

## Conference Paper

# E-shopping Across EU – Why Some Individuals Refuse to Adopt It?

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## Abstract

Despite many advantages of e-commerce for both firms and buyers, it is still not equally adopted by customers in all European Union countries. According to Digital Scoreboard in countries such as United Kingdom and Denmark, nearly 90% of Internet users shop online. On the other hand, in Romania and Bulgaria, not even one-third of the Internet users buy goods and services online. Diffusion of e-shopping clearly has different pace across EU. In this article, we focus on individuals who refuse to purchase over Internet and aim to explore reasons for their behavior. To do so, we rely on Community Statistics on Information Society (CSIS) microdata for the year 2015. Individuals who report ordering and buying over the Internet more than one year ago and those who never engaged in online shopping were asked about reasons for not buying online. Potential reasons include lack of skills, privacy and security concerns, delivery concerns and problems, not having payment cards as well as habit, loyalty and preference of shopping in stores. The focus of this article is on comparison of reasons for not shopping online of individuals in EU countries that lead in adoption of e-shopping with laggard countries. We first analyze the prevalence of reasons for not buying online and compare countries in that respect. Among individuals who did not adopt e-shopping, there are those who have tried it at one point in time and did not continue to use it frequently and those who actually never engaged in buying over Internet. Both have certain reasons and constraints that prevent them from adopting this form of shopping. The analysis is followed by identification of reasons that significantly affect probability of trying online shopping, if not adopting it fully. It can be assumed that gaining true experience might contribute to increase in adoption of e-shopping among individuals. This is even more important for countries that still lag behind not just in buying online but in overall digital performance.

**Keywords:** e-shopping, adoption, customers, European Union

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## 1. Introduction

Internet and ICT have revolutionized many aspects of both business activities and personal lives in last decades. Among many opportunities that Internet offers, it enabled firms to reach their potential customers and sell their products and services worldwide. Although in general e-shopping is in upward trend, in some areas this distribution channel is barely adopted by Internet users. The differences in adoption of e-shopping among customers in European Union countries are highly pronounced.

This situation is to some extent related to the level of Internet and ICT penetration that varies across countries in EU. Billon, Lera-Lopez and Marco [4] identified digital divide between southern and northern as well as western and eastern regions in Europe. Farag et al. [14] explain spatial distribution of e-shopping with respect to Internet availability in particular area. Their findings show that people in area with high Internet penetration (i.e., urban area in their case) are more likely to buy online, at the same time people in areas where traditional shops are not available shop online more often. cursory overview on Internet use and e-shopping across EU countries shows more e-shoppers in well digitalized countries. However, availability of Internet or quality of connection and/or technology is not the only reason for not using e-shopping. Dekimpe, Parker and Sarvary [12] identified income per capita as a factor that positively affects diffusion of innovation on country level. Rich countries with high concentration of population are leaders in innovation diffusion [11].

Technology acceptance model [8, 9] provides framework for understanding adoption of information systems by individuals. The model incorporates system design features (external stimulus), perceived usefulness, perceived ease of use (cognitive response), attitude toward using (affective response) and actual usage behavior (behavioral response). According to Davis [8], effects of system design features on use are mediated by attitudes as well as perceived usefulness and ease of use. His results also show that perceived usefulness is more important for determining actual behavior (that is usage of information system) than perceived ease of use. Results of earlier research [9, 10] are in line with cited finding. His findings also show that perceived usefulness is more important in determining usage behavior than perceived ease of use. According to extended technology acceptance model [28] technology acceptance is influenced by social influence processes and cognitive instrumental processes. As for e-shopping, results show that perceived usefulness and ease-of-use as well as risk and trust has important role in attracting Internet users to shop online [19]. In general, customers' attitudes toward e-shopping are affected by trust and

benefits they perceive [2]. Ha and Stoel [15] show that attitudes toward e-shopping are determined by enjoyment, in addition to perceived usefulness and trust. However, Çelik and Yılmaz [6] emphasize that model for predicting e-commerce behavior of individuals without or with very limited experience should be used cautiously as it is developed and tested relying on experienced individuals. This is precisely what we aim to explore in more details in the analysis in this article.

