E-Commerce by Individuals - A Statistical Analisys of Evolutions of Internet Purchases by Individuals in Some Former Communist States in 2007 - 2012 Period

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Abstract–The emergence and development of electronic commerce as an important form of commerce today, was due both to the development of IT&C and to consumer behavior changes. In most former communist countries transition to a market economy and the need for performing the process of European integration led to a more rapid development of trade and implicitly of E-commerce. At the same time, the way it was on using of electronic computers in the communist period, the policies adopted and applied in the former communist countries after 1990 had and have influences on consumer behavior. Based on these observations, this paper presents aspects of the development of E-commerce, especially the Internet purchases by individuals in Romania and seven other former communist countries.

Keywords: Romania, former communist states, Information society, E-commerce, individuals, Internet purchases.

I. INTRODUCTION

Trade has emerged from ancient times and developed with the development of human society starting, from barter and having, over time, a variety of forms, to E-commerce of today "the commerce represents a sector with a highly complexity, structured on multiple internal areas. According to the concept of sustainable development of society, commerce has a strategic importance for the development of balanced and sustainable economic and social systems in any country “(Patriche, D. 2007, p.19).

E-commerce is actually a service offered to both individuals and the economic operators by IT @ C. Information technology and awareness of its use can no longer be perceived today as a result, but as a prerequisite for economic growth and development of integration and globalization. The globalization of production, trade liberalization led to the development of financial and information flows that facilitated economic integration homogenized the consumption needs of individuals (Maniu, L.C. et al, 2013).

As in other sectors, from the former communist countries "endless transition to market economy, triggered by the political events in late 1989 meant an accumulation of changes, including the transition from a predominantly state ownership structure to a composite structure, to an economic mechanism based on free market mechanisms, the transition from dictatorship to democracy " (Hapenciuc C.V. 2008, p.43). On the other hand, the economic crisis started in 2009 has still on the economies of the EU, and not only, a significant impact. Its effects "have resulted in a unprecedented decline in cross-border transactions carried out both at intra-EU and extra-EU, in goods and services and investment flows also" (Ghibuțiu A., Oehler-Șincăi I.M. 2010, p. 7).

The development of E-commerce did not involve only the development of communication technologies but also changes in consumer thinking of attending conscious or subconscious of the phases of the buying process: the emergence of unmet needs, searching for information and identification of alternatives, mental evaluation of alternatives, the resultant evaluation and post-purchase evaluation (Cătoiu I. 2003).

The way has been on using of electronic computers in the communist period, the policies adopted and applied in the former communist countries after 1990, and how they have been used to purchase goods and services by individuals had and still has influence on consumer behavior on new purchases methods and techniques based on the IT@C. Generally, in most areas, efforts are made to achieve convergence in the EU. “In fact, a higher degree of real convergence represents the substance of successful integration in the European model” (Angelescu C, et al, 2009, p. 59).

Based on these observations, in this article we focused on the analysis of Internet purchase by individuals in the last year (IPIY) and on the Internet purchases by the individual in the last three month (IPI3M), both in the total individuals and by age groups in Romania and seven other former communist countries.

The primary data used were taken from EUROSTAT databases, respectively dataset = isoc_ec_i,ibuy, data which underlying the graphs and the figures presented in the paper. In our analysis ware used both statistic methods (Tomescu-Dumitrescu C and Bălăcecu A 2008), and econometric models, (Gogonea R.M. and Zaharia M 2008). As software support were used EViews and Excel, (Oprea C. and Zaharia M 2011).
II. THE EVOLUTION OF THE PROPORTION OF INTERNET PURCHASES BY INDIVIDUAL IN EU, ROMANIA AND OTHER FORMER COMMUNIST STATES IN LAST SIX YEARS

While starting from similar values for percentage of Internet purchases by Individuals, the developing communications on the one hand, and the proximity and affinity towards the more developed European countries, on the other hand, have influenced and influence significant the style of life and thus consumer behavior.

The evolutions of percentages of Internet purchases by Individuals in Romania, of two countries that belonged Yugoslavia (Croatia and Slovenia), the average EU (28 country) and also, of Bulgaria, the Czech Republic, Hungary, Poland, Hungary and Slovakia are presented in Figure 1. As you can see the percentages of Internet purchases by Individuals in last year (IPIY) of the countries analyzed in 2007 ranged from a maximum of 17% in the Czech Republic and a minimum of 3% in Bulgaria and Romania. The gap between them and the average UE28 was significantly (13 percentage points in the case of Czech Republic and 27 percentage points for Romania and Bulgaria).

