

IMPORTANCE OF ASSORTMENT FOR B2C ELECTRONIC COMMERCE IN SOME EU COUNTRIES

Nikola Knežo

University of Zagreb, Faculty of Economics and Business, Department of Trade

Trg J.F. Kennedy 6, 10 000 Zagreb, Croatia

Abstract

Assortment and pricing policies are key segments of trade policy of every commercial enterprise. Assortment of merchandise simply said, are the types of merchandise that retailers sell to customers. Dimensions of assortment are: width, depth and density. The assortment of merchandise is one of the possible criteria for the classification of retailers as a whole as well as classification of their business units. Assortment of merchandise can be in physical and digital form. One or another form of assortment determines retailers that can be classic (traditional) retailers or electronic (digital) retailers. In both cases, retailers can be a total (pure) traditional (classic) or total (pure) electronic (digital) retailers. Generally speaking, the majority of the commercial assortment as we know it is in the physical form. The paper attempts to answer the question whether the assortment of merchandise impacts online sales or Internet sale i.e. e-commerce? Are there any similarities or differences in the prevalence of various assortment of merchandise in the online sale of some EU member states?

Key words: assortment of merchandise, B2C online sales, European Union

1. INTRODUCTION

The majority of the commercial assortment as we know it is in the physical form. We can mention some examples of retail formats whose assortment of merchandise reaches up to 150,000 different products. An example of this is the Walmart Supercenter. Universal, superbly equipped department store offers customers up to 50 thousand different products. In both cases dominates physical, tangible assortment of merchandise.

The above mentioned does not go in favour of the complete (pure) electronic (digital) marketers. The limitation they have is their assortment of products in digital form. The question is: will it ever be possible to digitalize the physical (tangible) product and transfer it, in digital form, to the customer and then materialize it at the exit (make tangible)?

When and to what extent what is contained in the question comes to be realised, it will create the necessary conditions for the full (clean) electronic (digital) traders who will then in their assortment of goods have, other than pure digital products (books, music, movies), also originally tangible (physical) product. Modern technology provides solutions for the conversion of physical products to digital form and vice versa. The use of additive technology, simplified 3D printers, is just the beginning of that in the segment of consumer goods. This is a unique story where for the first time in human history, man produces and for that he does not need any form of mold. The molds in the most primitive manufacturing of earthenware were human hands. The subject of interest of this paper is the impact of assortment of merchandise on the B2C online sales in some countries of the European Union.

