

WAYS OF DEVELOPING COMPUTER TECHNOLOGIES

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It is difficult to evaluate personally the impact of internet and rapidly developed electronic commerce upon business. Electronic commerce has changed character of the market, gave rise to movement of new forces and basic factors of the economy. It gave birth to the conditions to form new strategic groups. Using electronic commerce becomes decisive concrete resource, while refusing it means being defeated in particular fight. Creative method of approach towards processing and realization of the problems of electronic commerce creates colossal opportunities for restructuring chain of valuables and improvement of competitiveness of the company. It is known that internet economy includes new abilities and dangers, which need to be learnt and new decisions have to be made, which, in its turn, means necessity of processing new highly effective strategy by the manager.

This article discusses the problems, which are met by the company while processing particular strategy, while internet and electronic commerce play important role. The subject of our discussion also is change of business-surrounding and peculiarities of competitive surrounding in electronic commerce, new types of business-models and the strategy of internet-company, attacking and defensive actions for turning operations of electronic company, traditional company into the central range.

Internet is joint electro network, which consists of several services and high-speed computers, digital automatic phone stations, routers, telecommunication devises, personal contacts and personal computers. Foundation to the internet is telecommunication lines (with great passing optic-fiber and telephone ability), which unite countries and continents and provide passing data through figures. Passing ability of the line is defined by the speed and volume of data passed through it. These lines are united by the digital automatic telephone stations, which direct the data by basic lines: some automatic telephone stations play the functions of the routers, which define channels of transferring data and provide location of accumulating information. The customers are allowed to the global network through the servers of local line or internet-providers, which regulate exchange of data among inserted final users. For provide normal work on internet and use electronic commerce it is necessary to have various software.

Pursuant to the provided researches, by the end of

the year 2000 there were registered 325 million of permanent internet users in the world, 150 million of were from North America, 11 millions in Latin America and more than 7 millions in other countries. More and more companies and fields participate in supporting and production of chain of infrastructure and internet economy valuables. Following companies form demand in internet-economy:

- Producers of specialized and completing devise: company Cisco Systems (world leader in production of computer devises and routers); the companies: *Lucent Technologies, Motorola, Broad.com, Texas Instrument PMC Sierra* and *3 Com*.

- Providers of communication services, which realize creation of communication networks and their utilization for providing internet infrastructure. These are the Companies, which are responsible for installment and support of devises for internet functioning – local telephone companies, cable companies operating in this domain, providers of cable-free communications.

- The largest companies: *World.com: AT&T: Qwest Communications, Deutsche Telecom, British Telecom, Vodaphone Airtouch, Bell Atlantic, CBC Commune; Captions* and *Global Crossing*.

- Suppliers of computer technique and completing parts – these are the companies, which produce computer technique, working stations, servers and peripheral devises, also internal devises. To this group of Companies belong: *Intel, San Microsystems, Seagate Technology, IBM, Iomega, Fujitsu, NEG, Matsushita/Panasonic, Acer, Philips Electronics, Toshiba Gateway* and *New-Rockard*.

- These companies processing specialized software process software of computer operations, digit programs, receiving orders, “Electric Carts” software of advertisement supports and they process web-sites, as well as PK-modems, cable-free devises, working stations, work-stations, local networks and so on. Double-Click produces special software for gathering demographic data to the web-users. It analyzes received data on the bases of the indicated criteria and displays to the user advertisement taking into account their individual characteristics. *Doubleclick* software also accumulates

information about frequency of appealing to the consumers for banner advertisement and also characteristic of the consumers, which are interested in it. Sub departments of the companies *Iclickchange*, CMGI process software for electronic payments. This is young, though ambitious company.

Blaxxun is specialized in processing software for 3d projecting of sites that is extremely interesting to the retail merchants. Another newbie company Engage Technologies offers software to renew graphics and create profile of standard user online. Pursuant to this information the companies improve their strategy of electronic marketing. *Microsoft*, *IBM*, *SAP*, *Commerce one*, *Seibel systems*, *Arriba*, *Oracle*, *Inktom*, *Sun Microsystems*, *Macromedia* and *Newell* also belong to the number of large producers of software.

The companies of electronic commerce. This category includes, in the first place, the companies, which provide sales at B2B market: *Cisco*, *Intel* and *Deli Computers*, who transfer almost every operation with corporate clients to the internet, while General Electronic transfers every operation to the user through the internet, and the another, the companies, which work on B2B level, such as *Emusic.com* *eBay*, *CarParty.com*, *furniture.com*, *MoterWature.com*, *bay.com*, *Charles Schwab*, and the third, internet business entertainment; they are following companies: *Disney*, *Nintendo*, *Electronic Arts* and *Sony*; Fourth, the internet-providers: *American Online*, *Yahoo*, *Briefing.com*; *The motley Fool* and *I village*.

Pursuant to some evaluation, the volume of commercial operations on internet in 2009 reached 1.3 trillion dollars. Three companies – *Dell Computer*, *Intel*, and *Cisco Systems* – in 1999 provided operation of 100 million dollars every day. Many companies work pursuant to the named directions at the same time. Holding company – *CMGI*, which had venture enterprises, owns 52 internet companies and packages of shares. Nine content-providers and 12 companies, belong to it, which process software and other means of electronic commerce, 12 companies of retail trade. Japanese venture company Softbank invested in more than 100 high-technologic enterprises, which specialize in software for electronic commerce. Web publications, electronic retail trade for content-providers. Softbank owns *Yahoo!*, *E-Trade*, *E-loon*, *Critical that*, *Thestreet.com* and some other companies in the USA, though basic operations of the companies are realized at the Japanese market and several regions of Asia and Europe.

Distribution of electronic commerce requests processing of new business-models and strategies, but first of all they must analyze mastering of internet by corporation and individual users; how it influences upon existed situation in the fields and change borders between

them. Here are the most noticeable signs of this event.

