing, which mainly allows a large number of end users to participate, for example, in designing a new car model, composing music or arranging a local park. Changes are also happening in the banking sector. It is becoming more and more common for large telecommunications companies to buy banks and then create innovative mobile banking services. In a few years, it can be said that mobile phones will completely take over the function of wallets. They will store personal documents where you can use them to pay with payment cards, then electronic cash or checks, and they will contain savings banks, etc. Although numerous factors have contributed to the development of the modern economy, it is believed that the impact of information and communication technologies is greater than the impact of the global economic crisis, as well as changes in legislation and movements in the oil and currency markets and political events. A key moment in the development of the digital economy occurred in the early 1990s after the commercialization of the Internet. Then, new business opportunities appear, such as e-commerce in the global market, networking and integration with business partners, new business models based on economies of scale, etc. E-business models mainly involve integration, as well as creating communities at the level of different industries, as well as connecting complex business processes. It is necessary to achieve a high degree of interoperability between companies. Furthermore, there is an increase in the number of companies that do business over the Internet. The key features of e-business today are: ubiquity, global reach, universal standards, information richness, interactivity, and personalization. The next wave of development of the digital economy followed only in 2000. The political events in the world at that time and the economic crisis encouraged companies to look for innovative business ideas. The basis for innovation was the new information and communication technologies. Cloud computing technologies have significantly reduced business costs, mobile technologies have enabled business anywhere and anytime, and social networking has provided the opportunity for quick information and collective spending. Given the conditions in the business environment, in order to gain a competitive advantage, it is not enough just to implement e-business services. It is necessary to develop new, innovative business models, which will make the most of the possibilities of applying modern technologies in business. Modern business models focus on the characteristics, needs, preferences and ultimately expectations of all stakeholders.

Keywords: business models, digital economy, crowdsourcing, cloud computing

1. INTRODUCTION

E-business models mainly involve integration, as well as creating communities at the level of different industries, as well as connecting complex business processes. It is necessary to achieve a high degree of interoperability between companies. A key moment in the development of the digital economy occurred in the early 1990s after the commercialization of the Internet. Then, new business opportunities appear, such as e-commerce in the global market, networking and integration with business partners, new business models based on economies of scale, etc. Client networking has led to the emergence of crowdsourcing, which mainly allows a large number of end users to participate, for example, in designing a new car model, composing music or arranging a local park. Changes are also happening in the banking sector. Current business models primarily focus on the customer, then customers are actively involved in product development and content creation. So today, users can design shoes to their liking or their own note of perfume over the Internet. It is becoming more and more common for large telecommunications companies to buy banks and then create innovative mobile banking services. The next wave of development of the digital economy followed only in 2000. The political events in the world at that time and the economic crisis

encouraged companies to look for innovative business ideas. Modern business models focus on the characteristics, needs, preferences and ultimately expectations of all stakeholders.

Although numerous factors have contributed to the development of the modern economy, it is believed that the impact of information and communication technologies is greater than the impact of the global economic crisis, as well as changes in legislation and movements in the oil and currency markets and political events.

The key features of e-business today are:

1. *omnipresence,*
2. *global coverage,*
3. *universal standards,*
4. *information wealth,*
5. *interactivity, i*
6. *personalization.*

Given the conditions in the business environment, in order to gain a competitive advantage, it is not enough just to implement e-business services. It is necessary to develop new, innovative business models, which will make the most of the possibilities of applying modern technologies in business. In a few years, it can be said that mobile phones will completely take over the function of wallets. They will store personal documents where you can use them to pay with payment cards, then electronic cash or checks, and they will contain savings banks, etc. Then there is an increase in the number of companies that do business over the Internet. The basis for innovation was the new information and communication technologies. Cloud computing technologies have significantly reduced business costs, mobile technologies have enabled business anywhere and anytime, and social networking has provided the opportunity for quick information and collective spending.

2. MODELS OF ELECTRONIC BUSINESS

The Internet as a network has completely changed the way we do business and enabled the creation of new and innovative business models. The electronic revolution operates in a broad economic context, encompassing the internal processes and operations of organizations, but also the market environment. Global financial interdependence, deregulation, digitalization, global communications and transport, as well as new geopolitical circumstances are the main drivers of the economy. The primary business challenges are agility, focus on customers, focus on key competencies and processes, mass customization, flexible IT architectures, interoperability of infrastructure, applications and business processes.

