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E-CONSUMERS AGAINST THE RISK OF A FAILED PURCHASE

Introduction

The last decade of the twentieth century and the beginning of the twenty-first century have brought rapid development of information technology on a larger scale than ever before. The fact that computers have become more and more popular has been of great significance as its most important consequence is the creation of a global computer network – the Internet. As regards interpersonal communication, the Internet has proved to be a real revolution. It has quickly entered all areas of people's life, including sale and purchase transactions.

Year after year shopping on the Internet has become a more and more common method of purchasing various products, whereas the growing number of Polish people having access to the Internet has quickly increased the number of potential e-consumers¹. More and more people notice numerous advantages of electronic trade such as low rates, wide range of products or the possibility of shopping from home.

However, when compared to the traditional methods of sale, apart from its numerous advantages, electronic trade also has quite a few weaknesses. They are, for example, the fact that it is impossible to check the product before buying it or the lack of direct contact between the seller and the buyer. Therefore, e-consumers have to make purchasing decisions on the basis of very limited information, which in consequence, makes it more probable that the product bought will not meet their expectations or even disappoint them. In the situation when consumers

¹ In 2011 there was a personal computer in 66.7% of Polish households, whereas 62.3% were connected to the Internet. In relation to 2000, this result shows an increase by 52.4 and 57.2 percentage points respectively – Household Budgets in 2011, Central Statistical Office, Warsaw 2012, tabl. 4, p. 286.

can see the risk of making a wrong decision and when they are afraid of substantial detrimental consequences, one may say that the particular purchase in connected with a certain risk, the risk of a failed purchase.

Therefore, the purpose of this article is to find answers to the following questions: what fears and doubts accompany e-consumers while shopping on the Internet? Which ones are the most important to them? Additionally, what actions are taken by e-consumers in order to limit the risk of a failed purchase? How will they react in a situation when they are cheated by an e-seller or when their purchase on the Internet proves to be unsuccessful.

Conclusions drawn from the answers obtained may be useful to both producers and e-sellers in the process of creating their competitive advantage. It may result from adjusting the offer and service process to e-consumers' expectations and behaviour.

1. Research methodology

Development of electronic trade with more and more common access to the Internet aroused interest also among researchers of consumer behaviour. That is why the source basis for this article is a combination of both Polish and foreign reference books and also the results of the author's primary research.

The primary research was conducted in February 2013 on a 300 person sample of consumers shopping online. The Internet survey technique was used in the research by means of a Survey Monkey² platform. The research was conducted all over Poland. Selection of the sample was deliberate: Internet users who did shopping online not earlier than one month before starting the research. So, the respondents were residents of cities and villages from all the Polish voivodships, both women and men. They were mainly young people having secondary or higher education, living in cities with populations of 50 – 200 thousand and over 200 thousand residents³ – so, according to data of the Central Statistical Office in

² More information available on: www.surveymonkey.com.

³ The sample in respect of sex: women (55.7%) and men (44.3%); in respect of age: 16-24 years (26.3%), 25-34 years (31.4%), 35-44 years (23.0%), 45 years and older (19.3%). The average age of the persons questioned was almost 34 years, the median was 31 years whereas the mode was the age of 23 years. The youngest person participating in the research was 16 years and the oldest one was 65. 36.3% of the respondents lived in cities with populations of over 200,000 residents, 27.3% of the respondents lived in cities with populations between 50 and 200 000 residents, 19.7% – in towns having populations of up to 50 000 residents and 16.7% of the respondents lived in villages. Residents of the Silesian voivodship prevailed among the persons

Warsaw (CSO), persons representing the segment of consumers who most often use the Internet and shop online⁴.

The survey questionnaire was composed of 21 semi-open questions, questions- tables and demographics questions. The questionnaire also included the author's weighing scale of negative consequences of online shopping and probability scale of online shopping negative consequences. The reliability of both the scales was checked by means of the alpha Cronbach test. The coefficient for the first scale was 0.854 whereas for the second one it was 0.850. Therefore, the scales used may be considered reliable⁵.

This article presents the most important data obtained during the research described and also conclusions drawn therefrom. The IBM SPSS Statistics software version 20 was used for making calculations.