Internet involves every company into global competition, notwithstanding their location. This especially touches upon highly qualified production with low expenses on transportation. Internet in retail widens borders of the market below those of the geographic regions, in which traditional retail merchant operates. Two shops of household electronics of traditional retail sales, which are located in 50 km from each other, do not compete with each other, while any internet shop of household electronics make competition to the sales persons, which are located at hundreds of miles from each other (their real location may not be even known and this doesn't matter). Thus, electronic commerce starts competitive fight between the sales-persons of various regions on qualitative and innovative levels. In the world of electronic commerce national borders loose their early meaning, for example: at *eBay* auction they may sell the commodity to the consumer from any place of the world, while the company *eBay* gives both parties detailed instructions about supplying of purchased goods. The number of shipment companies is being increased as well. They offer to the companies their service in the face of transporting the car to any part of the world. To use internet in global sales, web sites of the companies must own several languages (at B2B market this is not important, as English language became international language for business relations). Besides, consumers from various countries have different point of view about decoration of the web-sites and their functions. Some of them prefer the sites with different audio and video effects, others respect simplicity and functionality. For the purpose of satisfying various demands of the consumers and to overcome language barriers, many companies keep several web-sites, as a rule, one site in every region of the world.

Competition between the companies grows because of mastering electronic commerce by traditional companies and creation of new internet-companies, which work online. Global network – this is not only important new channel for distribution of goods, which makes it possible to involve more consumers with relatively less expenses, but this is the means for increasing business effectiveness and reducing expenses on operations. Thus, internet-technologies in the arsenal of concrete methods of trade companies add some more instruments. Many traditional companies create Web-sites, sometimes for special purposes, and sometimes for the purposes of defense. At the same time, some new internet-companies participate in the concrete competitions even in the fields, in which it was closed to enter without internet-technologies. That is why competition in many fields becomes stronger.

· Entrance barriers to the electronic commerce are relatively lower – many kinds of activities, which are in the chain of the valuables of companies, may be transferred to the outsourcing. It is easy to get software to create site (if the company doesn't want to process it independently, while the service on placing it online and its administration is relatively cheaper. Today many companies are specialized in servicing web-sites, starting from processing web-sites and finished with creation of e-mail. Processing necessary industrial service may be transferred to the following executors. The most important expenses are related with creation of the known brand and attraction of consumers. Much work may be fulfilled in electronic commerce at so-called home. Relatively low entrance barriers explain huge quantity of internet companies. In the future their number will be measured in millions.

· Electronic buyers are more demanding towards prices, as much the prices on goods may be compared with those of the competitor companies.

Competitor suppliers – web-sites are open to the participants 24 hours and without week-end that gives the clients opportunity for comparing commercial offers and search for optimal version. Geographically spread multiplication companies unite their orders on purchasing materials and completing parts, to receive discount from the suppliers. The companies of wholesale and retail trade also can conduct electronic researches, to compare the values of different producers, their qualities and commercial statements. Every user can receive review of the goods, which are interested to them, to compare customer's prices and the prices of competitive prices. Internet gives priority to relatively smaller enterprises which stand far from each-other. Very often internet-users agree with purchasing cars from dealers, which are far for hundred of kilometers, they purchase furniture, computer disks, agree about loans using different sites. The purchasers of all type – entrepreneurs, wholesale merchants, retail merchants, and individuals may unite in groups, unite the orders and receive better conditions of distribution or special discounts. System of pools is profitable to the sellers, as it provides attraction of large groups of purchasers that makes it possible to reduce expenses on marketing and sales.

Internet gives opportunity for selection of distributor from any part of the world and to establish close mutual-profitable relations with them to grow effectiveness and reduce expenses. Many companies have established contacts and collaboration with foreign distributors to receives cheap materials and completing devises, while electronic technologies makes it possible to integrate them with foreign distributors with the lines

of their distribution, thus reduce expenses and fasten improvement of the goods at the market. It is possible to search for the supplier in global scales online, while after concluding agreement, it is possible to control execution of the order, its distribution on time, to create new commodity and realize effective relations. It is important that electronic technologies give the companies additional concrete priority by more effective interoperation with the suppliers.

· Rapid development of internet and computer technologies gives the opportunity for providing prediction of results, for example, several years ago Intel and *Microsoft* strengthened their attempts to improve personal computer as multi-functional devise for computer and individual use. None of the companies was able to evaluate the role of internet in technological progress and business and soon it was to change orientation of their operation in this direction. Several years ago shares of Iomega were rapidly growing because the company was leader in producing ZIP disks from 100 megabyte. It was foreseen that these disks would oppress ordinary three-inch ones. ZIP offered many producers of computers to involve 15 disks into distribution of the computers. Business model of the company foresaw keeping of low prices for attraction of consumers, while basic mass of the profit should be made out of sale of ZIP-disks, which were sold in difference of 10 dollars. Zip-disks were recognized at the market and here the producers of hard disks found the way to increase the volume of it (existing data up to 10 and 25 megabytes), at the same time they have reduced expenses on their production. Computer users began using the model of hard disks of larger capacity and they do not buy ZIP-disks. Rate of ZIP shares have fallen down and it was difficult time for the company.

· Internet makes new technologies and spread of ideas faster. The companies in any country of the world even in developing ones, may renew technological innovations online, to receive information about new commodities, new projects in Europe, Japan, North American markets and the leaders of their fields. Distance and location have lost their meaning in the modern world, while internet became strong means of globalization and in the issue of creation of total global comradeship. From the business point of view, national borders have lost their early meaning.

· Electronic companies request rapid action from the companies, online action or action in the internet speed. Several years ago the fastest companies were able to calculate their concrete priorities in relation with their slow opponents. Speed in the electronic commerce is the chance for survival. New achievements in different domains take place almost every day. Market and

competitive conditions change every second. Those, who stand behind – disappear.

