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## DEVELOPMENT TRENDS OF ELECTRONIC TRADE IN UKRAINE

*This article investigates the dynamics in growth of electronic trade market in Ukraine and the indices of purchasing power of online users. The regional structure of online has been analyzed. The dynamics of online users preferences, interrelation of indices for age structure of online users and frequency of shopping, TOP-5 online stores in Ukraine, as well as the dynamics of electronic retail trade are investigated.*

*Keywords:* electronic trade; purchasing power; online users; regional structure.

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## ТЕНДЕНЦІЇ РОЗВИТКУ ЕЛЕКТРОННОЇ ТОРГІВЛІ В УКРАЇНІ

*У статті досліджено динаміку росту ринку електронної торгівлі в Україні, наведено показники купівельної спроможності онлайн-користувачів, проаналізовано регіональну структуру їх розміщення. Досліджено динаміку вподобань онлайн-користувачів, взаємозв'язок вікової структури онлайн-користувачів та частоти здійснення покупок, TOP-5 онлайн-магазинів в Україні, динаміку розвитку електронної роздрібною торгівлі.*

*Ключові слова:* електронна торгівля; купівельна спроможність; онлайн-користувачі; регіональна структура.

*Форм. 1. Табл. 3. Рис. 5. Літ. 22.*

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## ТЕНДЕНЦИИ РАЗВИТИЯ ЭЛЕКТРОННОЙ ТОРГОВЛИ В УКРАИНЕ

*В статье исследована динамика роста рынка электронной торговли в Украине, приведены показатели покупательной способности онлайн-пользователей, проанализирована региональная структура их размещения. Исследована динамика предпочтений онлайн-пользователей, взаимосвязь возрастной структуры онлайн-пользователей и частоты совершения покупок, TOP-5 онлайн-магазинов в Украине, динамика развития электронной розничной торговли.*

*Ключевые слова:* электронная торговля, покупательная способность, онлайн-пользователи, региональная структура.

**Problem setting.** Today's cardinal changes in economics of Ukraine have caused changes in running online economic activity. Current development trends of electronic trade show the manipulative dependence on many external factors, including the political ones. The pragmatic approach in management of online enterprises is a key to an enterprise success. The problems of electronic trade in Ukraine are extremely urgent and cover a number of aspects for driving transformation of information space and online commerce in the world. Taking into consideration the abovementioned, the urgency of the research on modern trends of electronic trade in Ukraine is undoubtful for further economic growth, creation of new work places, and extension of world trade and social conditions improvement.

Changes in online trade in Ukraine are progressive and dynamic which confirms the significance of the research.

**Recent research and publications analysis.** The researches on the problems and development trends of electronic trade in Ukraine were held by many national and foreign authors, among them M. Awad (2002), A.M. Bereza and I.A. Kozak (2004),

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A.M. Grekhov (2008), D. Koziur (1997), M.V. Makarova (2002), S.V. Pirogova et al. (2003), V.L. Pleskach and T.G. Zatonachka (2007), A. Summer and G. Duncan (1999), V.V. Tsaryov and A.A. Kantarovich (2002) etc.

**The goal of the article** is to study the development trends of electronic trade in Ukraine. Within the applied direction of research, the emphasis is made on mental specificity of population in the Internet.

**Key research findings.** Almost half of residents in Europe make purchases via the Internet. According to the data of the research held by EUROSTAT, 43% of people, aged 16 to 74 years, made at least one purchase in 2013 through the Internet. This value in the USA is higher – 53% of consumers use online stores at least once a year. As for particular countries, shopping in the Internet is the most popular among Englishmen and Swedes (Devenuto, 2013; Barnier, 2013).

According to the statistical data by Forrester Research, almost 70% of Internet users perform it to save time; 63% – to find the best offer and 60% – find goods which could not be found elsewhere (Forrester Research World Online Population Forecast).