2. Perception of the risk of a failed purchase over the Internet versus traditional shopping

Consumers usually find shopping over the Internet to be more risky⁶. The research conducted for the purposes of this article seems to confirm this view. As almost 2/3 of the respondents found online shopping more risky than doing shopping in traditional shopping outlets. This opinion prevails both among women (68.9%) and men (55.6%), although in case of men it is not so clearly stated (Table 1).

questioned 42.3%, residents of the Mazowieckie voivodship: 23.0%, Zachodniopomorskie voivodship 11.3%. The respondents usually described their financial standing as good – 54.3%, then: satisfactory – 31.0%, very good – 10.7% and bad – 4.0%. the average value of one transaction amounted to PLN 227.62 (≈ € 55), median: PLN 150 (≈ € 36), mode: PLN 100 (≈ € 24). Most often the persons questioned purchased products up to once a month (44.0%), and then from 1 to 3 times a month (40.7%) and 4 and more times a month (15.3%).

⁴ According to data of the Central Statistical Office, persons who most commonly do shopping on the Internet are consumer at the age 16-24 years (97.3%) and at the age 25-34 years (86.3%) with higher education (92.1%) or secondary education (59.4%) and persons living in cities with the populations of over 100 thousand residents (71.1%). More information in: *The use of information and telecommunication technologies in companies, households and by private persons in 2009*, CSO, Warsaw, 2010.

⁵ The level of alpha indicator considered admissible is > 0.7. More information in: J.C. Nunally, I.H. Bernstein: *Psychometric Theory*. McGraw-Hill, New York 1994.

⁶ S. San Martin, C. Camarero, *How Perceived Risk Affects Online Buying*. "Online Information Review" 2009, Vol. 33, No. 4, p. 631.

Table 1

Comparison of the risk of a failed purchase over the Internet and in traditional shopping outlets – respondents' opinions (in %)

Specification	Overall sample N = 300	Women n = 167	Men n = 133
The risk is far greater when shopping online	19.3	19.8	18.8
The risk is rather greater when shopping online	43.7	49.1	36.6
There is no difference – the risk is similar	33.3	26.9	41.4
The risk is rather greater when doing shopping in traditional shopping outlets	3.0	3.0	3.0
The risk is far greater when doing shopping in traditional shopping outlets	0.7	1.2	–

The view presented may also be observed in case of all groups of products used in the survey (Table 2). The greatest differences between perception of the risk over the Internet and during traditional shopping may be seen in case of clothes and shoes, cosmetic products, radio and television devices as well as food and drinks. The enumerated product groups are also the ranges of goods the purchase of which is often considered risky by consumers.

Table 2

Perception of the risk of a failed purchase by consumers – sample in total (in %)

Specification	Persons seeing the risk of a failed purchase			Persons not seeing the risk of a failed purchase
	only on the Internet	only in a traditional shop	both over the Internet and in a traditional shop	
Clothes and shoes	69.3	3.0	13.0	14.7
Cosmetic products	48.3	3.0	10.7	38.0
Food and drinks	46.3	14.7	16.3	22.7
Radio and television equipment	35.3	3.7	18.7	42.3
Household goods	32.1	4.3	19.6	44.0
Computer equipment and software	30.0	4.3	14.7	50.0
Concert. cinema. theatre. tickets	24.7	3.0	4.3	68.0
Music and films	22.4	3.0	6.3	68.3
Plane. train tickets	20.4	5.3	7.3	67.0
Books	18.1	2.3	3.3	76.3

The risk of a failed purchase may be demonstrated by various types of apprehensions and doubts accompanying consumers in the purchasing process. Therefore, the following questions arise: what apprehensions and doubts accompany e-consumers while shopping over the Internet and which of them are the most significant to consumers?

3. Types of consumer risk on the Internet and evaluation of the risk size

The respondents awareness of the risk connected with shopping on the Internet was presented with a scale of negative consequences of online shopping and a probability scale of online shopping negative consequences. In both cases they were sets of seven statements generated on the basis of similar research described in literature of the subject and the author's research⁷. The first scale was used to measure the weighting of the consequences connected with the scenarios presented in particular statements, whereas the second scale was used to determine the probability of the occurrence of negative consequences. Both these scales were ordinal, seven-grade scales where 1 meant completely unimportant consequences/ completely improbable occurrence of the consequences, whereas 7 meant very important consequences/ very probable occurrence of the consequences. The results obtained have been presented in Table 3.