Electronic technologies create new possibilities for industrial and corporative chain of valuables. Registration of orders on materials and completing devises make the producers to move to the regime of distribution in time, to reduce commodity-material reserves and to produce production in the quantity requested by the market. This makes it possible to react on change of requests to manage chain of distribution, started with processing the order and finished with its fulfillment. They use electronic system of planning resources of the enterprise (ERP) and electronic system of management (MES). Moving to the electronic systems reduce expenses so that the company is able to produce personalized commodity on the level of providing massive expenses of production, sometimes even cheaper. Besides, duration and expenses on remuneration is being reduced as well. Zh. D. Edwards – ERP-system specialist was able to reduce the period of producing printer from 4 hours to 24 minutes. Many well-known car manufacturers involve chains of their valuables into the system of electronic placing and processing, pursuant to which the manufacturers produce automobiles. Another example, how van new technologies be attracted for optimization of production. How internet influences upon economics of production and sectoral ranges of valuables.

Example: such companies, as Compaq Computers and Hewlett-Packard, which produce computers for corporative orders, prefer popularity of models and their consumer features. They produced computers of various configurations in large set, send them to the wholesalers. Wholesale companies had important reserves of computers of various models and configurations, as well as completing parts. Besides, the sellers provided marketing activities, PK service. The company *DEDELL Commuter*, which provided low expenditure production by direct sell to the consumers on the agreement basis. Many companies are to review their systems of valuables.

Anyway, many years ago *Hewlett-Packard* and *Ingram Micro*, which are largest distributors and tuners of PK, concluded agreement with the *Company Solec-tron corp*, which produces completing parts. The Agreement foresaw simultaneous distribution of computers to the corporative consumers. The ranges of valuables, which are processed by the partners by this agreement, are shown in the pic. 1.

New model of the ranges of valuables, as it has been expected, gives us the opportunity for essential reduction of economic expenses and the period of receiving models to the storages from several months to some hours.

Source: Business Week, March 22.1999 p. EB – 18; *Information Ingram Micro, inc.* and *Solec-tron comp.*

Activities of all kinds related with the business valuables of supplying completing and reserve parts, may be optimized in the way of close cooperation with the supplier. Software of the companies *Commerce one*, *Oracle*, *SAP*, *Ariba* gives procurement department opportunity for inspecting receiving necessary completing materials to fulfill orders, to control entering of commodity-material valuables from the suppliers, to learn about prices on the completing materials through web-sites, including those of electronic auctions, to be introduced with the *FEDEX* supply schedule. Software on exchanging electronic data (EDL) makes it possible to let the supplier about received orders and completing materials needed for its fulfillment, to agree about “concrete terms” of supplying schedule.

Rapid exchange of information though internet, joint utilization of data, availability of wide masses of information makes it possible to change and reduce Bureaucratic apparatus and consequently overheads. Document circulation (registration of order, writing out the account, payment to the purchasers and others) takes place rapidly, in order, with less paper and less attempts of the personal.

Radical changes take place in the range of distribution. Software workers create innovative ranges of valuables of less expense to distribute their products and to promote at the market; herewith they avoid expenses on distribution-wholesale-retail network. Electronic salesmen have another means to reduce expenses. In 1999, for example, COM invested 56 million dollars into the basic means and thus it guaranteed the volume of sales of 1.2 million dollars (that equaled the quantity of sale of about 235 book stores (Barnes Mobil), while this latest gave up 462 million dollars to create thousands of stores and wasted money on rent and leasing.

Internet is the cheap way of serving customers. Online service makes it possible to reduce the staff of service, who visit the consumers home and provide telephone arrangements and thus to fasten processing of orders, which are faxed or sent by e-mail. For example, company Dell Computers use special program, which sends online messages and recommendations, or creates the software of automatic assembling and all these happens without participation of the company personnel. Technical support of the consumers costs less and it is extremely effective to the numbers of fields.

With the internet projects it is easier to take investments. It is often harder to attract capital into the traditional fields to finance new venture, while high technologic internet companies take millions and sometimes billions of investments without any affords. In 1990

electronic companies attracted more investments than it had received in previous decade.

· Positive evaluation of internet economy by the investors gave rise to the creation of advantage investment clients and there were many desires to develop investment projects in the conditions, that they would be based perspective technologies, expressive business models and to be improved by strategic business plan. Until 2001 rate of the shares of internet companies, conditioned by inflow of additional capital and made it possible to absorb other companies. Since 2000 the investors of investment institutions and companies became more careful and demanded from the leaders the guarantees of procurement of the used capital. This decreases rate of the shares of the companies, which have lost and had no perspectives of making profit in the closest future.

· Human talent of valuable resources is permanently requested from electronic technologies, as in the form of technical knowledge and experience, as well as in the face of management Know-how. Some internet companies take concrete advantages at the expense of patented technologies, unique material assets or popular trade management, and others on the expense of experience and international potential of the employees. As well as organization abilities of management and qualitative management, from competitive point of view, the most valuable assets to the companies are leadership in processing decisive technologies and the staff with unique experience and knowledge. It is not strange that internet companies provide hard competition, to attract talented and qualified workers, which provide the work important to the company and who have knowledge and experience, that worth to the company, receive high remuneration, compensations, participate in the company property or have right for purchasing control palette of the company shares in reduced prices.

· Active usage of electronic technologies give rise to the deep changes in competitive situations: competitiveness is strengthened, entering barriers are increased. Traditional plan of the field itself is transformed and the meaning of geographic borders is increased. All these abolish the balance of concrete forces, as between the distributors and the sellers and customers that give birth to the new forms of cooperation between the participants of the ranges of valuables. Though it was not always possible to guess the results of high rates of technological changes. The market is changes too rapidly and this makes the companies to react on them as well.

Development of internet technologies and electronic commerce forms future economy and create new possibilities of business, including formation of internet infrastructure (creation of telecommunication systems,

realization of millions of servers, provision of fast access to internet for corporative individual users, processing software, creation of local networks within the bounds of forming economics); condition formation of global network of electronic commerce (online shops at B2B and B2C markets, electronic procurement, retail trade, providing information and other services to the network users).

Aspiration of new and traditional companies for providing realization of internet abilities, create innovative models of business and principally new methods of approach towards competition and positioning at the market. Traditional companies, business of which are under danger because of specific reasons, try to modify their business models and strategies by using electronic technologies pursuant to the requests of modern business surrounding. That is why it is necessary to discuss specifications of new business-models.