It is worth analyzing the Table 1 showing the online users on the planet in order to assess the perspective of Internet trade, to understand how many purchases are made in the world and where they are concentrated.

As it can be seen from Table 1, only 2.4 bln of users out of 7 bln people in the world are connected to the Internet, i.e. approximately 34.3% of the global population as of May, 2014. The Internet penetration is the highest in North America (79%), then Oceania (68%), Europe (63%) and Latin America (43%). The leader at the market of electronic trade by the size of online users is Europe (518 mln), taking into consideration electronic trade penetration that corresponds to 63%. The second place is occupied by North America – 274 mln, with electronic trade penetration of 79%.

The key factors for electronic trade expansion in the world are simplicity and cheapness of use, independence from borders and state taxes, availability, interactivity of online communication, detailed information on goods and services, possibility for immediate payment.

It is also worth paying attention to the turnovers of e-market in the world. The leader of electronic trade commodity circulation is the USA – 226 bln USD; China – 169 bln USD; Japan – 64 bln USD (Jitender, 2013).

As for Ukraine, the number of online users as of December 2013 was 6.9 mln, i.e. 39% of the total population in Ukraine, with electronic trade penetration – 38%, among them 8.5% of Ukrainians regularly purchase goods through the Internet (Eurostat statistics book, 2014; InMind, 2014).

Thus, according to the data by Ukrainian Internet Association (InAU), the volume of electronic trade in Ukraine in 2013 was 1.59 bln USD (InAU, 2014).

As it can be seen from Table 2, the volumes of Internet trade were increasing every year by 36% on average. The Internet trade penetration increased every year on average by 2%, the volume of electronic retail trade increased on average by 10%, and the annual average expenses of one Internet purchaser were increased every year on average by 12%. The main factors of mass use of electronic trade in Ukraine are low pricing policy, profitable postponement terms, delivery terms, warranty service.

Table 1. Online users of the planet, 2014

#	Indices	Countries									
		North America	Europe	Asia	Latin America	Africa	Middle East	Oceania	Worldwide		
1.	Population, mln	348,280,154	820,918,446	3,922,066,987	593,688,638	1,073,380,925	223,608,203	35,903,569	7,017,846,922		
2.	Internet users, mln	273,785,413	518,512,109	1,076,681,059	254,915,745	167,335,676	90,000,455	24,287,919	2,405,518,376		
3.	Internet penetration, %	79	63	27	43	16	40	68	34		

Source: Internet World Stats, 2014.

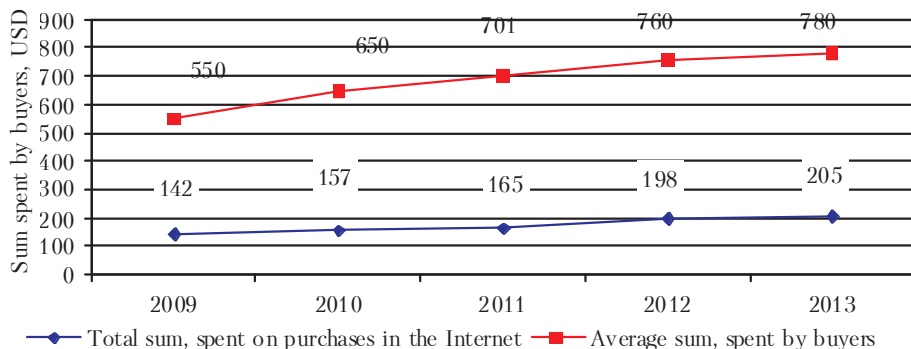
Table 2. Dynamics of electronic trade growth in Ukraine, 2007–2016