While buying on the Internet, the consumers questioned were mainly afraid of being cheated (average weighting 5.42) and of the fact that the producer or seller would not want to recognize a complaint and refund their money (5.38). However, the interviewees decided that delay in the package delivery was the most probable (average estimation 5.05). Therefore, it may be seen that consumers have a different approach to the possible negative consequence of online shopping and a different approach to the possibility of the actual consequence occurrence. As a rule, consumers give a higher mark to the fear connected with consequence of a wrong decision and a lower mark to the probability of the consequence occurrence.

Table 3

Types of consumers' risk while doing shopping over the Internet

Specification	Weight of the negative consequence $M_{nk} \pm SD$	Opinion regarding the risk of occurrence $M_p \pm SD$	Risk model	
			additive	multiplicative
1	2	3	4	5
I will be cheated	5.42±1.98	3.99±1.78	9.41	21.63
The producer/seller will not want to recognize a complaint and return money in case of resigning from the purchase	5.39±1.73	4.69±1.79	10.08	25.69

⁷ G. Maciejewski: *Ryzyko konsumenta w Internecie*. "Handel Wewnętrzny" September-October 2011, part 3, pp. 87-95.

Table 3 contd.

1	2	3	4	5
The shipment will turn out not compliant with the offer	5.22±1.81	4.21±1.73	9.43	21.98
The package sent will not be delivered within the time limit set	4.93±1.79	5.05±1.62	9.98	24.90
The goods which I will receive will not correspond to my order	4.86±2.03	3.92±1.89	8.78	19.05
The price to be paid will be higher than stated in the offer	3.93±2.12	3.07±1.82	7.00	12.07
There will be additional charges to pay upon the receipt	3.84±2.19	2.99±1.79	6.83	11.48

Where:

M_{nk} – arithmetic average of the opinions regarding the weight of negative consequences of online shopping,

M_p – arithmetic average of the opinions regarding the probability of online shopping negative consequences occurrence,

SD – standard deviations.

While speaking about the consumer risk on the Internet we mainly mean the possibility of suffering a loss (negative consequences). Therefore, it is obvious that while assessing the consumer risk on the Internet one should take the size of possible loss into consideration. However, this is not the full measure of e-consumers' risk. It is commonly known that the explosion of a plane engine during a flight leads to death of both passengers and the crew, however, the probability of such an event taking place is far smaller than probability of participating in a car accident. So, it is not only the size of the loss suffered that matters, but – in accordance with the fundamental concept of the perceived risk by R.A. Bauer⁸ – also the size of the probability of suffering the loss. For that reason, we may assume that the risk can be measured by means of combination of the size of possible loss and the size of the probability of suffering the loss. The greater the possible loss and the greater the probability of suffering the loss, the more risky a particular event or action is⁹. This means, among others, that the risk of an e-consumer may be measured quantitatively and the bigger and more probable the loss, the bigger the risk.

In the literature one finds descriptions of numerous models measuring the size of the perceived risk. However, simple two-component models represent-

⁸ R.A. Bauer: *Consumer Behavior as Risk Taking*. In: *Dynamic Marketing for a Changing World*. Ed. R.S. Hancock, Proceedings of the 43rd Conference of the American Marketing Association, Chicago 1960, pp. 389-398.

⁹ T. Tyszka, T. Zaleskiewicz: *Racjonalność decyzji. Pewność i ryzyko*. PWE, Warsaw 2001, p. 59.

ing the meaning of negative consequences and probability of their occurrence are the most commonly used and recommended¹⁰. They may weigh with both additive and multiplicative process. In the case of an additive model, the component of weight regarding negative consequences is summed up with the component of their occurrence probability. In case of a multiplicative model, the addition is replaced with multiplication of the model's two components. Among researchers of consumer risk one may find supporters of the first and the second solution, however, supporters of the additive model constitute the majority¹¹.

Irrespective of the model type used, the greatest risk that e-consumers are exposed to, identified in the research described, is the risk of not recognizing a complaint and money refund in case of resignation from the purchase (value 10.08) – Table 3. Our attention is also drawn to the relatively high values of the risk connected with the fact of not receiving the shipment within the time-limit set, e.g. before the birthday of the person one wants to give the gift to (value 9.98) and the risk that the product delivered will turn out to be inconsistent with the offer (value 9.43). Whereas, according to the persons questioned, the lowest values were obtained by the risk of too high price in relation to the price stated in the offer as well as the risk of having to pay additional fees upon the goods' delivery (values respectively: 7.00 and 6.83) – Table 3.