Aspiration for using abilities of internet-economy make the companies search for innovative business models and principally new competitive strategies.

The companies, which distribute to the market communicative service for internet-economy, build their business-models with firm tariffs of service on sale or periodic foundations. As the goal of providers of internet-service is guarantying access to the internet, they invest significant amounts of money into development of communication network and devises. Needed level of profitability is not achieved immediately, but in case of growing of pressure which provoke growth of incomes above loss-free level. Main goal of the company is to activate connection line and to attract the customers faster than its competitors.

Competition between internet-service providers in USA has been being strengthened during the last period. Regional telephone companies (Bell Atlantic, Bell South, SBS Communications, U.S. West-Qwest Communications) monopolized market of internet availability, by issuing high speed service³ through new digital channels. Telephone companies are competing with wireless contact providers and cable TV companies, which give the customers opportunities for switching into internet by cable. AT&T begins realization of three-leveled project to providing service through internet. The first level is development of wireless connection, privately, offering discounts on internet in case of activation of the cell-phones, selling customers though switching devises for wireless connection, changing payment with roaming and changing payment on distance calls with line minute rates. Another level is receiving governmental permission on providing services on local telephone connections through cable lines; the third level – purchasing companies of cable TV stations (TCI and MediaOne)

and their switching in internet through cable lines by modem, which transfer information in about 100 times faster than standard ones in case of 56 kilobytes. The strategy of AT&T means combination serving local and foreign connections and receiving one particular package, which is distributed to the customer under the conditions of paying corresponding fees. Other cable companies, for example, Time Winter, also tries to widen its operation from the point of internet availability. Generally market of serving of switching in internet is extremely interesting, as it may be profitable. Monthly fee for the package of services of four kinds is more than 100 USD for individual service. Corporative clients pay much more. Awareness of the trademark and advertisement make important elements for access to internet, which supports growth of the market. A small company Coved Hill from Coney Valley, which offered the clients service with internet of high frequency, conducted promotion campaign of 40 million dollars at the territory of Georgia, for the purpose of becoming the part of the leaders of internet service market. In the beginning of promotion campaign the volume of sale was only 20 million USD per year. It made the competitors start advertisement campaign in several weeks.

As for the internet infrastructure, manufacturers of devises, computer technique and completing parts mostly use traditional business models, pursuant to which sale price of the product must cover expenses and make advantage profit. That is why to keep compatibility the companies are to provide investment of important sources into scientific-research and test-construction works and provide new projects and technologies offered by the competitors. Success depends on the ability of the company for overcoming, or at least, not to stay behind the competitors and to represent models of following generation at the market.

The company may be competitive at the expense of difference and establish higher price on production, if it states its technological priority, or make competition with price and at the same time to reduce expenses of the production. Distinction between competitive problems is minimal. Computer technique may be said same way. We may conclude: it would be more trustful if the strategy built on achieving priorities in relation with the competitors pursuant to the expenses. This strategy is acceptable in case when the customers are ready to pay more on consumers' features and service.

Software workers create packages of programs on internet for all kinds of commercial operations. Their business model means investment of resources (basically work of the programmers) in processing specialized software and their development, which later will be sold to the corporative clients, electronic buyers, pro-

viders of internet service, content-providers and others, in the prices that would be opportunity for covering expenses and making definite amount of profit. As basic expenses of the producers of the software come on the period, which precedes their creation and large part of them is related with immovable assets, profitability of this activity is directly related with its volume – if incomes from the sale doesn't surplus that of the loss. To keep the size of profit unreduced, that is basically resulted by saturation of the market; processors provide modernization of the programs and create new ones.

Some creators of software for electronic commerce provide modification of their business models: instead of realization of the software on firm prices, they are oriented towards stating meaningless payment on each operation, which are improves by these programs. Such method of approach towards this creation guarantees unstoppable flow of profit. The model of increasing operative payments is the most attractive in case of existence of millions typical operation and in case of reduce number of these web-sites, pursuant to which the software are processed. The clients are not against operative payments, as thus they are free from making large investments into the software. Payment is made only by factually conducted operations.

Company Inkotom is leading at the market of search technologies and supplies the market with the search programs of data base, as well as for fast uploading of the web-sites for rapid purchasing of commodities. This company supplies its software to the companies and web-portals and takes 0.5 cents for each discovered 35 sites.

During the last period creators of the software assure potential clients to conclude agreements on the lease of software products. They offer the client following work: the client visits the web-site, where there is necessary software; the client registers him/herself makes small consumer payments. Thus he/she is free from the necessity of buying the software, to install it in his/her computer and let the hard drive go. Lease of the software is advantageous to the corporative clients, as it gives opportunity for refusing procession of information technologies by the independent lessees and thus to refuse payments to the providers of these technologies. Its lease is often cheaper to the small company to utilize them as well as their technical support, than creation of subdivision of own internet-technology. Renting software may make individual consumers interested, especially those, who want to test new software or those, who make use of it in specific annexes. Involving total payment may be made for playing and representing sites for children: after paying about 3 dollars, the consumers are able to start any game in desired frequency during

48 hours. MP3.com impacted basements of music industry with its software, which gives the consumers opportunity for converting music into digit format, to download it to the PC and write it to the CD. Business model of the Company offers execution of agreements with the actors, recording music and albums just for 8 dollars. Works if the beginning musicians are spread without payment through 37. Technology used by the Company gives rise to the reduction of the market share of the five largest recording studios (which supply 80% of musical records to the radios and shops).it conditions the strategy of fundamental remuneration of production and distribution of musical records.

There are two basic groups of electronic merchants: the first provides realization of the commodity to the corporative clients (this group is called B2B), and the second group is final users (B2C). These categories of internet companies use specific strategy. The simplest and relatively revolution strategy means in the first place sale of the commodity in its own cost price and making profit at the expense of promoting other sellers, which are interested in attracting the clients of the users of electronic site. For example, Buy.com sells wide assortment of commodity at extremely low price. It doesn't want to create wide circle of consumers, makes profit out of the selling advertisement space on the site. Wider is the auditory of the potential consumers of the Site, the more is payment on promotion. Some electronic merchants sell on the own cost price of the commodity, which later less it to other companies. Electronic merchants of the cars make profit not only by placing advertisements on site, but by taking fee for the dealers, which are sent to the sellers, as well as selling commodities, for example insurance care or their accessories.