Beyond 2007, the last six years, IPIY developments in these countries are different. In this period the EU average of the IPIY indicator increased by 14 percentage points in Croatia, Czech Republic, Slovakia and Slovenia, the increase was above the EU average, in Hungary and Poland the IPIY indicator evolved parallel to the EU average, while in Bulgaria and Romania the increases of IPIY was well below the EU average.

As can be seen from Figure 1, the most significant development is recorded by Slovakia. From a value of IPIY for 16% recorded in 2007, in 2012, IPIY reach to 45%, a huge increase of 29 percentage points (double the EU average). This evolution has allowed Slovakia to depart from the values of IPIY recorded in 2007 in Czech Republic, Slovenia and Poland, exceeding the EU average by one percentage point and reaching only 3 percentage points compared to the value of IPIY, recorded in 2012, in countries like Austria.

In the analyzed period, in terms of the indicator IPIY, Slovenia, Czech Republic and Poland have developed relatively similar. The hierarchy, in this group of countries, has changed slightly. If in 2007 on the first place was Czech Republic, due the IPIY faster evolution in Slovenia (18 percentage points), it surpasses the Czech Republic, where the IPIY increased by only 15 percentage points.

A good evolution has registered and Croatia. Compared to 2007, when IPIY was quite small (7%), 4 percentage points from the minimum recorded in Bulgaria and Romania, due to an increase of 16% in 2012 reach 23%, only 2 percentage points from Hungary. Point out the fact that in the period 2011 -2012, the value of IPIY in Croatia increased by 6 percentage points, at least double compared to the values of IPIY registered in other countries except Slovenia in which IPIY increased by 8 percentage points.

On the last places in 2007, with a huge gap compared to the EU average of values of IPIY, were Romania and Bulgaria. However, unlike Bulgaria, which, in the analyzed period, the values of IPIY no setbacks, in Romania, the evolution of IPIY was oscillating, with increases by one or two percentage points in 2008, 2010 and 2011, and with decreases by 2 percentage points in 2009 and one percentage point in 2012. These developments led, in 2012, to a lag of Romania compared to Bulgaria by 4 percentage points and to the increase the gap with the EU average of the values of IPIY, from 27 percentage points in 2007 to 39 percentage points in 2012.

The last place that Romania is in the EU, on the use of the Internet by individuals for the purchase of goods and services should give for thought primarily to those responsible for the education of individuals to use IT@C, to know that facilities are offered, and, not least, to develop necessary infrastructure.

The above analysis refers to all individuals. To refine the analysis and to highlight how individuals’ age influences the option of using the Internet for purchases of goods and services was chosen population between 16 and 54 years, divided into four age groups. Distribution of the percentages of Internet purchases by individual in the last years, in the four age groups, in analyzed countries, in 2007 are shown in Figure 2.

As can be seen, the distributions are different both in terms of amplitude, and of age group, in which the values of IPIY are maxim. In six of the eight countries analyzed in 2007, the age group in that the value of IPIY is maxim is 25-34 years old, with values ranging from 31% to 5% in Slovenia and Bulgaria. In Poland, the IPIY for age groups 16-24 and 25-34 years old were equal (30%). In Romania the maximum value of IPIY (5%) was recorded in the group 16-24 years old.
In terms of the amplitude, for the age group 16-24 years the value of the maximum IPIY is registered in Poland (30%), followed by the group consisting of Slovenia (25%), Czech Republic (23%) and Slovakia (22%). For the age group 25-34 years maximum IPIY was owned by Slovenia (31%) and Poland (30%), followed by the Czech Republic (25%), Slovakia (24%) and Hungary (29%). In the age groups 35-44 years and 45-54 years hierarchies are changes, in the first two places are the Czech Republic, with values of IPIY of 22% respectively 14%, followed by Slovakia with values of IPIY 20% and 13%, and Slovenia (17% respectively 13%). In last place, with the lowest values of IPIY from EU are alternatively Romania and Bulgaria.

In terms of the gap between values of IPIY, by age groups recorded in the analyzed countries in 2007, and the mean values of IPIY in EU, in the same year, the gap ranges from a minimum of 9 percentage points in Poland, to age group of 16 to 23 years, and a maximum of 39 percentage points in Romania, to age group 25-34 years. The values of IPIY, closest to the EU average (the smallest gaps), by age groups are recorded to the age group 16 to 24 years in Poland (9 percentage points), to the age group 25-34 years in Slovenia (12 percentage points), to the age groups 35-44 years and 45-54 years in the Czech Republic (15 respectively 14 percentage points).