#	Indices	Actual data								Predicted data			
		2007	2008	2009	2010	2011	2012	2013	2014	2015	2016		
1.	Volumes of electronic trade in Ukraine, bln USD	0.40	0.60	0.55	0.73	1.10	1.59	2.37	3.24	4.44	5.65		
2.	Total increment, bln USD		0.2	-0.05	0.18	0.37	0.49	0.78	0.87	1.2	1.21		
3.	Growth rates, %		150	92	133	151	145	149	137	137	127		
4.	Increment rates, %		50	-8	33	51	45	49	37	37	27		
5.	Electronic trade penetration, %		0.6	0.7	1	1.1	1.6	2.3	2.9	3.8	4.5		
6.	Volumes of electronic trade in retailing, bln USD	63.2	85.2	56.9	66.8	84.7	99.5	105.5	111.8	118.5	125.6		
7.	Total increment, bln USD		22	-28.3	9.9	17.9	14.8	6	6.3	6.7	7.1		
8.	Growth rates, %		135	67	117	127	117	106	106	106	106		
9.	Increment rates, %		35	-33	17	27	17	6	6	6	6		
10.	Average annual expenses of one online purchaser, USD	405	450	550	650	701	760	780	790	1005	1095		
11.	Total increment, bln USD		45	100	100	51	59	20	10	21.5	90		
12.	Growth rates, %		1	1	1	1	1	1	1	1	1		
13.	Increment rates, %		11	22	18	8	8	3	1	27	9		

Source: Morgan Stanley Research, 2014; List of Countries by Internet Usage, 2014.

According to the data by Electronic Trade Association, in 2013 the volumes of sales in national Internet stores increased by 30–35% and in some cases – by 50%. According to the assessment by this organization, the total trade volume through the Internet in 2013 in Ukraine approached 2 bln EUR. According to the assessments by representatives of the household appliances retail chain, in 2014 the share of online sales of household appliances in Ukraine was about 10–12%. In 2013 this value was 15% (InAU, 2014).

Figure 1 below describes the trends of electronic trade in Ukraine: total sum, spent on purchases in the Internet; average sum, spent by buyers.



**Figure 1. Diagram of indices that characterize the purchasing power of consumers in the Internet in Ukraine, 2009–2013** (ToWave, 2013; Polonyk, 2013)

As we can see from Figure 1, every year the purchasing power of users was increasing during 2009–2013 in Ukraine. The total sum, spent on purchases in the Internet, increased by 15%. The average sum, spent by buyers increased by 44%. So, the number of online purchasers increased by 45%. The main growth factor is the trust of online users to services, quality of goods, and security of personal data.

The volumes of sales through electronic trade channels in Ukraine demonstrate positive dynamics. Figure 2 shows the data from the research by Morgan Stanley Research (2014).

As it can be seen from Figure 2, the rates of market share somehow decreased in 2009, and since 2010, when the economy started to revive from the crisis and the rate of Internet access among population grew, the significant jump is observed. The total share of electronic trade in offline trade is almost 2%. The factors for the increase of electronic trade market share are the minimum capital investments for the establishment of own online business and additional selling markets for already existing business.

The marketing research, held by the author, anticipated the non-repeated sampling of online users on the territory of Ukraine. This survey was conducted to study the preferences of online users, found advantages and disadvantages of online shopping, the reasons for the implementation of online purchases that product categories are in demand by potential customers, the selection criteria place of online shopping. This article presents the results: regional structure of Ukraine's population online, the relationship of the indicators of age structure and frequency of visitors online shopping, online users preferences, TOP-5 online stores in Ukraine. According to our calculations using the well-known formula, the sampling size of online users (with the

confidence of  $P = 0.954$ ,  $t = 2$ , the error limit of 5% and the share of feature under research  $y = 0.9$ ) is 144 persons:

$$n = \frac{16923758 \times 2^2 \times 0.9 \times (1 - 0.9)}{16923758 \times 0.05^2 + 2^2 \times 0.9 \times (1 - 0.9)} = 143.99 \approx 144. \quad (1)$$