In that sense, it represents the modern digital economy:⁷

1. *e-business support infrastructure,*
2. *electronic business processes (the way business is realized).*
3. *e-commerce transactions (sales and purchases).*

Although numerous factors have contributed to the development of the modern economy, it is believed that the impact of information and communication technologies is greater than the impact of the global economic crisis, from changes in legislation to movement in the oil and currency market, political events and others. A key moment in the development of the digital economy occurred in the early 1990s after the commercialization of the Internet.

Then new business opportunities emerge:

1. *e-commerce in the global market,*
2. *net-working and integration with business partners,*
3. *new business models based on economies of scale, etc.*

The next wave of development of the digital economy followed in 2000. The political events in the world at the time and the economic crisis encouraged companies to look for innovative business ideas. The basis for innovation was the new information and communication technologies. Cloud computing technologies have significantly reduced business costs, mobile technologies have enabled business anywhere and anytime, and social networking has provided the opportunity for quick information and collective spending⁸ E-business also influences the development of innovative business models, often completely based on the Internet as a platform for business.⁹ Current business models focus on the customer: customers are actively involved in product development and content creation. So today, users can design shoes to their liking or their own note of perfume over the Internet. Client networking has led to crowdsourcing, which allows a large number of end users to participate, for example, in designing a new car model, composing music or arranging a local park. Changes are also happening in the banking sector. It is becoming

⁷ Radenkovic B., et la 2002.

⁸ Menascé D. A. and Almeida V. A. F., et la 2000.

⁹ Weill P. and Vitale M., et la 2001.

increasingly common for large telecommunications companies to buy banks and create innovative mobile banking services. In a few years, mobile phones will take over the function of wallets.

3. CONCEPTS OF ELECTRONIC BUSINESS

One of the first definitions of e-business was given by IBM in 1997, defining e-business as the transformation of business processes in an enterprise using Internet technologies.¹⁰ Today, e-business in the broadest sense can be defined as an internal or external business process that is realized through a computer network. E-business is the result of the application of new technologies and the need for change, which is fundamentally changing the way we do business. Intensive application of information and communication technologies in business began in the eighties. Mainframe computing technologies enabled the creation of centralized computer systems, without the possibility of distributed data processing. The development of cheap personal computers in the 1990s resulted in a massive shift to client-server architecture. The emergence of e-business is linked to the period of Internet liberalization in the early 1990s. At that time, the notion of electronic business referred primarily to electronic commerce, i.e. selling and buying products and services, providing customer service, and cooperating with business partners. With the development of technology, there are further comprehensive changes in the business processes of the organization, including production, logistics, finance, marketing, management and all other processes.

The evolution of e-business has gone through several phases, namely:

- 1) **web presentation.** The first phase of e-business involved creating a business presence on the web in the form of a website. Typically, static websites contained basic information about the company, product catalog, contact information. There was no possibility of interaction with the users of the site.
- 2) **e-commerce.** The second phase of e-business development refers to the realization of an e-shop within the website. Customers are enabled to interactively search for product catalogs, order and pay.
- 3) **information sharing.** With the development of dynamic web technologies, Internet users are becoming content creators and developing online communities. Collaborating companies connect their information systems and share information using the Internet.
- 4) **intelligent e-business.** The last phase of e-business development refers to creating communities between different industries and connecting complex business processes. This phase requires a high degree of interoperability at the technical, organizational and semantic level.

In relation to the online market presence, companies can be classified into three groups:¹¹

1. *traditional companies that use only classic sales and distribution (brick-and-mortar)*
2. *companies that combine traditional trade with e-services (purchasing, sales, communication), for example, companies that sell their products not only in physical stores but also via the Internet (brick-and-click).*
3. *companies that do all their business over the Internet and through e-commerce (dot-com).*

The infrastructure of modern e-business is based on Internet technologies, mobile technologies, cloud computing and next generation computer networks. Infrastructure in a broader sense includes: environment, legal regulations, political and economic context. Infrastructure is the basis for the realization of business processes of companies and e-business applications. The next level of architecture consists of elements of business models, planning and implementation of these business models, as well as techniques of advanced cooperation with customers and business partners. At the strategic level, the mission, vision, strategic goals and key performance indicators of the company are defined.