2. QUESTIONS THAT MAY BE RAISED

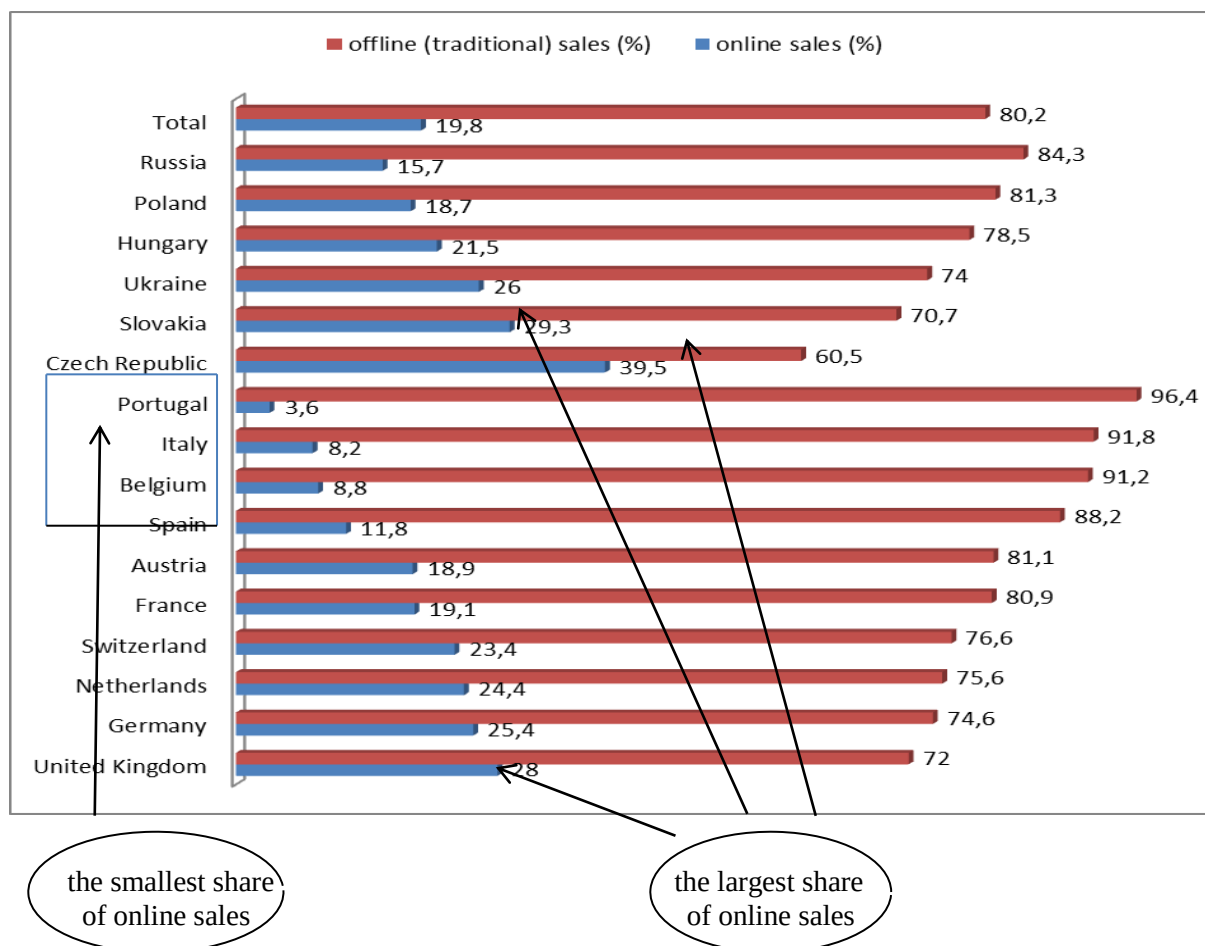
One of the questions that can be raised is whether the assortment of merchandise affects online sales or Internet sale i.e. e-commerce?

We are considerably more surrounded with and we meet significantly more physical (tangible) products. We have already said that this is a key constraint to the occurrence and the number of total (pure) electronic (digital) retailers. The dominance of the physical assortment as one of the three

dimensions (the other two being: performing business processes in digital form-ordering and payment) determines the existence of incomplete electronic (digital) or incomplete (classic) traditional retailers. The assortment of merchandise is in physical form, and everything else, or some parts are in the digital (electronic) form.

We will mention an example of technical goods, noting that the accessories are excluded as category. The research conducted by GfK for 2014 based on 16 countries of which 13 of them were members of the European Union (the other three are: Switzerland, Ukraine and Russia) determined that slightly less than 1/5 (19.8%) of mentioned assortment of merchandise is sold online, while 80.2% is sold offline or in traditional manner (classic mode). The importance of online sales significantly varied from country to country. The leading countries were the Czech Republic, Slovakia and the United Kingdom. Thus, the Czech Republic with 39% share of online sales in the total value of sales of technical consumer goods had 11 times higher share than the lowest one determined in Portugal (3.6%). The share ratios of online and offline sales of technical consumer goods in countries is visible in Graph 1.

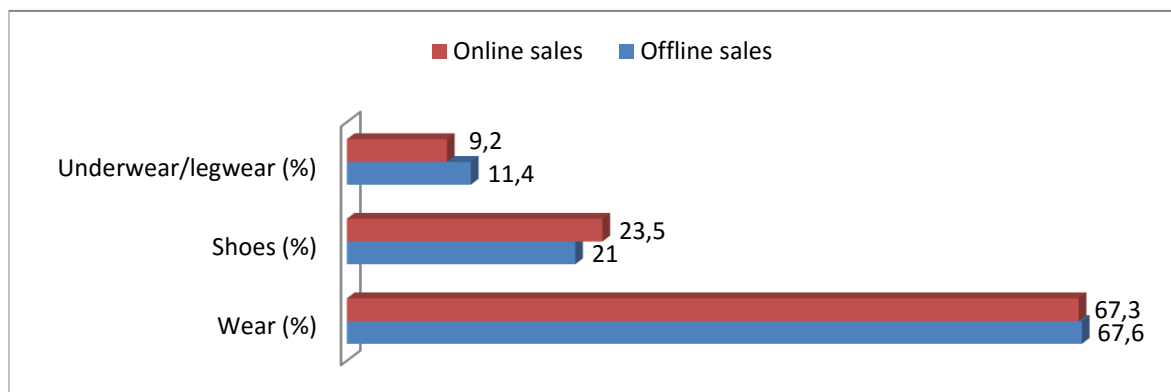
Graph 1. The share ratios of online and offline sales of technical consumer goods in some European Countries, 2014



Note: Made by the author according to the data contained in: Ecommerce Europe, European B2C E-commerce Report 2015, Brussels, <http://nrw.nl/wp-content/uploads/2015/07/European-b2c-e-commerce-report-2015.pdf> (viewed: January 30, 2016.)