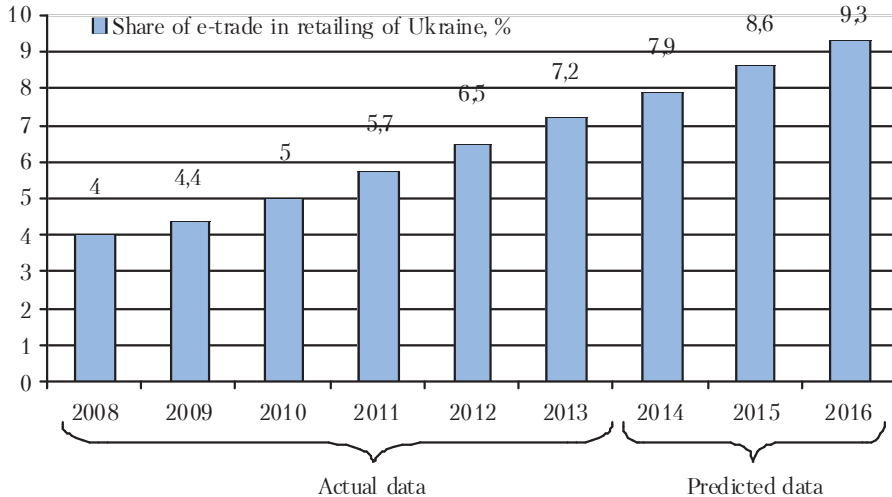


Figure 2. **Development dynamics of electronic retail trade in Ukraine** (Morgan Stanley Research, 2014)

The sampling was redistributed between males and females accordingly using the quota method.

Table 3. **Sampling population of online users in Ukraine**

Indices	Online population	Males	Females
Amount, 2013	16,923,758	9,646,542	7,277,216
Share of online users in total amount, %	100	57	43
Sampling population	144	82	62

Source: The marketing research, held by author.

As it can be seen from Table 3, Internet users in Ukraine are mainly males – 57%, and the female part of online users is 43%. This situation is explained by the fact that males are more business-involved and are active Internet users because of lack of their habit to minimize time and financial expenses.

We studied the regional structure of electronic audience distribution in Ukraine and share the opinion by O.Y. Kudina (2011), who distinguished the prevalence of mobile communications as one of the main factors for the development of electronic trade.

The leader in online users distribution is Kyiv. 51% of the country's e-market is concentrated in the capital and 49% – in the regions. Other specialists state that about 80% of sales volumes through Internet are concentrated in Kyiv (Figure 3).

The data testifies that the most part of online users is in Kyiv, as well as in such cities as Dnipropetrovsk, Odesa, Donetsk and Zaporizhzhia. Almost all of the abovementioned cities have the population of more than 1 mln residents. Besides, they are industrial or tourist centers with high level of economic activity. Electronic trade is actively developing in such cities as Lviv, Simferopol, Mykolayiv, Cherkasy and Vinnytsia.