The characteristics of e-business are:¹²

- 1) **Ubiquity.** Work can be done from a computer from home, from work, from a car, or from anywhere using mobile devices, without physical and time constraints.
- 2) **Global coverage.** The global nature of the Internet makes it possible to overcome geographical, temporal, cultural and national barriers, so the potential size of the market is equal to the entire world's online population.
- 3) **Universal standards.** The technical standards of the Internet, on which e-business is based, are universal and ensure interoperability on a global scale.
- 4) **Information wealth.** The amount of information available in e-commerce is growing exponentially. At the same time, the costs of collecting, storing, processing and transmitting information are reduced, while the flow, accuracy and availability of information is increasing.

¹⁰ Smith B. R., Chatfield V. and Uemura O., et al 2001.

¹¹ Laudon K. C. and Traver C. G., et al 2012.

¹² Lee I., et al 2008.

- 5) **Interactivity**. E-business technologies are interactive and enable two-way communication.
- 6) **Personalization**. Content can be created and delivered to the user in accordance with preferences, behavior, desires or other criteria. Today, e-business in a broader sense refers to a set of electronic services and the application of modern information technology in education, health, public administration, science and other areas of human activity.¹³

4 . FORM OF ELECTRONIC BUSINESS

Forms of electronic business can be defined on the basis of relations between participants in business:

- 1) **B2B (business to business)**. E-business between two or more business systems is mostly related to the automation of e-commerce business processes and the creation of e-markets.
- 2) **B2C (business to customer)**. The company's electronic business with clients includes business models aimed at individual consumers, electronic retail, content creation and delivery, mediation in various types of transactions, etc.
- 3) **C2C (customer to customer)**. E-business between individual clients refers to business models that enable the connection of end users.
- 4) **G2B (government to business)**. Electronic business of the state administration related to services for companies.
- 5) **G2C (government to citizen)**. Electronic business of the state administration related to services for citizens.
- 6) **G2G (government to government)**. Interoperable electronic business between different state administration bodies.

By combining and upgrading the basic forms of e-business, new forms are emerging, such as B2B2C and C2B2C.

5. MODELS OF ELECTRONIC BUSINESS

A business model is a set of business activities in the market that aim to make a profit. It can also be defined as a method of planning and running a business in a way that brings profit to the company. When creating a business model, products, services, information flows, sources of income and benefits for stakeholders are defined. The business model of appearing on the Internet is usually defined within the Internet business plan.¹⁴ One of the key components of the business model is the revenue model. The realization of various business models of e-business has led to the emergence of a number of companies that base their business on the development of infrastructure, services and new business models to support e-business. Each type of e-business can include several business models in its implementation, and each organization designs the model in accordance with its specific needs, taking into account that the model is sufficiently adaptable to changes in the business environment. The rapid development of technologies has enabled the development of innovative business models, which are often unique in the market.

However, the most used business models are:

1. *e-shop model,*
2. *auction model,*
3. *portal model,*
4. *models with dynamic pricing,*
5. *group purchase models,*
6. *Online communities.*

5.1. E-shop model

The e-commerce model is the first mass-applied e-business model. The storefront model allows manufacturers or retailers to sell their products online, from anywhere in the world, 24 hours a day. This model represents the transition from the traditional process of trade to the online environment, where sales, instead of physical ones, are done in electronic stores. Selling in e-shops allows you to quickly and easily enter the global market and reduce the number of intermediaries in the store.

The realization of the e-shop model includes two parts:

Front office for customers.

Back office for store administration.

The first step in the realization of this business model is to create an online catalog of products, which customers can search by different criteria, can compare different products, or receive recommendations based on previous purchases or searches. Front office functionalities include (*ordering, payment and tracking order status*). The

¹³ Stanford-Smith B. and Kidd P. T., et la 2000.

