

E-COMMERCE WITH ONLINE PAYMENT THROUGH BANK CARD

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ABSTRACT: *The e-commerce has become a routine part of human life because it offers major advantages: convenience (it's no longer necessary to visit a store to be able to shop), efficiency (the buyer can visit several virtual shops in a very short time, the crowd of shops and the frustration caused by the lack of parking spaces available can be avoided, the customer can choose and compare the desired products taking in consideration a set of characteristics such as price, grammage, color, delivery dat, etc.) and the development of secure solutions for online payment (through: bank cards, ePay, cybercash, SmartCard, electronic funds transfer, Ecash). In the last decade, the electronic payment systems have been improved, reaching high levels of security and speed, acquiring a private, confidential, decentralization and internationalization character.*

KEY WORDS: *e-commerce; payment; online; card*

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1. INTRODUCTION

With the increasing number of Internet users, the e-commerce has captured the interest of both individual and organizational consumers. If **e-commerce** can be viewed as a process of sell - buy or exchange of products, services or information via computer networks, "**electronic business**" (e-business) also involves serving customers, collaborating with business partners and/or leading an organization through electronic means.

The development of e-commerce application was the logical sequence of creation, development and use of websites of organizations, this trend being motivated

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by the desire of most organizations to not limit the functioning of their sites in order to achieve objectives with exclusive informational character and to make them efficient by attaching an obvious commercial component. From the perspective of direct marketing, the e-commerce represents a new way of implementing the sale by mail, the general rules for designing, organizing and conducting its activities and specific campaigns being implemented with the necessary adjustments required by the used communication medium – the Internet, which substitutes partial or all postal services and/or courier services. (Vegheş, 2003, pp. 359)

2. THE E-COMMERCE CHARACTERISTICS

The e-commerce channels are of two types (Lefter, et al., 2000, p. 172):

- **Commercial channels** – provide online information and marketing services.
- **Internet** – is a global computer network that allows instant, decentralized and global communication. Users can send e-mail, exchange views, purchase products and access news and business information.

The main advantages offered by e-commerce concerns:

- **for buyers**, to:
 - the consumers' ability to obtain and compare information about products/brands, costs, prices, features, quality, without coming into direct contact with the producer/distributor;
 - the convenience - no need to go to the store;
 - the low level of prices;
 - the efficiency through the free access to information and various products and the availability 24 hours per day, 7 days per week.
- **for retailers**, to:
 - the possibility to customize the offers according to the consumer preferences, needs and requirements (computer can hold customers' personal data, location, browsing habits, etc.) through the contact with customers 24 hours per day, 7 days per week;
 - the reduction of operating costs;
 - the optimization of supply process and inventory management;
 - the improvement of marketing activity;
 - the opportunity of expansion on international markets (the e-commerce has no territorial boundaries, the company could present its offer and meet the orders of any customer from the world).

All the issues mentioned above show that, *in the era of information, the sharing process is initiated and controlled by the consumer* (Kotler, 2000, pp. 664). Despite the obvious benefits given by foreign trade, for both traders and purchasers, there are also some disadvantages:

- **for buyers:**
 - the transactions security (some buyers are reluctant in providing information about the bank cards used for performing various online payments);
 - no direct contact with the seller;

- the lack of access to technology (the number of households equipped with computers, the Internet penetration rate etc.).
- **for retailers:**
 - the restrictions on product categories that can be sold online (eg.: perishable food, unique jewelry etc. will never be sold successfully online);
 - the high costs of integrating databases and traditional software for transaction processing with the software specific to e-commerce;
 - the possibility of fraud (the use of false information regarding the identity, of "cloned" cards);
 - the data security (the possibility of unauthorized access to database of the retailer);
 - the organization of specialized courses for staff training and development;
 - the legislation regarding e-commerce and online payments.

The transformation of those who only "turn the merchandise upside down" in real customers requires strong direct marketing strategies. In this environment, the customer-oriented strategies are extremely important. Fortunately, direct traders have years of experience in customer-oriented strategies, well run and efficient. (Stone, 2004, pp. 254)

3. STATISTICS OF E-COMMERCE WITH ONLINE PAYMENT THROUGH BANK CARD

In Romania, the first online shop was launched in 1997 by PC Net as the CyberShop.ro that sold music CDs. EShop.ro subsequently appeared, the first store that introduced the concept of "shopping cart". Gradually, on this online marketplace, have joined other retailers such as: Romanian Music Online AllOnline.ro, eMania.ro (launched in autumn 2000), Rate.ro, MagazinulTău.ro (launched by the Best Computers retailer). OKazii.ro, an online auction site similar with the famous eBay, was created by Netbridge Investments Company, although the Romanians' confidence in transactions over the Internet hardly existed.