The article focuses on individuals who refuse to purchase over Internet and aim to explore reasons for their behavior. The analysis takes into account different stages of Internet penetration in European societies. The main contribution of the article is the comparative analysis of individual's reasons for not participating in one of the benefits digital economy has to offer across European countries. Since previous research efforts have been mostly directed into exploring why customers choose online over traditional stores and what are the factors influencing their decision to choose among different online stores, we believe that the present article offers important insight into another side of the story.

The structure of the article is as follows: Section 2 gives brief literature review and an overview of recent trends in European economies. Section 3 explains data and methods used in empirical analysis. In Section 4 we present and discuss results. In Section 5 we present main conclusions and limitations.

## 2. Literature Review and Main Data Trends

Economists usually assume that individuals behave rationally, taking into consideration budget constraints and earning power to derive the maximization of their utility. In neoclassical microeconomics, consumers base their individual choices on marginal utility in terms of costs and benefits. The theory of buyer behavior suggests that consumer satisfaction results from an evaluation of the rewards and sacrifices associated with the purchase of specific product. The experienced utility or satisfaction of consumption depends on the price, quality, and value of products [30]. It is assumed that these concepts are also valid for online customers [21].

There are also views that individual decision-making mechanisms are not in real situations efficient to the extent the above mentioned theories predict. Some authors argue that individuals are typically willing to settle for imperfect accuracy if it demands less effort [18]. This type of behavior is consistent with in the literature well-established idea of bounded rationality [24]. Because of the trade-off between effort and accuracy, individuals settle for suboptimal options if they are not associated with

additional costs. This makes it more difficult to predict whether individuals will choose online or traditional stores for their purchases.

Some studies assumed that Internet will enable online buying and subsequently dominate over traditional brick and mortar stores, because customers will prefer convenience [13]. Thomson and Laing [27] identified three reasons why consumers prefer online shopping – reduction in shopping time, freedom and flexibility to shop whenever they want, and very little physical effort required for shopping. Alba et al. [1] focus on the wider selection of vendors and products that are available in the e-commerce and suggest that this is the main attraction for customers. Hart et al. [16] emphasize the possibility for quick comparisons of offerings and prices that are available to consumers through Internet market places.

The data, however, revealed that online shopping growth has not necessarily paralleled Internet usage growth. Thus, it seems that the customers did not adopt e-commerce as much as it was expected by earlier research. Studies have searched for various explanations, ranging from user interfaces, overelaborate Internet sites, overemphasis on advertising and similar [5]. Cowles et al. [7] argue that e-commerce research should consider the motivations behind consumer use of the Internet. Because shoppers choose and return to retailers who offer superior value [29], retailers must design and ultimately deliver a value proposition that is most appealing to e-customers. Swaminathan et al. [26] presented empirical results suggesting that consumers who are primarily motivated by convenience are more likely to make purchases online, and that those who value social interactions are less interested in e-shopping. Others, however, argue that online shopping might be more time-consuming due to difficulties in locating products, registration procedures and price comparisons [3].

The quality in terms of efficiency, reliability, fulfilment, and privacy are key factors to encourage repeat purchases and to build customer loyalty [31]. Some potential customers might be disproportionately concerned about privacy issues, to the point that it deters initial shopping. Other concerns involve issues related to transportation, time between order and delivery, uncertainty about quality of delivered products [20]. Some of the perceived disadvantages of online shopping can be alleviated by providers of the service. There is certainly a greater need for increased attention to different aspects of online buying experience [23], which have been found associated to higher customer e-loyalty [25]. Actually, studies have shown that e-commerce is characterized by a relatively high level of customer loyalty [17] suggesting that once

the initial barriers to e-shopping are passed, the consumers are more likely to become accustomed to using the service.

The data presented in Table 1 reveals evolution of percentages of individuals who made online purchase during the last 3 months in different European economies in the last decade.

TABLE 1: Percentages of individuals who had online purchase within last three months, year 2008–2017.