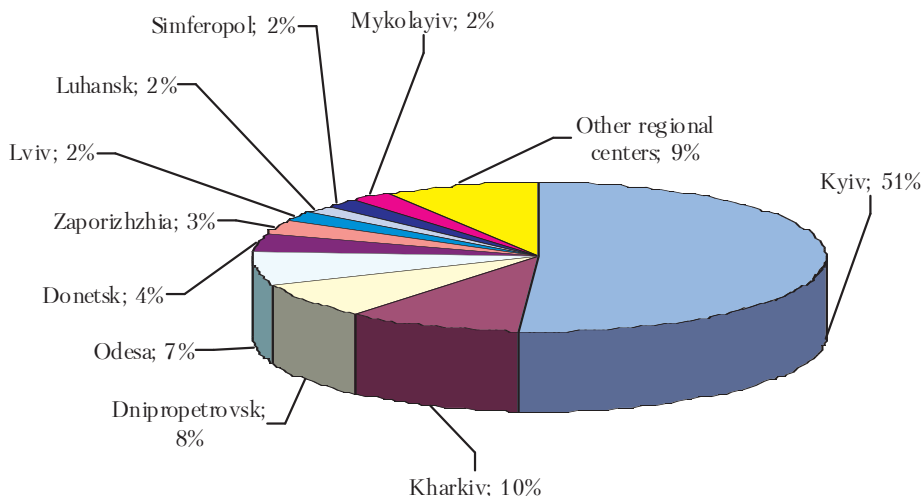


Figure 3. Regional structure of online users distribution in Ukraine, the marketing research, held by the author

The analysis on the number of online users in other regional centers proves that positive dynamics in the growth of online users is observed in such cities as Ivano-Frankivsk, Chernivtsi and Uzhgorod. This occurs due to the development of tourist industry that positively influences the economy in general. Lutsk, Ternopil, Rivne and Khmelnytskyi, despite the fact that they are located in the same region, do not show positive dynamics. The appearance of new trading platforms in online space is observed in the abovementioned cities but the current rates cannot be called high. The analysis also testifies that online business in Vinnytsia, Zhytomyr, Sumy, Cherkasy and Chernihiv is only at the stage of establishment. This can be explained by a small number of population, weak industries and undeveloped tourist infrastructure.

The age features of online users and the interval in online purchases are shown in Figure 4.

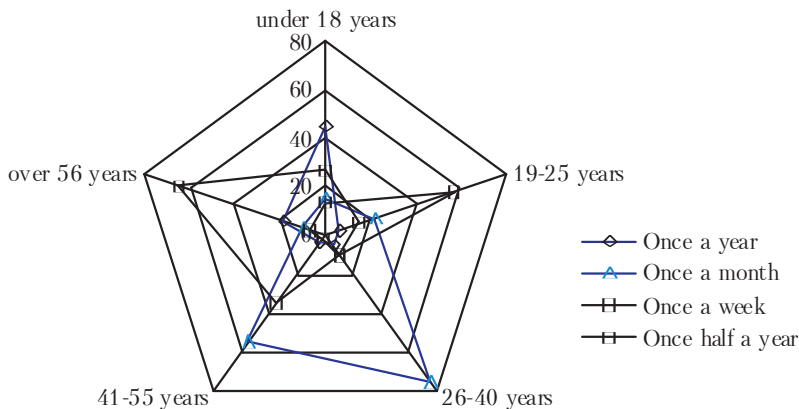


Figure 4. The interrelation of indices for age structure of online users and the frequency of shopping, the marketing research, held by the author

As it can be seen from Figure 4, the larger share belongs to online users aged 26–40 years, who make purchases once a month. This group of online users is an active workforce that is economically conscious and well educated, thus the choice of products is made after careful consideration and rationally, including the main factors of product choice: price, delivery, service, characteristics, and security.

Let's consider the structure for sales volumes by stores preferences (Figure 5).