In the late of 2001, eMag.ro was launched – currently the biggest online shop in Romania. Initially, the main role of e-commerce websites was one of informing, the majority of visitors (few) choosing especially for viewing the retailers' catalogues of products and less for purchasing online. If in the United States the first online payments using bank cards were made in 1994 in Romania the first transaction of this kind was made in 2004, when 3D Secure security software (an antifraud program, which is mainly designed to improve online transaction security by requiring a password for each online payment) was released by the two famous organizations issuing the cards – Visa and MasterCard.

The 3D Project was initiated by Secure RomCard in September 2003 and completed in March 2004, when all VISA and MasterCard certifications have been obtained by four Romanian banks: Romanian Commercial Bank (BCR), Raiffeisen Bank, "Ion Tiriac" Commercial Bank and Romania Alphabank. The RomCard domain of activity covers: the authorization of transactions made through bank cards, the database administration, the national and international switching, the settlement and the

processing of transaction with cards, the "3D Secure" solution for accepting and issuing banks for "Verified by Visa" and "MasterCard Secure Code" e-commerce services.

By implementing 3D Secure system, Romania has become a center for processing online payments in CEMEA region (acronym for Central Europe, Middle East, Eastern Europe and Africa), provided that, at European level, there were at that time, only three countries experiencing this standard, namely Britain, Spain and Portugal. In 2004, the volume of transactions in 3D Secure system (Verified by Visa and MasterCard Secure Code), reached the value of 19,410 (transactions), of which 84% were recorded in the last three months of the year. The value of purchases made in virtual stores, configured 3D Secure by RomCard (leader in Romania for providing services relating to transactions with bank cards) increased significantly in the last three months of 2004, in terms of the transactions both in USD and in Euro (Table 1).

Table 1. The value of purchases made in virtual stores, configured 3D Secure by RomCard - in the 4th quarter of 2004

4th quarter of 2004	Lei (ROL)	USD	Euro
October	419,376,301	29,287	6
November	501,445,478	701,511	35,422
December	453,753,235	2,050,949	65,086
TOTAL AMOUNT	1,374,575,014	2,781,747	100,514

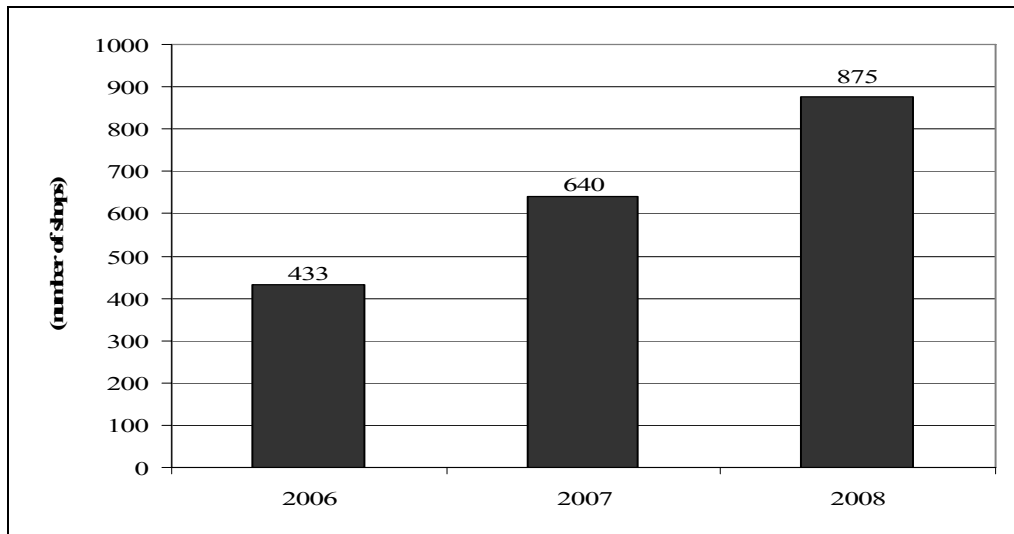
Source: *A study of Romanian market potential – E-Commerce*, [Online], Available at: <http://www.comert.info/piata-valoarea-romcard.html> [Accessed 20 June 2010]

In **2005**, the value of online transactions has increased 18 times as compared to 2004 (when the value recorded of \$ 3.5 million), reaching to \$ 44.3 million, as a result of online payment with bank cards. In **2006**, the number of transactions has increased steadily, with an average of 15% per month, exceeding the threshold of 13.500 in December (transactions made in Romanian online stores, configured 3D Secure), their value being about € 9.5 million.