	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
Austria	28	32	32	35	39	46	43	46	48	53
Belgium	14	25	27	31	33	36	41	42	46	49
Denmark	47	50	54	57	60	65	66	67	71	69
Finland	33	37	41	45	47	49	53	49	48	58
France	28	32	40	40	42	44	49	49	52	54
Germany	42	45	48	54	55	60	61	64	64	66
Greece	6	8	9	13	16	17	20	24	23	26
Ireland	30	29	28	34	35	37	43	44	41	44
Italy	7	8	9	10	11	14	15	18	20	23
Luxembourg	36	46	47	52	57	59	62	63	69	69
Netherlands	43	49	52	53	52	55	59	59	63	68
Portugal	6	10	10	10	13	15	17	23	23	25
Spain	13	15	17	19	22	23	28	32	35	40
Sweden	38	45	50	53	58	57	62	56	63	67
United Kingdom	49	58	60	64	64	71	72	75	78	78
Bulgaria	2	3	3	5	6	8	10	12	11	11
Croatia	5	6	9	11	16	19	22	26	25	21
Cyprus	7	13	14	16	17	20	23	19	22	24
Czech Republic	13	12	15	16	18	21	25	26	29	34
Estonia	7	12	13	16	17	16	37	46	45	46
Hungary	8	9	10	12	15	17	20	23	27	26
Latvia	10	8	8	10	18	21	24	27	31	33
Lithuania	4	6	7	10	14	19	19	22	24	29
Malta	16	27	32	35	37	38	41	43	41	43
Poland	12	18	20	20	21	23	24	24	31	33
Romania	3	2	2	4	3	5	6	8	8	11
Slovakia	13	16	19	23	30	30	31	35	41	46
Slovenia	12	14	17	20	22	25	26	28	30	35

Source: Eurostat.

The data clearly indicates that there are important differences across countries that cannot be simply attributed to the New Europe – Old Europe differences. Among Old EU Member states, Italy has the lowest share of Internet purchases, while among the

New Member States the lowest indicator is for Romania. The positive trend can be observed in all countries during the 10 year period. However, the steepest growth can be seen in Estonia. The increase of the prevalence of online shopping also seems to be immune to the recent effects of the global economic crisis. Contrary to most indicators, there are no obvious crisis-related patterns in the data. This is an interesting point to note, since overall personal consumption can be severely affected with the austerity measures some countries adopted during the recent economic crisis.

Notwithstanding these trends, there are still individuals who are not inclined to adopt Internet shopping. If their position is permanent, previously depicted trends can reach a platform and the Internet marketplace will not expand. The next section is devoted to explaining our approach to the analysis of this important question.

### 3. Data and Methods

Data used in the analysis are Eurostat microdata from Community Statistics on Information Society (CSIS). Data for 27 EU countries (Data for Belgium were not available.) refer to year 2015. CSIS is annual survey on information society conducted in all EU countries. Sample includes households and individuals from 16 to 74 years old. Data on access to information and communication technology (ICT) is collected at household level while information of use of ICT refers to individuals. Annual survey covers following subjects: access to ICT, use of computers, use of the Internet, e-government, e-commerce and e-skills.

In this article, we use section of the questionnaire dealing with the use of e-commerce and focus on individuals who report never ordering product for personal use over the Internet or ordering it sometime more than a year ago. Countries are grouped in five groups according to the level of e-shopping use:

- Countries in which more than 80 percent of Internet users buy online (UK, Germany and Denmark)
- Countries in which e-shopping is above EU average, that is, from 65 to 80 percent (Luxemburg, Sweden, the Netherlands, France, Finland, Ireland, Slovakia, and Austria)
- Countries in which e-shopping is accepted by 50 to 65 percent of population (Estonia, Malta, Czech Republic, Poland, Latvia, Spain, and Slovenia)
- Countries in which e-shopping is used by 35 to less than 50 percent of Internet users (Hungary, Croatia, Greece, Lithuania, Portugal, Italy and Cyprus)

- Countries with less than 30 percent of Internet users buying online (Romania and Bulgaria).