Analysing the size of consumer risk on the Internet and its types, it is also worth noting actions taken by consumers in order to reduce the risk unacceptable to them.

4. Actions taken by e-consumers aiming at the perceived risk limitation

Various actions taken by e-consumers in order to limit the risk of a failed purchase perceived by such consumers may be considered very common. Among 300 of the persons questioned, only 10 did not take any action intended to limit

¹⁰ V.W. Mitchell: *Consumer Perceived Risk: Conceptualizations and Models*. "European Journal of Marketing" 1999, No. 33 (1/2), pp. 176-181.

¹¹ This happens mainly due to simplicity of this model. Perceiving the possible negative consequences of their choice, the consumers then evaluate the chances of the consequences' occurrence. It is hard to imagine that they multiply these components by themselves in their minds. More about various methods of how consumers can evaluate the risk in: G. Maciejewski: *Ryzyko w decyzjach nabywczych konsumentów*. University of Economics in Katowice Publishing House, Katowice 2010, pp. 89 and 141-145.

the perceived risk. The remaining respondents were first asked about the forms of those actions and then they were requested to indicate which forms they considered the most effective.

While analysing answers provided by the respondents one sees that e-consumers use many varied methods of risk limitation. The methods vary both in how much e-consumers become involved in the purchasing process (active and passive coping strategies) and in the limited risk component (strategies reducing the level of negative consequences and strategies limiting the probability of their occurrence) – Table 4.

Table 4

Actions taken in order to limit the risk of a failed online purchase – declarations made by the respondents (in %)

Specification	Overall sample N = 290	Women n = 163	Men n = 127
I buy from online shops having certificates such as “trusted seller”, “renowned seller”, etc.	62.4	61.3	63.8
I buy from online shops recommended by friends	54.8	61.3	46.5
I check the shop’s reliability as well as consistency of the shop’s offer (e.g. by giving them a call)	37.6	33.7	41.7
I make sure I will be able to exchange the goods or have money refunded	33.8	36.2	30.5
I pay only after I have received and checked the goods	29.6	29.4	29.9
I buy from online shops recommended in community forums	29.3	26.4	33.1
I always buy from the same dependable online shop	24.5	25.2	23.6
I buy only products of renowned brands	23.8	19.6	29.1
I buy from online shops recommended by experts	11.7	8.0	16.5
I ask another person (friend, relative, somebody who is knowledgeable about it)	4.8	5.5	3.9
I take other action*	4.8	2.5	7.9

* Other action: I order over the Internet but collect and pay personally in the collection centre, I do not buy high value products online, I pay via specialized paying companies.

Important: the values do not add up to 100%. Respondents could select more than one method.

In order to limit the risk of a failed purchase, online respondents usually choose the offer of shops awarded certificates such as “trusted seller” (62.4% of respondents’ declarations), buy goods from shops recommended by their friends (54.8%) and verify the shop’s reliability as well as consistency of the shop’s offer (37.6%).

While considering the issue of limiting the risk perceived by e-consumers in respect of their sex, one may see that women more frequently limit the risk due to

their friends' recommendations and making sure they will be able to exchange the goods/receive refund (respectively: 61.3% – 46.5% and 36.2% – 30.5%). Whereas, definitely more often than women, men limit the risk by verifying reliability of the online shop and its offer and by ordering only renowned brand goods (respectively 41.7% – 33.7% and 29.1% – 19.6%) – Table 4.

While doing shopping over the Internet e-consumers are also exposed to the risk of data extraction, which can lead to a great number of adverse consequences (so called “phishing”). The most common ones are loss of cash in one’s bank account or financial obligations contracted without the e-consumer’s awareness and consent¹². Persons participating in the research were asked what methods they used in order to protect themselves against such situations – Table 5.

As many as 97.0% of the respondents declared taking some anti-phishing actions. Most often respondents stated they kept the data necessary for user account and password identification inaccessible to others (80.7%) and they used anti-virus software (76.6%). Over half of the respondents stated that they checked whether the transmission was safe (56.4%) and that they did not keep in their computers any data making it possible to identify their accounts and passwords (54.6%) – Table 5.