With sales of popular fashion apparel and footwear, online and offline sales did not significantly differ. In both cases, slightly more than 67% or slightly higher proportion of traditional sales of clothing (0.3%) compared to the proportion of the sales using Internet sales. Footwear Internet sales, in the structure of sales of the popular fashion goods, was more represented than its share in the traditional sales. Other way around was when selling underwear and legware. See Graph 2.

Graph 2. The share ratios of online and offline sales of popular fashion goods in Europe in 2014



Note: Made by the author according to the data contained in: Ecommerce Europe, European B2C E-commerce Report 2015, Brussels, <http://nrw.nl/wp-content/uploads/2015/07/European-b2c-e-commerce-report-2015.pdf> (viewed: January 30, 2016.)

According to another source (PostNord: E-commerce in Europe in 2015 http://www.postnord.com/globalassets/global/english/document/publications/2015/en_e-commerce_in_europe_20150902.pdf, p.9, viewed on 25 January 2016) it was concluded that clothing and footwear are key segment of the interests to customers who buy online. Number of customers who purchased clothing and footwear online dominate in almost all countries in relation to the total number of online shoppers. This was a research that was conducted by interviewing more than 11,000 consumers age 15-79 in 12 countries. Countries included in the survey are: Belgium, Denmark, Finland, France, Germany, Italy, Netherlands, Norway, Poland, Spain, Sweden and the United Kingdom. In eight out of 12 of those countries more than a thousand consumers were surveyed by each country. The exceptions are the four Nordic countries (Denmark, Finland, Norway and Sweden), in which 600 consumers were surveyed by each country.

The understanding of e-commerce in terms of items sold was reduced, so e-commerce in this research was brought down to purchasing physical products over the Internet. Extensive approach to the understanding of e-commerce involves two important segments. One of it is buying services over the Internet and the other is downloading different content in digital form. An example of the first is purchasing the full service or a service segment related to travelling - buying tickets for different means of transport, buying accommodation services and purchasing tickets for various entertainment and recreation facilities. Part of the content of e-commerce is downloading products in digital form. These are: books, movies, music and a variety of applications. The significance of both segments of e-commerce is growing.

If purchasing of physical products over the Internet or by e-mail is considered to be e-commerce in the strict sense and the expansion to purchasing services and downloading products in digital form is considered to be e-commerce in a broader sense, it could lead to minor or more significant problems in the conceptual definition of e-commerce and e-business. Approach by which e-commerce is reduced to the purchase of physical products over the Internet or by electronic means, in order to avoid substantial confusion, it would be appropriate to treat as an intensive approach to e-commerce. We are talking about the need to focus e-commerce to the narrower content, in this case the purchase of

physical products over the Internet or electronically. Extensive approach to e-commerce involves the purchase of services and downloading different contents in digital form. Characteristics of extensiveness are: comprehensiveness and extensiveness, spreading in width not in depth, a greater emphasis on quantity rather than on quality.

The intensive approach to e-commerce, or its reduction to the purchase of physical products, confirms that in the survey covered European countries clothes and shoes, home electronics and books are bought most often. It should be recalled that the development of a form of sales as it is sale via catalog in classic form was stimulated by factors such as rail transportation and the development of postal communication. The above implies the existence of habits and experiences with buying through catalogs that are present for generations in families of the developed world. Earlier it was in the classical form, but in the modern life and business conditions it is in the digital form. Since these are physical products, quality of transportation industry is very important because it affects the cost of delivery in its part relating to the transportation costs. It can be concluded that the costs of transportation are increasing with the growing distance to which the products are transported and decreasing with the increased power and quality of the transportation industry. This is the reason for the investments in modern transport infrastructure.