The year **2007** brought a significant increase of the value of online transactions made with bank cards in the 3D Secure system, reaching € 35 million.

A year later, in **2008**, the e-commerce knew an impressive development, the first semester ending with a balance of approximately € 26 million, which is almost 3 times higher than in 2006. The number of Romanian online stores, enrolled in 3D Secure system, which were active and had turnover in 2008 reached the value of 186, the main areas that generated the largest volume in e-commerce being, in this order: the travel services and bookings tickets, the payment of mobile phone bills and IT & C products, the electronics and appliances. Nearly 16 million of the 26 million were generated by cards from abroad (it is not known precisely if these cards were issued by foreign or Romanian banks), even if the number of transactions in foreign currency (about 79.000) was lower than that of transactions in lei (over 220,000).

During the 2006-2008 period, an increase of 50% per year was registered, in terms of number of stores which have been engaged in e-commerce (Figure 1).



Source: Radu, A., et al. (2008) *A study on the development of Romanian e-commerce*, pp. 12, [Online], Available at: <http://www.izzisale.ro/Studiu-eCommerce-ANC.pdf> [Accessed 20 June 2010]

Figure 1. The evolution of the number of stores which have been engaged in e-commerce in the 2006-2008 period

Interesting is also the evolution, **between 2006-2008**, of e-commerce, on product groups. Thus, it is noted each year, an increase in popularity for certain product segments (Table 2):

- in 2007: to notebooks, stationery, networking, software, toys, automotive, footwear, audio, video, music;
- in 2008, to computers, telephones, movies, art, industrial, automotive and clothing; this year the first reduction was registered for a group of products, namely music.

The differences, that occur between every two years, are based on the number of shops that go bankrupt (100-150), a number that is difficult to be approximated, given that it is not stated, but it must be identified through market research.

The most significant development was experienced by the computing stores (specific to the industry), followed by those which market similar products on the horizontal (digital equipment – audio and video supplies for printing operation; muzică CDs etc.). Subsequently, there has been an increase of the demand for footwear, clothing and art, as a result of a mainly involvement of the female segment.

In the first three months of **2009**, the value of the e-commerce with online payment through bank cards was € 18.58 million, registering an increase of 59% as compared to the same period of 2008. The number of transactions recorded in the same period was approximately 256,000.

The online payments through bank cards have been growing by 20-22% in the total methods of payment. The total value of transactions through ePayment platform was € 17 million, the number of transactions reaching the value of 220,000. These

figures show that, under the current economic conditions, the e-commerce is not affected significantly.

Table 2. Analysis of e-commerce with online payment through bank cards, on product groups, between 2006-2008

Shops' specificity	Number of stores 2006	Number of stores 2007	Number of stores 2008	% 2006	% 2007	% 2008	2007 vs. 2006 (%)	2008 vs. 2007 (%)
Computers and accessories	75	154	365	17,32	24,44	41,71	105,33	137,01
Laptops	12	124	201	2,77	19,68	22,97	933,33	62,10
Networking	7	113	190	1,62	17,94	21,71	1514,2	68,14
Software	8	132	195	1,85	20,95	22,29	1550,0	47,73
Internet Services	4	-	-	0,92	-	-	-	-
Phones	21	85	247	4,85	13,49	28,23	304,76	190,59
Stationery and office supplies	6	56	74	1,39	8,89	8,46	833,33	32,14
Print	7	-	-	1,62	-	-	-	-
Music	15	49	40	3,46	7,78	4,57	226,67	-18,37
Film	5	7	28	1,15	1,11	3,20	40,00	300,00
Audio Equipment	7	118	246	1,62	18,73	28,11	1585,7	108,47
Video Equipment	3	77	251	0,69	12,22	28,69	2466,6	225,97
Books	46	93	96	10,62	14,76	10,97	102,17	3,23
Newspapers and magazines	5	6	14	1,15	0,95	1,60	20,00	133,33
Gifts	17	35	54	3,93	5,56	6,17	105,88	54,29
Flowers	10	20	26	2,31	3,17	2,97	100,00	30,00
Auto Accessories	5	53	105	1,15	8,41	12,00	960,00	98,11
Products for children	13	31	35	3,00	4,92	4,00	138,46	12,90
Clothing	15	35	57	3,46	5,56	6,51	133,33	62,86
Footwear	1	24	24	0,23	3,81	2,74	2300,0	0,00
Lingerie	4	13	17	0,92	2,06	1,94	225,00	30,77
Sex Shop	13	13	14	3,00	2,06	1,60	0,00	7,69
House Control	12	-	-	2,77	-	-	-	-
Electronics	27	-	-	6,24	-	-	-	-
Appliances	25	60	139	5,77	9,52	15,89	140,00	131,67
Food deliveries	4	4	10	0,92	0,63	1,14	0,00	150,00
Art	11	12	60	2,54	1,90	6,86	9,09	400,00
Jewelry	3	11	24	0,69	1,75	2,74	266,67	118,18
Toys	9	38	59	2,08	6,03	6,74	322,22	55,26
Pharmaceuticals	15	32	53	3,46	5,08	6,06	113,33	65,63
Sporting Goods	16	33	44	3,70	5,24	5,03	106,25	33,33
Industrial	8	23	76	1,85	3,65	8,69	187,50	230,43