Period 2007 - 2012 has brought both value changes and structural changes in the distribution of percentages of Internet purchases by individuals in last years, by age group. The development of IT@C and the mutations occurred in consumer behavior, which occurred led, in six of the eight countries surveyed, to the reducing disparities between the recorded values of IPIY by age groups and the mean of IPIY at EU level in 2012, and even its overcoming (Figure 3). On the other hand, for Bulgaria and Romania, the gap continued to increase. The biggest increase of the value of IPIY was recorded in Slovakia.

In, 2012 the value of IPIY at age group 16-24 years exceeded not only the EU average by 10 percentage points, but also the value of IPIY in countries like Austria by 5 percentage points, approaching the highest values of IPIY recorded in the EU to this group age. Noteworthy is that the values of IPIY to the age groups 25-34 years and 35-44 years also above the EU average. Also, a significant increase was recorded in Slovenia, where the value of IPIY, in the age group 16-25 years, exceeded the EU average by 9 percentage points.

The impact and the receptivity of young people, in most countries considered, to IT@C facilities have led, in age groups between 16 and 44 years, to the increases of IPIY in most countries so that it crosses the values of IPIY registered in EU. Thus in age group 16-24 years, compared to an average increase of 15 percentage points in the EU, Slovakia, Slovenia and Croatia have values of more than twice as large. Significant increases of IPIY values were also recorded in the Czech Republic (21 percentage points) and Poland (19 percentage points). Under the increase of IPIY at EU level are Hungary (13 percentage points), Bulgaria (10 percentage points) and Romania (4 percentage points).

The age group 25-34 years, compared to the average increase of IPIY at EU level by 18 percentage points, except Slovakia, which at this age group, recorded more than twice the increase recorded at EU level, the jumps is less spectacular. Significant increases were recorded in Croatia (30 percentage points), Czech Republic (28 percentage points), Poland (25 percentage points) and Slovenia (23 percentage points). Below the EU average have remained only Bulgaria and, on the last place, Romania.

At the age group 35-44 years, the increase of average value of IPIY at EU level was 17 percentage points. At this age group, the situation is similar to that in the age group 25-34 years old. Apart from Slovakia, where the increase in value of IPIY was 36 percentage points, significant increases were registered in Poland (26 percentage points), Slovenia (26 percentage points) and Hungary (22 percentage points).

Finally, in the age group 45-54 years, the mean value of
IPIY was 16 percentage points. Values greater than this average were recorded only in Slovakia (26 percentage points) and Hungary (18 percentage points).

An important conclusion that emerges here is that, in recent years, the Internet purchases by individual, from former communist states are close to the EU average and tends to overcome. This process of reducing disparities is more intense in new generations and age groups under 45 years. There are also countries like Bulgaria and Romania where the gap increases instead of decreasing, fact which should for thought to governments and those responsible in these countries.


As follows from the far, Romania is in last the place in EU to Internet purchases by individual, both in the total individuals and in age groups. The situation is even more alarming, the gaps as both from the EU average and other former communist countries, is growing. Also remarked is the fact that these gaps increase even with regard to Bulgaria, with which in 2007 and 2008 shared last place in the EU, regarding the values of IPIY. Based on these observations, this chapter stops on evolution of percentages of Internet purchases by Individuals by age group, in the last three month (IPI3M) and in the last year (IPIY), in Romania.

The evolution of individuals by age group from Romania who have been buying on the Internet in the last three months is shown in figure 4. As can be observed evolution is oscillatory with peaks in 2008 and 2011 and a minimum in the period 2008-2009.

This fluctuation characterizes age groups between 16 and 34 years. Age group between 45 and 54 years has maximum values of IPI3M in 2008 and 2012. Group age 55 to 64 years has values different from zero in 2008 and 2010 - 2012. The percentages of individuals aged 65 years and over who make purchases on the Internet are insignificant.

Through the analysis of IPI3M result that, the largest share of individuals who have made an Internet purchase in the last 3 months, belong to the age group 25-34 years followed by the age group 16-24 years. This is due to much higher proportion of young people which uses IT@C in comparison with other age groups.

On the other hand, we are witnessing to a growing interest of age groups of 35-44 years, respectively, 45-54 years, for carrying out e-commerce operations. This can be seen in Figure 5 where is presented the evolution of the share of individuals who have made purchases on the Internet in the last year.