The largest number of customers in each of the nine survey-covered markets (the Nordic region: four countries), said that they were buying clothes and shoes online in the previous year. Electronic appliances and electronic equipment and books were in the second and third position in the number of customers who bought online. Following products were classified in the category of electronic devices and equipment: desktop and portable computers, televisions, music systems, home theaters, cell phones, electronic accessories and household equipment and appliances based on electronics.

Thus, book purchasing based on the number of customers who purchased online, and were covered by the mentioned survey, occupied the second position in the following countries: the United Kingdom, Germany and France. Electronic appliances and electronic equipment was in second place in the Netherlands, Belgium, Spain, Italy, Poland and the countries of the Nordic region (Denmark, Finland, Norway and Sweden).

In the list of physical products that have been purchased online by the surveyed customers were also: beauty products, hair and skin care products, CDs, movies and DVDs, furniture, equipment for sports and recreation, toys, other articles intended for children, car accessories and food.

Table 1 contains the ranking of those physical products according to the number of surveyed customers in stated countries.

Table 1. Ranking of the assortment of products according to the number of surveyed customers who bought them online in survey covered countries

Country	Rank of products according to the number of customers who bought them online											
	a	b	c	d	e	f	g	h	i	j	k	l
United Kingdom	1	3	2	7	6	5	8	12	9	10	4	11
Germany	1	3	2	6	4	5	8	7	10	11	12	9
Nordic region	1	2	3	4	7	5	8	6	10	9	11	12
France	1	3	2	4	6	9	11	10	5	7	8	12
Netherlands	1	2	3	4	5	6	7	8	10	9	11	12
Belgium	1	2	3	4	5	6	9	8	11	10	7	12
Spain	1	2	3	4	9	10	11	4	5	6	7	8
Italy	2	1	3	4	7	8	12	9	10	5	11	6
Poland	1	2	3	4	8	11	7	9	10	6	12	5

Note:

1. Rank: 1 = The largest number of surveyed customers who bought one of these products or groups of products online; 12 = the lowest number of surveyed customers who bought one of these products or groups of products online.

2. Products: a = clothing/footwear; b = home electronics; c = books; d = cosmetics, haircare and skincare; e = CDs; f = films/DVD; g = home furnishings/furniture; h = sport and leisure articles; i = toys; j = children's articles; k = food and l = car accessories.

3. Made by the author according to the data contained in: PostNord: E-commerce in Europe 2015, p. 9, http://www.postnord.com/globalassets/global/english/document/publications/2015/en_e-commerce_in_europe_20150902.pdf, (accessed: January 30, 2016.)

The information contained in Table 1 indicates that surveyed customers were least buying automotive equipment and food products online. Online sales of automotive accessories was ranked last (twelfth) in four countries (the Nordic countries, France, Netherlands and Belgium), and in one market (the United Kingdom) second last (eleventh).

According to this ranking, customers were less interested in online sales of automotive equipment than online sale of food products. Number of customers who purchased food products online was in the last place in two survey-covered markets (Germany and Poland) taking twelfth position, but on three markets (the Nordic countries, the Netherlands and Italy) it was in the penultimate, eleventh position.

Lieber and Syverson (2010) are also noting much lower share of online sales of food and beverages in total sales compared to online sales in the electronic shopping and mail-order houses industry. Less than one third of one percent of sales at food and beverage stores is online in retail. On the other hand, 47 percent of all sales in the electronic shopping and mail-order houses industry were online sales.

Another question that can be raised is: can one expect changes in customers online purchases according to the assortment criteria? The answer would be: yes, one can. What is the basis for such response? First of all, the growing number of Internet users and entering the new generations into world of buying – the generations that were in contact with electronic world from the earliest age and who are very well acquainted with electronic technology.

One should note in Table 1, the example of two countries such as the United Kingdom and Germany in the column under (k) - the food or food products where there is a drastic difference visible. Number of customers who purchased food online in the United Kingdom took the fourth place (out of total number of survey-covered people), while in Germany this segment was on the last, twelfth place.

It is not possible to interpret the noted difference with the level of development and the level of purchasing power which would suggest that a higher level of GDP indicates technologically more contemporary way of purchasing. Please note that according to Eurostat data for 2014 Germany had a higher level of GDP per capita measured in purchasing power parity in relation to the United Kingdom. Achieved level was 124 for Germany and for the United Kingdom 109 compared to EU-28 (100) average.