Other merchants use traditional model of business; they buy commodity form the manufacturers or distributors, make advertisement on their 38 sites, receive orders through internet and fulfill them, using their reserves. This differs from the standard models by using internet for the trade point and not traditional retail trade enterprises. There is the group of electronic merchants, which use web-sites only for advertisement and consumers. Fulfillment of internet orders are allow to the manufacturer on the agreement basis, while the right of wrapping and shipment of the commodity are given to the merchants of wholesale and retail type. Participation of buy.com means having electronic shop with the assortment of commodities of more then 30 thousand kinds.

The model of electronic trade, which includes any below combinations is more spread:

- Massive investments into the advertisement to populate trade mark and increasing capacity of the site, fighting for keeping the consumers. Light adver-

tisement campaign in media and banner advertisement is widely used at the new sites to attract retail electronic purchasers. Many companies invest into the advertisement in the amount that overcomes their current profit. They are oriented towards compensation of the temporary loss to be made at the expense of increasing the number of the consumers, creation of the well-known brand and devoted purchasers.

- Widening assortment of the commodity for increasing the number of purchasers at the electronic shop. Widening assortment of the commodity – absorption of the retail trade companies by the corresponding commodity, creation of the strategic connection and joint marketing work with the clients, which are also interested in development of electronic commerce, help them in attraction of the purchasers and increasing the volume of the site. The company widened assortment of the offered commodity, added musical records to the books, electronics, toys, video-games and home appliances. During the last period the company provides electronic auction, besides, the company Amazon.com offers to the small internet companies specialized in selling one particular good, to promote their commodity at their site. At the end of 1999 there were about 18 million kinds of production at amazon.com assortment.

Pursuant to the managers of net-companies, the strategy of the “First” supports rapid development of the companies specialized in definite category of the commodity. They may become the largest and the most popular net-sellers; relatively it helps them in becoming the leader at the market in its segment and to avoid attack of the competitors.

- Improving web-site decoration. Web-sites must be interesting and easily perceptive or to have attractive design. If the consumer doesn't like the design, if it doesn't give him the desire of returning, it is doomed to be failed and relatively not to have profit.

- Permanent refresh of the site, its interesting and attractive content. To refresh permanently not only decoration and function of the site, but to attract the audience of audio and video effects, to widen assortment of the commodity, to improve sale conditions. Interesting fill and advantage of navigation attracts the consumers and it becomes valuable competitive resource. The site eBay is a good example to it. Space is not reduced on net. The consumer is able to buy various goods by single visit (this desire comes from amazon.com). Such method of approach makes it possible to sell more goods to the wider circle of the consumers. It helps the seller to create family shop and offer permanent users of the site new commodity. They create web-sites for specified auditoria, which is interested in concrete commodity or its categories. The companies which work with

focused strategy try to attract consumers by low prices, optimal combination of prices and quality, wide variety of commodities, advantageous service, original design and other distinctive signs. Special attention is paid to the details, which in the first place, attract attention of the purposeful auditory. The company Toys, for example, offers to the consumers separate wrapping of each good. The Company also detached its name and logo from the boxes, to make the children interested and open the boxes immediately.

Many traditional companies of retail trade avoided distribution of internet trade and opened their sites. Thus, for example, the company Toys "R" Us created web-site opposed to the other electronic purchasers of the company E-toys. The Companies Merrill Lynch and Paine Webber offered their consumers to make procurements through internet, to avoid sensitive prices pursuant to the electronic companies, which offer commodity in low price (companies Charles Schwab, E*trade, Waterhoage). Wai-Mart also opened its own web-site. Such combined method of approach gives the purchasers opportunity to choose buying commodity at traditional shops or through internet. At the same time this is effective method in competition though against electronic company. The commodity must be examined by the purchaser. In the section "Combined Strategy" "Office Depot" there is arguments in behalf of the combined strategy. Company Office Depot is one of the first retail companies, which has its own strategy pursuant to the new technologies. In 1996 the Company started taking orders from the consumers through internet, which refused earlier practice of receiving individual orders by phone, when they wrote accounts and registered orders on paper. The orders received by net are to be fulfilled at the same or following day. Internet business of the Company Office Depot is based on 750 retail shops, 30 storages, 2000 Lorries for shipment, reserves at the storages are of 1.3 billion US dollars and there is the sub department for phone orders, which works on the large corporative clients at the moment. Besides the Company created well-known trade mark, this can influence upon the suppliers and to receive goods on discount price. This gives it opportunity for realization competition in price with electronic merchants, which try to attract additional purchasers in low price. Entering the market of electronic commerce by Office Depot need no additional investments, when you read more about it, you will learn the price and information about its existence in the storehouse. Its marketing expenses compiled 10 million dollars.

Office depot created personal web-sites for more than one thousand corporative clients and educational institutions. The sites are processed so that it gives no

opportunity to the company workers and its customers for go above their responsibilities while making orders: simple clerk can place order with total value 1 dollars (for example: paper, toner to the cartridge, CDs or hard disks), while the President of the company can order commodity of any price without prejudice. Prices on electronic goods don't overcome those of the traditional shop. Strategy of the company means attraction of the purchasers to the electronic shops by convenience and cheap service. They let the consumers know that purchasing goods by internet reduces its expenses on registration of the commodity and payments for about 80%. Besides that, besides the orders, it becomes possible to reduce storage reserves on less than in two days. In 1998 Office Depot started electronic sale for small enterprises and individual consumers on the site Office Depot.

During internet trade, Overheads of the net-trade company equals about 1 dollar on each 100 US dollars, while by phone it equals 2 US dollars. Sale through web-sites is realized without participation of the trade personal. That is why there are no mistakes in indication of the goods and their quantity. The practice of returning commodity has been reduced in half. Registering bills also were provided in the electronic way.