Thus, for the age group 35-44 years, the value of IPIY has increased from1% in 2006 to 5% in 2011 and 2012. Also, for the age group 45-54 years IPIY value in 2012 doubled compared to the value recorded in 2007. Although the increases of IPIY are relatively small in relation to registered by other age groups, they are a relatively positive sign, considering that they are twice the values of IPI3M in those periods, the more so because, once discovered the possibility of purchase by an individual, the benefits that it offers, is expected to be more widely used.
The increases in the percentage of Internet purchases by individuals are, however, so small that places Romania in last place in the EU. As was already noted above, for example, if compared to the average EU in 2007, the gap between the values recorded 26 percentage points in the age group 45-54 years and 39 percentage points in the age group 25-34, in 2012 they amounted to 52 percentage points in the age group 25-34 years. The gaps are enormous and difficult to overcome.

IV. A PARALLEL EVOLUTION OF THE PROPORTIONS OF INDIVIDUALS FROM ROMANIA AND BULGARIA, BY AGE GROUP, WHO MADE INTERNET PURCHASES

Given that up to a certain point, the levels of development of Romania and Bulgaria are fairly close, and that in 2007 they were in last place in the EU in proportion to Internet purchases by individuals in the last three months and in the last year also, it is presented, briefly, a comparison of values of IPIY evolutions recorded in Romania and Bulgaria in the period 2007-2012 for the individuals by 16-54 years old.

As can be seen from Figure 6 in 2007, the two countries started from IPIY values approximately equal (we consider that, 1 percentage point difference, is insignificant). In 2008, the values of the percentages of individuals who use the Internet to purchase goods and services were still comparable (the differences being less than 1 percentage point). But since 2009 changes occur significant. While in Bulgaria, in 2009, there were increases of IPIY values between 4 percentage points in the age groups 25-34 and 35-44 years and 1 percentage point in the age group 16 to 24 years in Romania, with except the age group 35-44 years witnessing significant decreases of IPIY values, whose value, at the age group 25-34 years, fall below half (from 7% to 3%). Years 2010 and 2011 bring increases in the levels of IPIY in all age groups examined, both in Romania and Bulgaria. At the age groups 16-24 years and 25-34 years, increases in the IPIY in Romania were higher than in Bulgaria, by 1 percentage point in the age group 16-24 years (3 percentage points in Romania compared to 2 percentage points in Bulgaria) and 2 percentage points in the age group 25-34 years (4 percentage points in Romania to 2 percentage points in Bulgaria).

Year 2012 brings stagnation and even a decrease in the IPIY's 25-34 age group. On the other hand, significant increases are recorded in Bulgaria's IPIY values between 5 percentage points in the age group 25-34 years 3 percentage points for age groups 16-24 years and 35-44 years and an increase of 2 percentage points in the age group 45-54 years.

The consequence of these developments is a distancing of IPIY values recorded in Bulgaria compared to those recorded in Romania. The differences are significant in the age group 25-34 years the value of IPIY being twice that registered in Romania and in the age group 35-44 years being 2.6 times higher. The percentage of individuals who have made Internet purchases of goods and services besides the fact that is very small compared to the EU average in 2012 is even half compared to Bulgaria.

V. CONCLUSION

The way in which trade was organized, the place of consumers in communist philosophy and the attitude of the communist authorities towards electronic computers use, has had more influence on the using the Internet by individuals for purchasing goods and services. Disaggregating of communist bloc, the development and the liberalization of access of all individuals to use IT@C in daily life, the development and the enlargement, which this year reached 28 member states, contributed to increasing interest in using the Internet and to make Internet purchases of goods and services.

In most former communist countries, the percentages of Internet purchases by individuals tend to meet, and exceed, the EU averages. The most significant increases were recorded in age groups 16-24 years and 25-34 years, groups where individuals have lived in the era of computer and Internet. Skills acquired in childhood and the facilities offered by this way of purchases, made as the percentage of those using the Internet for this purpose, to overcome, in some of former communist countries analyzed, such as Poland and the Czech Republic, values above 50% and even values well above the EU average such as Slovakia (64%) and Slovenia (63%).

Contrary to this trend, Bulgaria and Romania continue to move away by the IPIY values registered in the EU, highlighting the gaps. In terms of Internet use by individuals for the purchase of goods and services, Romania ranks the last place. This position attracts attention especially since in 2012 the percentage values of Internet purchases by individuals in the last year, recorded in Romania, is in most age groups, even half of the values recorded in Bulgaria.

It is possible that such low values of Internet purchases by individuals recorded in Romania and Bulgaria to be, among others, a consequence of extent which has the black market and the tax evasion on the economies of these countries. This fact should for thought, primarily, to those responsible for the education of individuals for the use of IT@C, to knowledge facilities offered to them, to develop the
necessary infrastructure and, not least, to create a framework to encourage the real economy.

REFERENCES


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