Furthermore, one cannot explain the observed difference with the employment differences and the shortage of time as a resource. Online purchasing would create prerequisites for faster and more efficient shopping with the need to spend less time for the realization of purchase.

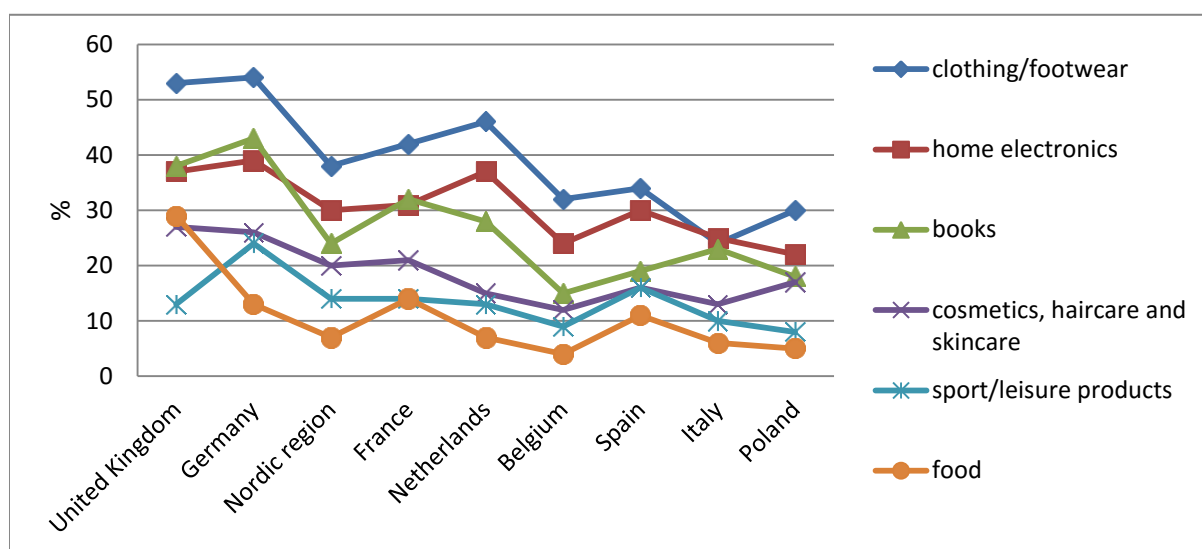
According to the survey-covered countries, the representation of customers who purchased online one of the product category in 2014 in the total population aged 15-79, is visible from the data contained in Table 2 and Graph 3.

Table 2. Share (%) of online shoppers who bought some of these products in the total population aged 15-79 in 2014

Country	Products					
	Clothing/footwear	Home electronics	Books	Cosmetics, haircare and skincare	Sport/leisure products	Food
United Kingdom	53	37	38	27	13	29
Germany	54	39	43	26	24	13
Nordic region	38	30	24	20	14	7
France	42	31	32	21	14	14
Netherlands	46	37	28	15	13	7
Belgium	32	24	15	12	9	4
Spain	34	30	19	16	16	11
Italy	24	25	23	13	10	6
Poland	30	22	18	17	8	5

Note: Made by the author according to the data contained in the same source as for Table 1, pp.10-11.

Graph 3. Share in % of online shoppers who have bought any of these products in the total population aged 15-79 years in 2014



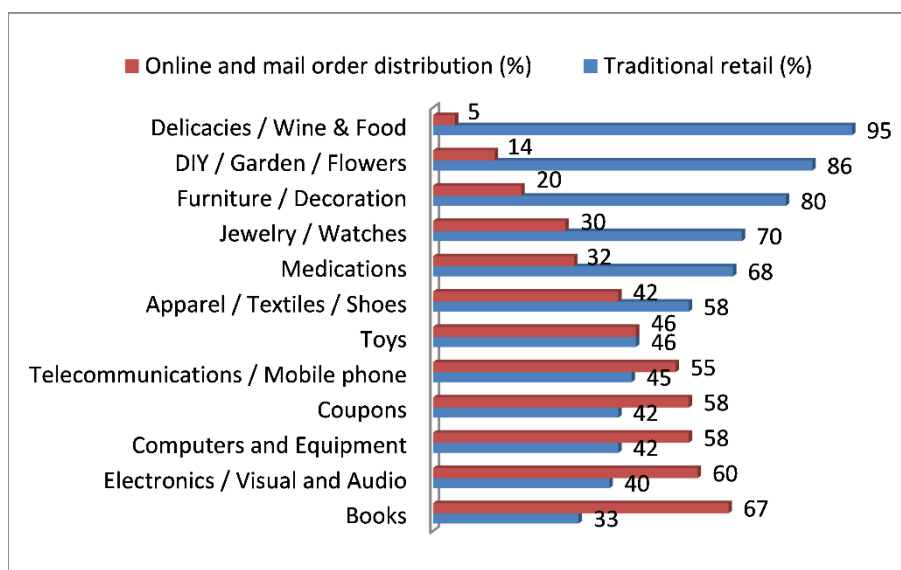
Note: Made by the author according to the data contained in the same source as for Table 1, pp.10-11.