Total sample consists of 70,967 individuals with no experience in e-shopping or very limited experience. These individuals reported reasons for not buying products and services online in the last year. Those reasons include: habit and preference to shop in person where they can see products, lack of skills and knowledge, problems related to delivery of ordered products, payment security and privacy concerns, concerns about receiving and returning products, and not having payment card to pay over Internet. Each individual who did not buy any product over Internet reported reasons they consider relevant.

In the following table we report descriptive statistics for all five groups of countries.

TABLE 2: Descriptive statistics.

	<b>Below 30%</b>	<b>30 to 50%</b>	<b>50 to 65%</b>	<b>65 to 80%</b>	<b>Above 80%</b>
Have experience with e-shopping	16.9	14.2	22.2	21.4	28.9
Habit and preference	82.7	76.2	77.6	75.0	72.7
Lack of skills and knowledge	14.3	18.5	21.6	19.3	21.4
Problems related to delivery	4.5	6.2	5.9	5.9	2.5
Payment security and privacy concerns	11.4	23.9	20.8	33.6	30.0
Receiving and returning products	9.3	19.8	18.2	16.7	19.6
No payment card	12.5	15.9	7.8	8.0	16.7
Number of observations	13,474	27,342	15,404	10,656	4091

Source: Authors' calculations based on Eurostat data.

Percent of individuals who have at least some experience with e-shopping (even though they have not used it during the last year) in analyzed countries ranges from 14.2 percent to 28.9 percent (Table 2). In countries with higher overall level of adoption of e-shopping percent of those that have real experience in online shopping is higher. The main reason for not using this form of shopping across EU countries is preference to traditional stores over Internet shops. In countries with the lowest level of e-shopping 82.7 percent of individuals choose traditional stores because they prefer to see products, interact with sales personnel, they are loyal to stores and/or have a habit of buying in stores. In countries with over 80 percent of individuals buying online 72.7 percent of those who do not adopt it report it is due to this reason. This shows that the main reason is that potential customers adhere to specific lifestyle that

also incorporates social interaction while shopping. Other reasons are less prevalent among individuals. Pronounced issues include payment security and privacy concerns (especially in countries where the e-shopping is well-spread) and lack of skills. This is an example of existing digital divide in the economically less developed societies. Problems related to delivery as well as those related to the possibility of returning inadequate products are somewhat less pronounced. It is worth noting that considerable percentage of non-users of e-shopping does not even hold payments cards that would allow them to shop online.

Cursory overview of descriptive statistics indicates that behavior of those who refuse to buy online is related to their personal reasons and characteristics, not objective problems related to functioning of e-shopping. It is relatively easy to explain this situation in countries where e-shopping is widely accepted by majority of potential customers. Not all customers have the same preferences nor are interested in novel forms of shopping. It is likely that small percentage of customers will refuse to use and adopt innovation despite its characteristics and advantages even after trying innovative product. However, in some countries percentage of non-users is remarkably high to attribute it to the individual preference of customers. It appears that diffusion of e-shopping in these countries is at the early stages. It is therefore concerning to see such high percent of individual whose personal preference favor traditional stores over e-shopping.

The main focus of this analysis is on identifying which of these reasons actually decrease probability of trying e-shopping and gaining true experience of buying products over Internet. To do so we employ probit regression. Dependent variable in the models is experience with e-shopping. It takes value 1 if customer reports having bought products or services online but more than one year ago, 0 if never ordered anything for personal use over Internet. Independent variables are six aforementioned reasons for not buying online: habit and preference, lack of skills and knowledge, problems related to delivery, payment security and privacy concerns, receiving and returning products and not having payment card.

## 4. Results

Coefficients and standard errors provided in Table 3 show variables that are significantly related to probability of shopping online in all five groups of countries. Marginal effects after probit are presented in Table 4.