In 1999 the company size of trade of Office Depot through internet amounted 300 million US dollars, while size of the profit made by the Company was almost 30 million US dollars. Net-trade with corporative clients compiled 20% of the whole electronic sale. By 2000 they expected this data to be increased up to 30%. Competitors in net-trade Office Depot, Officesupplies.com and Atuiro office.com are unable to make more than 5% of total quantity of sale. The leaders in trading office goods became Office depot Staples, Office max, that are the same companies which dominate in traditional retail trade on the commodities of same kind. Source: "Why office Depot loves the net. Business Net", September 27, 1990, p. EB-66; EB. 68, Fortune, November 8. 1999 p. 17.

Internet economy created another new field – providing service to the companies, which run electronic commerce. For example, optimization of managing storage reserves and distribution of commodity is one of the most serious problems in retail electronic trade. Today many companies are specialized in providing service to the electronic merchants from the point of storage service and distribution of goods. Beach Group Company invested 1 billion US dollars into development of the systems of managing storage reserves and distribution of goods, to serve electronic company Webvan Group, which sells grocery.

Webvan group established Web-site, where the con-

sumers purchase goods and receive them next day. The order is registered in 30 minutes on the address selected by the consumer. In the booklet 'service of electronic purchasers~ the company "Fingerhut" speaks about the fact that it has changed its business and offers to the retail electronic purchasers service from the point of storing, wrapping and distributing goods.

It is not difficult to establish commercial web-site and virtual shop. The problem is to organize distribution of goods to the consumers in low expenses and opportunely (for example. Distribution of numerous New Year presents on December 31). Many traditional retail companies were to think about this issue. They established virtual shops on their web-sites. Many transport companies – FedEx Ups, Airborne Express, newborn companies at the market offer to the consumers shipment of the goods, others – processing orders, storing goods and wrapping services.

Fingerhut was trading through catalogues and later it entered the market by providing storage service to the electronic retail buyers.

In the beginning of 1999 the volume of sale of the company Fingerhut was increased and the growth of popularity of commercial TV channels opened trade center in Texas, though expected volume of sale after TV commercials turned to be insufficient and the capacities of the Center were not significantly utilized. Since that Fingerhut offered its service to the electronic merchants. Manager of the Center paid attention to the fact that work of the clients, which provide completing orders at the storage, would be more productive, is they were not obliged to go to the storages; each order is completed separately. Special software was processed, which made it possible to group orders of the buyers by the goods, for letting the employees of the company to form several orders at the same time. They installed equipments for sorting goods by separate orders.

Since that Fingerhut improved its system of storing and wrapping. The orders are made by fax, phone and internet; central computer at the head office, in Minnesota, sorts orders including goods into them, and transfers this information. The goods are selected in the quantity, shown by the computer. After this, the software defines minimal size of the needed package by the stock of the ordered goods (reduction of the unfilled space in the boxes and relatively, reduction of its volume makes it possible to fulfill more orders at each route). wrappers put the ordered goods into the box, fix printed labels to them and put the boxes onto the conveyer. After this the latest moves the boxes to the loading ground to be loaded to the tracks. Special devise scans the boxes on the conveyer. Here they compare the weight of the box to that indicated at the label. In case of showing gap, the

box is automatically moved to the controlling point, where the employees check which goods are odd or vise versa. Fingerhut has its own park of tracks to distribute orders to the closest post office and at the same time making economy in post expenses. Concrete ability and creative strategy of the Company influenced upon Fingerhut, which purchased mentioned Company for 1.7 billion US dollars. Fingerhut started distribution of electronic orders to the company Federated Department Stores for every retail shop, as well as for the firms Mary Bloomingdale Rich and some others.

By 2000 Fingerhut provided distribution of electronic orders to more then 10 retail companies, which are not in the Federated Department Stores System, including e-Toys, Pier I, Levi Strauss, Wal-mart. Besides, it used to realize its operation, catalogue trade and realized electronic orders of several internet companies, share package of which it owned. The Company had storages; area 3 km. by the end of the year Executive director of the company Fingerhut exclaimed that their business by that time was – internet and that they would enter number of the five largest retail companies of USA in two years.

Internet gives the companies opportunity for establishing direct contacts with potential distributors. Many companies make use of the network successfully to compare commercial offers to the different distributors. The software is electronic mediator (it is called information agent as well), which helps seller and the buyer to find each other through internet. Altra Energy Technologies offers software means for distributing natural gas, as it is much more convenient, then fax or telephone. Buyers of Altra at the area of electronic trade are able to address thousands of merchants anonymously, to compare prices and to avoid competitive stress from the buyers' side; at the same time it must notify this latest about rapid procurement of the goods by for the buyers.

Site of Altra became basic place to make deal to the base sellers in the quantity of 12 billion US dollars, which makes 40% of whole market. Altra makes profit by receiving small fees from each deal. Thus, convenience of selling natural gas and effectiveness of trade becomes evident.

Priceline.com created electronic market for purchasers and sellers of air tickets, cars, real estate, and hotel service. Buyers of air tickets place order on the site of the mentioned company by the guarantee (as a rule, the purchasers order cheapest tickets, which they are to buy). The Company looks for the tickets of desired kind among unsold ones with corresponding discount. The air companies participating in the project spread information about such tickets. In case of finding desired

ticket, *Priceline.com* purchases it and resells it to the buyer.

Springstreet, Company in San-Francisco, distributes information about 6 million buildings and trailers, which are rented at the US territory, also about their furnishing and payment conditions. The company makes profit out of selling advertisement space and fees from the deals. The Company has more than 35 partners, including such ones, which rent tracks, have care insurance companies, which process payments by credit cards.

Visa, American Express and MasterCard provide service to the electronic companies in the way of processing payments by credit cards. Internet is a huge space for such companies, as credit cards are the most spread form of payment while purchasing goods through internet at B2C market. The companies – Exodus Communications, Dell Computer and Micron Technology offer hastening service to the specific clients.