Germany is the leading country in the realized value of sales in the European e-commerce. It is estimated that generates 25% of European e-commerce turnover. She is potentially the fastest-growing e-commerce market in Western Europe.

Similar to previous, the most important assortment categories for B2C e-commerce are: books, electronics/visual, audio, computers and equipment, coupons and telecommunications/mobile phone.

The least represented assortments are delicacies, wine and food. For details, see Graph 4.

Graph 4. Online and offline b2c commerce in some segments of the assortment



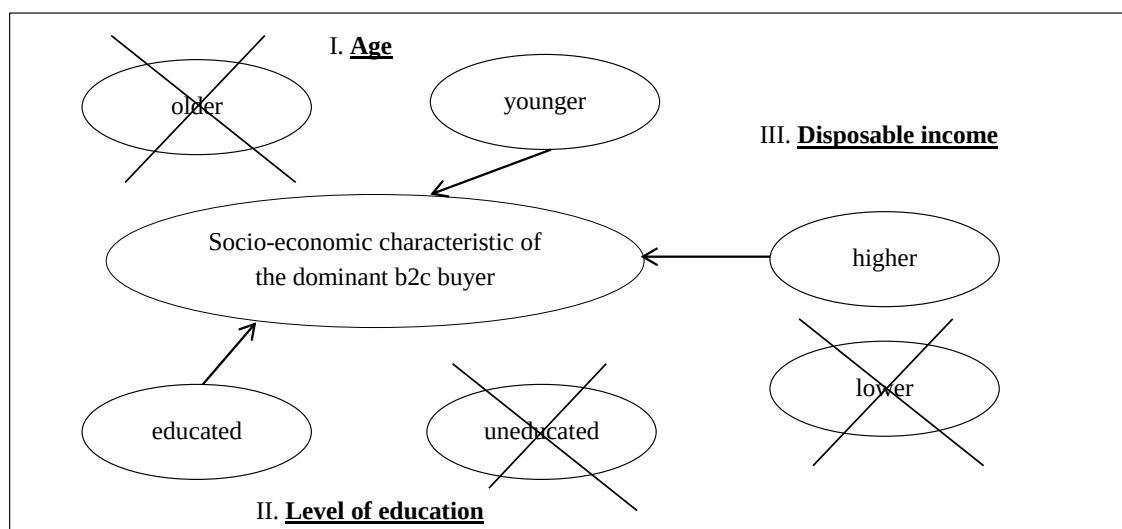
Note: Made by the author according to the data contained in: The E-commerce market in Germany http://www.gtai.de/GTAI/Content/EN/Invest/_SharedDocs/Downloads/GTAI/Fact-sheets/Business-services-ict/fact-sheet-e-commerce-en.pdf?v=5(viewed March 15, 2016)

According to Laudon and Traver (2015) the selection of goods for purchase online continues to increase for luxury goods, such as jewelry, gourmet groceries, furniture, and wine, as customer trust and experience is increasing.

Another question that can be asked is who are the dominant buyers in the B2C e-commerce? Key features of the socio-economic profile of the dominant buyer in the B2C e-commerce are: young, educated and higher purchasing power. See Graph 5.

Key features of the socio-economic profile of the dominant buyer in the B2C e-commerce are: young,

Graph 5. Dominant socio-economic characteristics of the b2c buyer



Note: Made by the author.