Habit of buying in brick-and-mortar stores significantly reduces probability of gaining the real experience of online shopping. The only exception is the case of individuals in countries where the level of e-shopping penetration is the highest. Here, individuals who prefer traditional form of shopping are likely to try e-shopping experience despite their habit and loyalty to stores. On the other hand, in countries with less than 30 percent of Internet users buying online, having habit and preference of buying in traditional stores decreases probability of ordering online and gaining real experience of online shopping by 75 percent. Magnitude of marginal effects in three other groups is lower ranging from 4 to 11 percent lower probability of buying online.

TABLE 3: Results of the probit.

	Below 30%	30 to 50%	50 to 65%	65 to 80%	Above 80%
Habit and preference	-0.28 (0.03) <sup>***</sup>	-0.43 (0.02) <sup>***</sup>	-0.36 (0.03) <sup>***</sup>	-0.14 (0.03) <sup>***</sup>	0.18 (0.05) <sup>***</sup>
Lack of skills and knowledge	-0.62 (0.05) <sup>***</sup>	-0.79 (0.04) <sup>***</sup>	-0.87 (0.04) <sup>***</sup>	-0.71 (0.04) <sup>***</sup>	-0.64 (0.06) <sup>***</sup>
Problems related to delivery	0.51 (0.06) <sup>***</sup>	0.31 (0.04) <sup>***</sup>	0.20 (0.05) <sup>***</sup>	0.36 (0.06) <sup>***</sup>	0.35 (0.13) <sup>***</sup>
Payment security and privacy concerns	0.04 (0.04)	-0.15 (0.03) <sup>***</sup>	-0.32 (0.03) <sup>***</sup>	-0.30 (0.03) <sup>***</sup>	-0.14 (0.05) <sup>***</sup>
Receiving and returning products	0.39 (0.04) <sup>***</sup>	0.04 (0.03)	0.16 (0.04) <sup>***</sup>	0.26 (0.04) <sup>***</sup>	0.19 (0.06) <sup>***</sup>
No payment card	-0.27 (0.04) <sup>***</sup>	-0.39 (0.03) <sup>***</sup>	-0.27 (0.05) <sup>***</sup>	-0.19 (0.06) <sup>***</sup>	-0.003 (0.06)
Constant	-0.70 (0.033) <sup>***</sup>	-0.61 (0.02) <sup>***</sup>	-0.32 (0.02) <sup>***</sup>	-0.55 (0.03) <sup>***</sup>	-0.58 (0.05) <sup>***</sup>
LR chiz	498.95	1333.49	1026.09	496.63	181.87
Prob > chiz	0.0000	0.0000	0.0000	0.000	0.0000

Source: Authors' calculations based on Eurostat data.

Note: Standard errors in parenthesis. \*\*\* significant at 5%.

Other variables that decrease probability of e-shopping in countries with less than 30 percent of Internet users buying online are lack of skills and knowledge and not having payment cards. Lack of skills and knowledge negatively affects probability of trying online shopping in other countries across EU. In all groups of countries (except the one referring to below 30 percent of e-shoppers) this variable has the most pronounced effects on probability of online shopping. Probability of experiencing e-shopping for individuals who lack necessary skills decreases from 12 to 19 percent. The most pronounced is in countries with 50 to 65 percent and those with over 80 percent of Internet users buying online.

Payment security and privacy concerns prevent individuals from ordering and buying online in all countries except those with the lowest penetration of e-shopping.

TABLE 4: Marginal effects after probit.

	Below 30%	30 to 50%	50 to 65%	65 to 80%	Above 80%
Habit and preference	-0.75***	-0.10***	-0.11***	-0.04***	0.06***
Lack of skills and knowledge	-0.12***	-0.12***	-0.19***	-0.16***	-0.19***
Problems related to delivery	0.15***	0.07***	0.06***	0.11***	0.13***
Payment security and privacy concerns	0.01	-0.03***	-0.08***	-0.08***	-0.05***
Receiving and returning products	0.11***	0.01	0.05***	0.08***	0.07***
No payment card	-0.06***	-0.07***	-0.07***	-0.05***	-0.001

Source: Authors' calculations based on Eurostat data.

Note: \*\*\* significant at 5%.