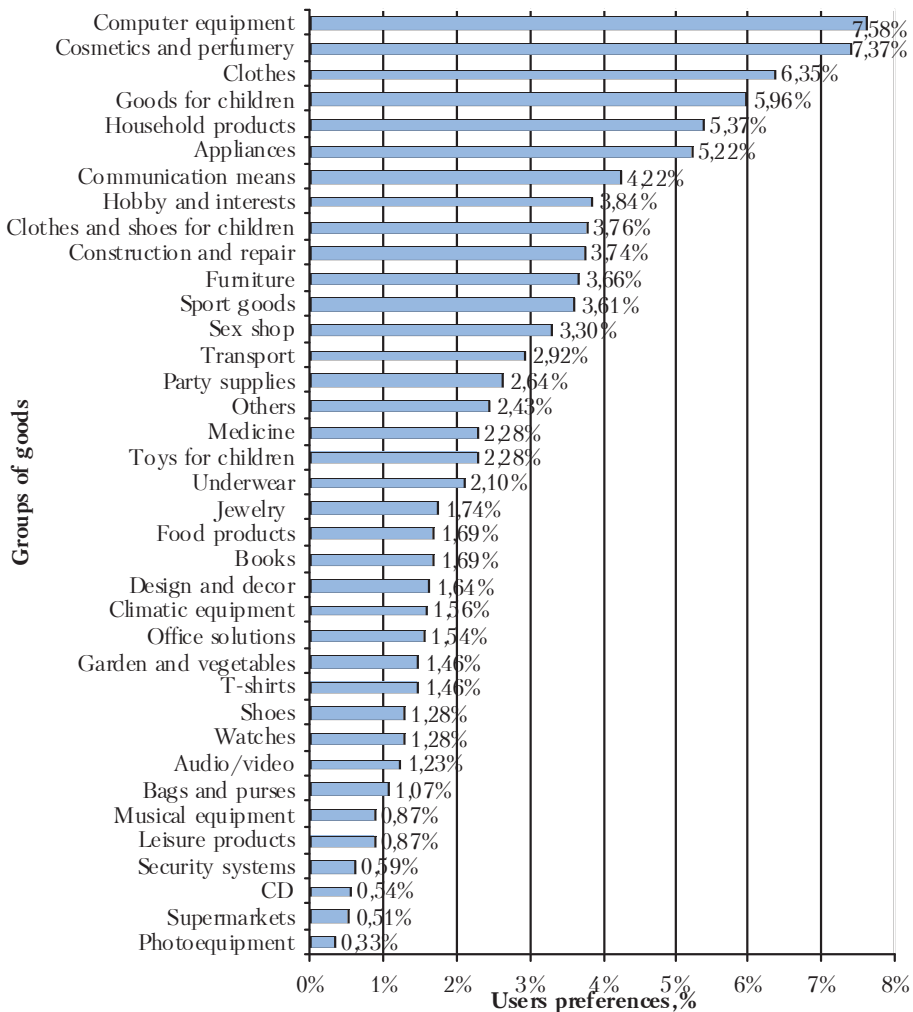


Figure 5. Diagram of online users preferences by groups of goods, the marketing research, held by the author

According to these data we can make the conclusions, which groups of goods are the most popular and are mostly bought in the Internet. This also means that competition here is the largest and the market entry threshold for new players is grown. Thus, the most popular goods in the Internet are computer equipment – 7.58%; cosmetics and perfumery – 7.37% and clothes – 6.35%. The main factor for popularity

of electronics technology among online users is the convenience of delivery, low pricing policy in relation to offline, available video presentation of products and the possibility to compare the characteristics of products online. Products that do not require any contact with purchaser are sold best of all.

TOP-5 online stores in Ukraine include such trading platforms as Rozetka.ua, Allo.ua, Fotos.ua, Mobilluck.com.ua, Fotomag.com.ua. All of them are online supermarkets, which offer products of different types.

The development trends of Ukrainian online sector are only at the start of the way, possessing considerable potential. During the recent 5 years the national market of online trade showed the significant growth despite economical fluctuations.

**Conclusions.** The above research on the development trends of electronic trade explored: the growth dynamics of electronic trade market, the purchasing power of online users, regional structure of online population distribution, preferences of online users, dynamics of relation between age structure of online users and frequency of shopping. Thus, we can make the conclusions that although Ukraine is the country with economics, being developed, but the rates of electronic trade growth are rather high. So, Ukrainian market demonstrates the readiness for cardinal changes and transformations. It is worth distinguishing the perspective direction in development of electronic trade "business-to-business", as emphasized by O.V. Krednets (2014).

We assume that in the nearest future electronic trade will reach to the same level of market share as offline trade although many factors have to precede it. The data, received by us, proves that electronic trade has the trends to global penetration and is the perspective direction for further research within the context of the abovementioned problems.

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