3. INSTEAD OF CONCLUSION

Most of the assortment of merchandise is in physical form - at the level of producing and selling technologies which are currently dominant. The dominance of the assortment of merchandise in physical form is a key constraint in the development of complete (clean) electronic (digital) trade in the segment of consumer goods, or mixed commercial portfolio. Indications of possible changes that will happen in the coming time are given thanks to the development of additive technologies or simplified – the introduction of 3D printers in production and daily use. They are an indication that it is becoming possible to accomplish previously unimaginable idea of digital transfer of products that are exiting in the digital form via 3D printers. Digital transfer of the products in the segment of retail trade is to be understood as the ability of the customer to access the program and the catalog of products offered and the possibility of printing them in 3D form in a specialized and for this purpose equipped place or anywhere else (e.g. in the buyer's apartment) where the necessary material and technical conditions for such a thing are created.

The conditions for faster development of complete (clean) digital commerce for consumer goods are created to the extent to which the above mentioned becomes wider and widely available. A series of questions appear such as: what does the customer buy, does he buy a product or the right to access the program that enables printing of the products, who is a producer and what is his story, what is with the suppliers and what is their role in the changed technical-technological conditions, what about the price of the product, its structure and what the customer pays, to which extent are organized society ready to accept the challenge that drastically changes all the known relationships between the individual links in the supply chain and the chain as a whole.

Detailed analyzed example of electronic sales of technical consumer goods in the case of sixteen countries, 2014 situation, showed that there was a drastic difference of its share in the total sales of technical consumer goods with the 11 times difference and an average share at the level of all countries of 19,8%.

Another analyzed example of e-commerce concerning the purchase of physical products over the Internet or electronically showed that in the nine survey-covered markets with a total of 12 countries the first three places, with minor, insignificant, differences, took purchasing of clothing and footwear, electronic household devices and electronic equipment and books. The customers were buying food and automotive equipment the least, and these segments of natural products assortment took second to last and last position. The share of online shoppers who were buying food in relation to total number of online shoppers who were buying some other product categories in the total population aged 15-79, in seven of the nine markets, was the smallest and ranged from 5 to 14%. Exceptions are the UK market where the share of online shoppers in the total population aged 15-79 reached 29% in 2014. This is 7.3 times more than in Belgium or 5.8 times more than in Poland. There are significant differences between the proportion of customers who were buying food online in the United Kingdom and Germany market (2.2: 1) in the total number of customers, which cannot be explained by the achieved level of development, measured by GDP per capita or differences in the level of employment. The explanation of this difference might be found in the previously created culture of remote purchasing (via the classic catalog) and habits that were created in this way. Or the explanation lies somewhere else?

The upper age limit for the survey was 79 years in 2014, suggesting that part of the surveyed population was born back in 1935. We remind you that then, and in many upcoming years, people were growing up and living without any contact with the electronic technology used for buying. They were 47 years old when in January 1982, Commodore 64 appeared in US stores, and when 17 million units were sold. If we move the limit to those born in 1942, then they were 40 years old in the time of the appearance of Commodore. Available experience confirms the existence of the burden of acquired habit, in this example, purchasing in the classical (traditional) way. It confirms the saying that the habit is one problem and stopping the habit the second one - or modified - it is difficult to replace a habit by acquiring new habits i.e. purchasing online in the circumstances where buyers were not familiar with the functioning of electronic equipment which is material and technical preconditions for e-commerce and e-shopping.

A continuous growth of online customers is expected due to decreasing share of the previously mentioned age population in total population and a growing share of those who are living surrounded with everything electronical and also using the advantages of online shopping.

REFERENCES

Ecommerce Europe 2015 European B2C E-commerce Report 2015, Brussels, viewed 30 January 2016, <<http://nrw.nl/wp-content/uploads/2015/07/European-b2c-e-commerce-report-2015.pdf>>

Laudon, KC & Traver, CG 2015 *E-commerce 2015-business, technology, society*, 11th edn, Pearson, New York

Lieber, E & Syverson, C 2010 'Online vs. Offline Competition', *Prepared for the Oxford Handbook of the Digital Economy*, viewed 5 February 2016,
<http://www3.nd.edu/~elieber/research/online_offline.pdf >

PostNord 2015 E-commerce in Europe 2015, p.9, viewed 25 January 2016,
<http://www.postnord.com/globalassets/global/english/document/publications/2015/en_e-commerce_in_europe_20150902.pdf>

The E-Commerce Market in Germany, Germany Trade & Invest, Issue 2015/2016; viewed 15 March 2016, <http://www.gtai.de/GTAI/Content/EN/Invest/_SharedDocs/Downloads/GTAI/Fact-sheets/Business-services-ict/fact-sheet-e-commerce-en.pdf?v=5>