Interestingly, security and privacy concerns are not significant predictor of e-commerce in context of low penetration of e-shopping. It is likely that in situation when there is high percentage of individuals without real experience of buying over Internet they are not aware of potential perils of e-shopping for their privacy and payment security. In countries at different level of e-shopping adoption among Internet users awareness of privacy and security concerns is likely to prevent them from engaging in online buying.

Individuals without payment cards are likely not to try to order and buy product and services for their personal use over Internet. This does not hold for individual in EU countries with more than 80 percent of all Internet users buying online.

Interestingly, neither problems that occur due to delivery of ordered products nor the concerns that such problems might occur do not decrease probability of making an effort to buy online. We speculate that legislation and directives on consumer rights in EU provide adequate protection of consumers online. Difficult and long delivery process, complicated return and complain procedures do not prevent Internet user from gaining experience of shopping online.

As for the differences among countries at different level of e-shopping penetration, it is worth pointing out that:

- In countries with the lowest level of e-shopping penetration security and privacy concerns do not affect probability of trying this form of shopping
- In countries with 30 to 50 percent of Internet users buying online problems related to receiving and returning product are not associated to probability of buying online

- In countries with the highest level of e-shopping penetration not having payment cards does not predict probability of e-shopping.

Our results reveal that in most of the EU countries non-users are unlikely to initiate even a single purchase over Internet because they prefer traditional form of buying that includes social interaction. This finding is in line with results of Swaminathan et al. [26] research. In some countries effect of need for social interaction is more pronounced than in other that explains low level of e-shopping among Internet users. As expected, it decreases and even disappears as the level of acceptance of e-shopping in the population increases.

Furthermore, results confirm importance of knowledge and skills for engaging in e-shopping that is often emphasized factor for ICT adoption and use [4]. Internet users without adequate digital skills are likely to hesitate to even try to shop over Internet and gain real experience. Without personal experience of ordering and buying online Internet users cannot assess its convenience and usefulness and eventually adopt it. This is especially troublesome in countries where shopping online is still rather scarce as it affects its diffusion in the future. Policy makers should, therefore, consider measures for improving digital skills.

## 5. Conclusion

Results of this research contribute to the literature by providing insight into reasons why individuals across EU countries refuse to try e-shopping. They are relevant and important for managers as they can be used for encouraging non-users to initiate their first online purchase. Marketing managers should be aware of strong preferences for traditional brick and mortar stores in countries at low level of e-shopping penetration and take them into account when developing activities for attracting new customers.

Interestingly, problems related to delivery, returning purchased products or complaints are not likely to prevent non-users from their first online order. In other words, there is not much that firms selling their products and services over Internet could improve and do to attract new customers. However, effort is required by policy makers in lagging countries who should promote measures designed to improve potential customers' digital skills and raise the overall e-knowledge. This includes changes in education system. Some studies in particular emphasize the need to bring changes in higher education and lifelong learning as it is associated to ICT use [22]. These efforts will improve the overall digital performance of these countries and decrease digital divide across Europe.

Security and privacy concerns that prevent non-users from ordering online for the first time are areas that should be addressed by both online sellers and governments. Online sellers must ensure safe shopping and eliminate potential security and privacy threats related to their store. Providing clear information related to these issues is useful for attracting individuals without previous experience of e-shopping. Governments, on the other hand, are responsible for legal framework dealing with security and privacy on Internet. Additionally, measures should be taken that violation of privacy and security clauses is adequately sanctioned.

Even though there are many similarities among non-users in EU countries at different level of e-shopping penetrations, there are some important differences that should be kept in mind. Those primarily refer to relevance of security and privacy concerns, problems related to delivery and returns of ordered products as well as possessing payment cards for probability of engaging in e-shopping. Difference is identified in effects of preference for brick and mortar stores over e-stores in countries where e-shopping is widely adopted by Internet users.

Future research should focus in more detail on cultural differences across analyzed countries in order to understand customers' habit formation and origins of preferences toward traditional shopping, the need for social interaction and shopping experience with opportunity to see and even try products.

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