The company Dow-Phones (Owner of Wall Street Journal), publishing Mc Graw-Hill (Founder of Business Week Standard & Poors, agencies Quote.com, Briefing.com, Bloomberg, The Motley Fool and many others supply financial and business news to the electronic brokerage companies America Online, Microsoft network (MSN) and web portals. Some news companies take service fees, though many of them give this information without payments hoping for receiving strong trade mark, stable positive reputation and additional subscribers on printing verses of their electronic publishing.

The company Greenfield Online, is electronic company of marketing research, it accumulates data on consumer priorities among millions of internet users all over the world. The Company reviews information on existing and potential consumers pursuant to the different goods. This helps them to define better side of advertisement contact with the auditoria; it gives up information about improvement of the sites. Competitive priority of the company Greenfield is based on its cheap service in relation with the service traditional competitors, which gather information through phone and mail poll. These are only several examples of using focused strategy. It is extremely important in electronic business to be first to put innovative goods on the market, or service to gain and keep stable competitive position and leadership in selected segment.

Media companies use intellectual capital for creating texts, video-films, games and music. Some companies, for example, publishing 54 gives information about its electronic publishing on the basis of subscribing. Others take fees for each appeal on the site that guarantees permanent profit. Production of digit contact is relatively

cheaper, that is why it is possible to be profitable in the conditions of small volume of sale. As the most of the buyers principally do not want to pay for information, so called content providers became basic clients of electronic media-companies.

Content providers, for example, Yahoo provides accumulation of basic information and support of the portals. Their business model means creation of information product to be able to attract users and to sell advertisement space to the companies, which want to be involved into the advertisement content (standard business model of newspapers and magazines). More is the number of watchers, readers or consumers (in other words, the wider is the auditoria), the more they use advertisement domain and more expensive it is. The companies, like Charles-Schwab and America Online, purchase information from media companies and distribute them to the consumers without payment, that gives rise to the growth of the number of consumers on the sites, that gives the Company opportunity for subscribing (AOL) or offer its service to the consumers (Charles Schwab electronic brokerage company). Besides, content providers widen assortment of goods and service and relatively – profit too, which is made out of the fees. In the business of information electronic companies decisive role is played by two factors: creation of the consumer totality and distribution of information conveniently and attractively. Wishing for attraction of new consumers, web-portals Yahoo!, Excite, Alta, Vista provide not only search service, but also distribution of information about weather, security rates, E-mail, e-calendars and record books, as well as distribution personalized web-sites to the consumers and providing internet purchasing.

The company Excite Home purchased the company Bluemountain.com (leader in E-cards) per 780 million US dollars. The consumers select e-cards on the site of the company, write texts on them and send it free. You are able to write in eight languages. In 1999 free service of sending E-cards attracted about 9 million users every month that gave the Company opportunity for attracting 65% of the market and one-third of the users of same kind. Sites of the companies Amazon.com, e-Bay, Hallmark, American Greeting offer the customers same cost free service. By purchasing the company Excite Mountain, the company 56 purchased new possibilities for making profit in the following ways:

- Selling advertisement space on the site Bluemountain.com
- Offering the consumers of the mentioned Site free service: e-mail, e-calendar, address book, as well as chance to improve procurements.
- Department of the mentioned Site on forwarding

service and joint sale in e-space, availability of the goods, which are promoted by the mentioned Site and its search system.

Joint selling of goods at the traditional E-shops is used more actively by internet companies, which try to increase supplying their web-sites.

Even those companies, which did not participate in internet economy, will have to use internet-technologies for their business in the future.

It is clear that internet has changed works on information distribution, forms of relation and making deals. There is no field avoiding internet in their work. The only thing to be done is definition of the quality of internet to be used in the traditional business of the company. It is early to make final conclusions about using successive internet strategies in traditional business, though following concrete initiatives related with electronic commerce are widely spread already:

- Using internet technologies for effective relation and close mutual-influence of the distributors and consumers. We mean creation of special information system, with the help of which the companies will receive information about consumers and distributors in real time, about their involving into the joint distribution system by strengthening integration of each participant. Such systems fasten information exchange between distribution ranges; provide sharp reduction of storage expenses and overheads.

- Sectoral and corporative reorganization of the totality of valuables. The companies are to change one kind of operation and to switch to another one.

- To increase the share of built by production and order. Car-production used this method of approach quite actively.

- Processing individual orders, creation of the system of completing and distribution. In the first place it is needed by the companies, which sell the goods to the individual consumers and create web-sites for electronic trade.

- Using internet in the way of additional channel of connection for existed and potential clients. It is convenient to the traditional companies to offer various ways of taking information to the consumers;

- Using internet as another channel for attracting consumers and mastering new regional markets. Numbers of traditional companies, which try to establish (together with the ordinary ones) trade through internet, appear themselves in front of serious resistance in traditional channels – this gives rise to the so-called conflicts in the channels of distribution. The issue is that transferring to the electronic method of trade ruined business of traditional distributors and dealers. Transfer to the electronic trade ruin the channels of their traditional dis-

tribution, which either loose market share, or loose them in common. Transfer to the electronic trade by keeping traditional channels of distribution needs good strategy;

- Taking information about taste and behavior of the consumers, providing marketing researches and using received information for the purpose of complete satisfaction of the consumers. Learning behavior of the consumers on net gives valuable notes.

They are creating principally new business models and strategies directed towards purchasing new consumer valuables and growth of the shareholders' wealth. Electronic companies establish network, which unite consumers, distributors, suppliers and service departments. This is good and profitable to everybody, including consumers. These networks provide stable contacts, valuables, ranges among every range and flexible and opportune reaction on changeable market conditions. Today development of internet economy, success of concrete competition is supported by several factors. They are:

- Model of innovative market. Electronic companies differ in traditional establishment of business models and this is not the merit of managers or the nature of internet business. The issue is that using internet technologies is impossible without using principally new and more dynamical business models.

- Possibility of rapid adoption of business models and strategies with changeable conditions and new possibilities. It is extremely important to learn acting in internet speed, as the technologies and market are being changed quite fast. That is why fast refreshing of business models and strategies is not exception, but the norm.