¹⁴ Laudon K. C. and Traver C. G., et la 2012.

administrative part of the e-shop model enables (*product catalog management, inventory tracking, receiving and tracking customer orders, payment management, processing customer complaints, reporting and more*). During the 1990s, a large number of companies implemented this business model. However, poorly organized and often expensive distribution of products on a global level has led to the so-called. with the onset of the crash, when a large number of global e-shops failed¹⁵.

5.2. E-business auction models

The e-business auction model was organized as a forum for online sales and shopping. The model is conceived as a market that allows connecting buyers and sellers from around the world (Figure 6). The user-seller logs on to the system and sends data on the subject of sale, sets the minimum price and the duration of the auction. The bidder searches the bids, reviews the current auctions and bids. At the end of the auction, the buyer with the highest bid buys the product. The auction site can generate its revenue by charging a commission for the completed transaction, charging a membership fee for buyers or sellers, or a combination of several revenue models. Different types of auctions can be realized through auction sites.

They stand out as basic types

- 1) **Ordinary (English) auctions.** The seller offers the product and the buyers bid. The buyer who offers the highest price wins the auction.
- 2) **Reverse (Dutch) auctions.** The buyer makes a request for a product or more often a service, and the sellers make offers. The seller who offers the lowest price wins the auction.

The most famous global auction site is eBay.com. It is characteristic of the auction model of electronic business that the organization of transport and delivery of products is transferred to the seller or buyer.

5.3. Portal e-business models

Portal e-business models were created with the aim of attracting a large number of users to the website by offering quality free content as added value. Portals, in addition to e-business services, usually offer users news, sports content, weather and many other content. The portal is a unique point of access to data sources and Internet services. The user gets access to the complete portal without the need for individual access to each of the services. The contents of the portal are dynamic, frequently updated and searchable. Personalization is one of the important characteristics of the portal, because based on the previous actions of the registered user, the contents and services can be adjusted to him.

According to the type of content, portals can be:

- 1) **Horizontal portals.** They offer a wealth of information on a wide range of topics. The contents are often entertaining or informative. (Example: www.bbc.com)
- 2) **Vertical portals.** They offer a wealth of information on a specialized topic, for example, on computing, science, finance, etc.; Websites of professional associations are often based on this model. Users have a high level of trust in the content from vertical portals. (For example: www.computer.org)
- 3) **Affinity portals.** They represent a subtype of vertical portals. They are focused on a specific market segment or a specific event. (For example: www.theweddingday.com)

5.4. E-business models with dynamic pricing

Modern Internet technologies have also influenced the change in the way prices are defined. Prices in e-commerce do not have to be fixed and can change dynamically, for example by the number of interested buyers, the time of day when the purchase is made, or any other parameter chosen by the seller. Some of the commonly used models with dynamic pricing are:

- 1) **Name-Your-Price.** The user on the site chooses the product or service he wants and sets the price that suits him. If there is an offer with the required conditions, the sale is performed. In this model, the buyer can quickly find an offer that suits him, but he cannot be sure that he made the purchase at the lowest price. The most famous example of this model is the site: priceline.com;
- 2) **Comparison pricing model.** Numerous sites offer the ability to compare prices in different online stores and refer customers to the selected store;
- 3) **Demand-sensitive pricing model.** The price of the product is formed in real time and depends on the quantity. Most often, buying a larger quantity of products provides a lower price, but the opposite is also possible: only one product can be bought at a low price, and each additional product is more expensive;
- 4) **Bartering model.** This model represents the replacement of the unnecessary with the necessary, without exchanging money;
- 5) **Rebate model.** In retail, customers may be offered a discount on the next purchase, or a refund of part

¹⁵ Hawkins R.,2004, pg. 65–81.

of the money after the purchase;

- 6) ***Free offering model.*** Free products and services bring a large number of users to the site. Examples are airlines that charge different ticket prices for the same flight, banks that give loans at different interest rates to different clients, and many others;