Source: Radu, A., et al. (2008) *A study on the development of Romanian e-commerce*, pp. 12, [Online], Available at: <http://www.izzisale.ro/Studiu-eCommerce-ANC.pdf> [Accessed 20 June 2010]

Also, the main categories of products purchased in the first three months of **2009** (telecommunications, tourism, retail and services), excluding hardware, mobile phones and recruitment services, registered significant increases as it follows:

- the number of transactions in the telecommunications sector increased by 85% in the first quarter of 2009 as compared to the same period of 2008;
- the number of online transactions in tourism and transport sector increased by 111% in the first three months of 2009 as compared to the first quarter of 2008 (this was due mainly to the special offers of tourism and transport operators, who have adapted their products/services to the crisis conditions, managing to attract a large number of customers, thus, generating a strong growth of sales);
- the number of orders, from the service sector, made to the stores working with GECAD ePayment, grew by 80% as compared to the first three months of 2008; the online assurances had a spectacular evolution, the number of these assurances being over five times higher in the first quarter of 2009 as compared to the same period of 2008;
- the number of transactions from online retail sector was 80% higher than the first three months of 2008 (it was affected only by the 22% decrease in demand for hardware products, namely by the 123% increase in sales of software; a positive evolution was registered in the orders for flowers, gifts, toys, books and clothing, paid online through bank cards).

In the first quarter of **2010**, the volume of online transactions through bank cards increased by 70% as compared to the same period of 2009 to € 31.85 million, the number of processed transactions being 603,437.

Through the ePayment platform 575,000 transactions were processed, with a value of € 30.25 million. In the first three months of 2010, the average value of a transaction was € 52, from € 77 in the same period of last year. According to the electronic payment service provider, Gecad ePayment, most products sold online during this period were part of the following categories: telecommunications, tourism, services, payment of utilities, retail and entertainment. The largest increase of the number of transactions had those from the tourism sector, with 270% more than last year, this showing that both buyers and tour operators have realized the benefits provided by e-commerce to their activity. Dramatic increases were registered for telecommunications, entertainment and utility payments (230%, 160% and 178%), indicating that among users a custom of online payment through bank card was created for current expenditure, but also for new purchases. (The Financial Newspaper, 9th April 2010, [Online])

4. CONCLUSIONS

In the last decade, the Internet has known an impressive evolution, having a major impact on all aspects of life. Thus, there appeared a need for transactions security and privacy, the traders desire to increase the satisfaction of consumers, given that human interaction is minimal and the technological one is maximum.

Although e-commerce offers a number of key advantages (the possibility of transactions 24 hours per day, throughout all the year, from almost any location, of

choosing and comparing, of participating in virtual auctions, of interacting with other buyers, so comparing experiences and facilitating the competition - which generates lower prices, the reduction of costs for traders, the possibility of extending on international markets and adapting the products according to consumers profile), is a lack of universally accepted standards regarding quality, safety and confidence in online payment transactions through bank card.

Regarding the Romanian e-commerce, the trend is an upward one. The number of online shops increases significantly from year to year like the number of consumers who shop online, the security standards are aligned with international ones; there are also various online payment methods and the quality of products is generally high. Based on the above data, we can talk about an e-commerce industry in Romania, but which should be carefully examined, better regulated and promoted.

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