- Reduction of the number of companies and the ranges of the chain of valuables. They must select the most important competencies for the company or those, which goes ahead to the competitors. Others are to be transferred to the external fulfillment. Outsourcing increases dynamics and organization flexibility of the company; it gives the company opportunity for realization of the actions, which are made by it best of all. They may transfer to the third party various sides of the activity, for example, processing web-sites and their production, storage service, distribution and so on.

- Keeping technological priority (precedence). Development of electronic commerce at the modern stage. Technological development is the most important factor of the domain. Electronic company is able to keep priority during long period of time if it keeps the position of a leader in technological development and involvement of innovative goods.

Creation of technological knowledge and experience may be done by the company in the way of establishing relation with the distributors.

Innovative, marketing and other methods for the purpose of guaranteeing profit/loss on the purposeful segment of the consumers.

Competition on attracting attention of the consumers is of acute nature at the moment, and it seems to become stronger in the future, because of the growth of the number of internet-companies. Pursuant to the research provided by Texas University in 1999, there appear 200 new sites on internet every month. Marketing activities directed only towards increasing representation on 62 sites, are less effective. Their main goal must be increasing independence, increasing representation and the quantity of sale, that is profit (procurement is the index of representation). For example, the number of representatives on the site of the company Charles Swab in 1999 reached 6 million per day and gave rise to the increasing of the volume of sale up to 4.7 million US dollars, when the number of Yahoo! representatives was 385 million per day and the volume of sale – 1.7 million US dollars.

Creation of electronic chain of valuables, which guarantees leadership on the basis of differential expenses or optimal ones, reaching stable competitive priority in electronic commerce, it is extremely important. Strategies and ranges of valuables are necessary for that, which give the companies priority in optimal conformity of prices and quality. If the company is leader in expenses, it must have priority by expenses in the kinds of activity, which is made independently by it, while others to be transferred to outsourcing. If the company is oriented towards optimal conformity of prices and quality, it must be able to optimize chain of the valuables, to guarantee priority by expenses and at the same time by producing high-quality production.

There are several kinds of companies formed in electronic commerce: producers of communication devices, distributors of connections, distributors of computers and their completing devices, processors of software and the companies of electronic trade – levels B2B and B2C, media companies and content-providers.

Distribution of internet technologies changes essentially situation in the domain: it strengthens competition, gives rise to the danger of creating new one, it grows the balance of competitive stress, as between consumers and sellers, so – sellers and distributors. Internet and electronic commerce gives rise to the transformation of sectoral chain of valuables and electronic competition resources of the company. Technologies, market situation, competitors are changes extremely rapidly with unexpected results. The world of electronic comes differs in high dynamicity, which makes the company act fast. That is why the strategy of expectation is disastrous.

Aspiration towards using opportunities of internet-economy makes modern companies to review their business models and change fundamentally their methods of approach towards conclusion of the strategies. Decisive factor of success in electronic commerce – this is permanent renovation of business models. Business models and strategies depend on the type of the company, quality of its utilization in electronic technologies. Manufacturers of communicative devices, computers and completing parts usually make use of traditional business model, pursuant to which, the commodity and service are to be sold in the prices, which guarantee receiving of needed quantity. Distributors of communicative service are oriented towards distribution of paid service by subscription payments, or by paying on each service. Business models for industrial services of commercial operations of the companies need investment resources (in the first place, this is the work of qualified programmers), processing and improvement of software by the internet companies. Some companies processed industrial service for commercial operations. They use another model – impose small prices on each operation through their software production.

Electronic retail merchants use the most revolution and innovative business models. Many of them provide realization of goods pursuant to their cost price (sometimes less), while profit they make out of selling advertisement space on their sites. Other internet-merchants use traditional models of business: purchase goods from the distributors or suppliers, offer them at virtual shops on their 66 sites, and at the same time they provide completing orders at their storages. Some companies provide only selling on their sites. At the same time they fulfill function of distribution and sale. They transfer the functions of distributing goods and keeping reserves to the companies, which are specialized in realization of the mentioned work. Business models of electronic companies, which serve electronic commerce, are quite multisided as well.

Several decisive factors of competitive success of electronic companies may be separated: Using business innovative models; adaptation of business models and the strategies of the companies with changeable conditions of the market and its new opportunities; mobilization on several, most important kinds of work; keeping leadership in development of technologies; using innovative methods of marketing, processing chain of valuables taking into account peculiarities of internet-economy; transferring accent on taking competitive leadership by expenses on the basis of differentiation of prices and quality or their optimal combination.

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კომპიუტერული ტექნოლოგიების ბანკოთმართვის უმჯ-ჩრდილები

ლამარა ქოქიაშვილი
ეკონომიკის მეცნიერებათა დოქტორი,
სტუ-ს სრული პროფესორი

ელექტრონული ტექნოლოგიების აქტიური გამოყენება ღრმა ცვლილებებს იწვევს კონკურენტულ სიტუაციებში: მწვავედ კონკურენცია, მაღალდება შესასვლელი ბარიერები. ტრანსფორმირდება თვით დარგის ტრადიციული გეგმა, მცირდება გეოგრაფიული საზღვრების მნიშვნელობა. ყოველივე ეს არღვევს კონკურენტული ძალების წონასწორობას, როგორც გამყიდველებს, ასევე მიმწოდებლებს შორის, ასევე გამყიდველებსა და მყიდველებს შორის, რაც იწვევს თანამშრომლობის ახალი ფორმების წარმოშობას ფასეულობათა რგოლების მონაწილეებს შორის. ოღონდაც ტექნოლოგიური ცვლილებების მაღალი ტემპების გამო მათი შედეგების გამოცნობა ყოველთვის არ ხერხდება. ბაზარი იცვლება ძალზე სწრაფად და ეს აიძულებს კომპანიებს ასევე სწრაფი რეაგირება მოახდინონ მათზე, რათა უიმედო მდგომარეობაში არ აღმოჩნდნენ.