5.5. Group shopping models

Group shopping is an e-commerce model that involves more customers in the buying process. The seller gives a discount on products or services in case a sufficient number of customers sign up.¹⁶ The group shopping model usually offers tourist, catering, cosmetic and other services, with discounts of up to 90 percent. Bidders apply this method of purchase mainly in cases when the business is unsatisfactory or when they are in the middle of the off-season offer, all in order to reduce the cost of doing business and additional cash flow. The risks to which the bidder is exposed in this business model are the impossibility of realizing the offer (if too many customers apply) as well as the problem of collecting receivables from Internet intermediaries. The risks to which customers are exposed relate to the quality of the service provided or the product purchased. There are also aggregator sites that collect daily offers from selected group shopping sites in one place. This way, the user does not have to visit and follow several different sites, nor receive e-mails from them on a daily basis. Social networks are a good way to promote group shopping sites as well as to acquire and attract new providers and new customers.

5.6. Online communities

Online communities are websites that bring together people with similar interests or interests. These sites offer members a quick and easy mechanism to interact with other members of the community, share content, share opinions, have fun and other activities. Online community providers typically use hybrid revenue models, often combining advertising, affiliate programs, transaction fees, subscriptions, and other models. Large online communities, such as Facebook, are evolving in the direction of e-business platforms, so it is possible to develop business models that rely entirely on Facebook. Examples that confirm the movement in this direction are numerous games for users of this social network. Online communities can be used as a complement to other business models. For example, manufacturers can build an online community with the goal of strengthening brand and customer loyalty.

6. ADVANTAGES OF E-BUSINESS

The implementation of e-business brings a number of benefits for all participants in business: companies, customers and society as a whole. E-business enables companies to connect internal and external processes, as well as to implement B2B processes with suppliers and business partners in a more efficient way¹⁷ Communication and cooperation with business partners has been significantly improved, so that companies can find the best suppliers and suitable business partners anywhere in the world. The application of electronic business opens the possibility for companies to easily enter the global market with minimal investment. Products and services are delivered to customers in a more efficient way, in accordance with the characteristics and needs of customers. Modern information and communication technologies enable automation of business processes and reduction of total costs. The integration of business processes in the e-business system provides easier access to information and improved relationships with stakeholders. By implementing innovative e-business models, companies can achieve a significant competitive advantage and occupy leading positions in the market. E-business has a positive impact on the development of entrepreneurship. Significant benefits for entrepreneurs and startup projects are reflected in the fact that initial investments are lower compared to traditional models. Many successful e-business projects are started from home using basic computer tools and the Internet. From a customer perspective, e-business enables purchasing and communication with vendors and service providers in an efficient manner, regardless of time, place and context. Customers through communities can actively participate in product creation, distribution and pricing. At the same time, customers are provided with services with relevant information, which facilitate the decision to choose a product. Due to the reduced costs of production, distribution and marketing, the prices of products and services are automatically reduced. E-business leads to increased competition, which improves service quality and reduces prices. E-government, as one of the forms of e-business, enables the state to provide citizens with public administration, e-health, e-education and other services in a more efficient way at lower costs.

7. CONCLUSION

It was concluded that today, electronic business and modern technologies completely determine the way in which companies conduct business. E-business, above all, represents a fundamental change in previous business practices.

¹⁶ Moe W., Schweide D. A.,2014.

¹⁷ Radenkovic B. et la 2002.

The advantages of implementing e-business are great for all participants (companies, customers, society, other stakeholders). Given the conditions in the business environment, in order to gain a competitive advantage, it is not enough just to implement e-business services. It is necessary to develop new, innovative business models, which will make the most of the possibilities of applying modern technologies in business. Modern business models focus on the characteristics, needs, preferences and expectations of all stakeholders. E-business models include the integration and creation of communities at the level of various industries, as well as connecting complex business processes. It is necessary to achieve a high degree of interoperability between companies. Furthermore, there is an increase in the number of companies that do business over the Internet. The key features of e-business today are: ubiquity, global reach, universal standards, information wealth, interactivity, personalization. It was concluded that some of the most common e-business models are the e-shop model, auction models, portal model, models with dynamic pricing, group shopping models and online community. The application of the Internet in business has enabled fast, high-quality and cheap creation of information, profiling of product characteristics for individual customers, as well as fast distribution of information. New business opportunities provided by the Internet, organizations to create additional values of already existing products and services, but also to create new ones in the future.

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