Table 5

Actions limiting phishing – declarations made by the respondents (in %)

Specification	Overall sample N = 291	Women n = 162	Men n = 129
I do not make data identifying my accounts and passwords available to others	80.7	81.4	79.8
I use anti-virus software	76.6	70.9	83.7
I check whether the transmission is safe (SSL certificate)	56.4	52.4	61.2
I do not store any data enabling identification of my accounts and passwords on computer discs	54.6	53.9	55.1
I use firewalls	42.3	33.3	53.5
I use anti-spyware	27.8	18.5	39.5

Important: the values do not add up to 100%. Respondents could select more than one method.

The results of this issue considered in respect of the respondents’ sex are remarkable. Five out of six actions taken by e-consumers in order to limit the risk of phishing were more often used by men than by women. These disparities are particularly noticeable in the case of using firewalls and anti-spyware (respectively:

¹² See: A. Dąbrowska, M. Janoś-Kresło: *Konsument na rynku e-usług w krajach Europy Środkowo-Wschodniej*. Difin, Warszawa 2010, pp. 124-125.

53.5% – 33.3% and 39.5% – 18.5%). This could result from greater aversion of men to the risk in purchasing situations, which has already been indicated in the author's previous research¹³, or from men's greater familiarity with anti-phishing software – which still requires confirmation by the research results.

The risk connected with paying for the goods ordered is also considered to be one of the e-consumers' fears. The respondents were requested to indicate one preferred form of payment for the goods and services ordered online considered by them the safest (Table 6).

Table 6

Preferred payment methods for the goods ordered online - declarations made by the respondents (in %)

Specification	Overall sample N = 300	Women n = 167	Men n = 133
I make a pre-payment by e-transfer from bank account	48.0	49.1	46.6
I pay on delivery	31.7	34.7	27.8
I make a pre-payment using an automatic payment handling service, e.g. transferuj.pl	10.3	9.0	12.0
I use my credit card	5.3	3.0	8.3
I make a pre-payment to the seller's/ shop's bank account in bank or post-office (off-line)	2.3	2.4	2.3
I use my debit card	1.0	0.6	1.5
I pay in a different way*	1.3	1.2	1.5

* Other actions: I pay via PayPal, PayU, I ask a friend to make the payment.

The respondents' preferences regarding methods of payment for the goods purchased online clearly focus on two solutions: they are either pre-payments by means of e-transfer from one's bank account (48.0 % of respondents) or payments on delivery after a physical receipt of the product ordered (31.7%). The respondents' sex is not of great significance for the preferred methods of payment (Table 6).

It is also worth mentioning that in the case of a failed purchase, e-consumers are not going to become discouraged from online shopping (Table 7). In case of some cheating or when the purchase fails due to some other reasons, e-consumers will mainly resign from the seller whose services they do not find satisfactory (43.0% of respondents) and will ensure better protection against cheating (39.0%).

¹³ G. Maciejewski: *Polski konsument – ryzykant czy asekurant*. In: *Konsument Gospodarstwo domowe – Rynek. Polska Europa*. Eds. Z. Kędzior, M. Jaciow. Wydawnictwo Akademii Ekonomicznej, Katowice 2009, pp. 115-120.

Table 7

E-consumers' behaviour in case of a failed online purchase – declarations made by the respondents (in %)

Specification	Overall sample N = 300	Women n = 167	Men n = 133
I will choose another online seller and I will continue online shopping	43.0	38.9	48.1
I will ensure better than before protection against cheating	39.0	40.7	36.8
Bad luck! – Such things happen and I will continue shopping this way	10.3	11.4	9.0
I will stop shopping online	4.0	6.6	0.8
I will behave in a different way*	3.7	2.4	5.3

* Other behaviour: starting a court action, informing the Police, describing the case on Internet forums, direct contact with the seller.

Only 10% of the e-consumers questioned declared a passive attitude in the event of post-shopping dissonance, whereas 4% declared giving up online shopping. Just as in the case of the preferred methods of payment, sex is not a factor differentiating between e-consumers' behaviours (Table 7).

Conclusion

The considerations presented in this thesis regarding the risk of e-consumers enable one to reach a few conclusions. According to the respondents, online shopping is more risky than purchasing goods from traditional shopping outlets.

While shopping over the Internet, consumers are exposed to various types of risk. The most important ones, from the point of view of an e-consumer, are the risk of not recognizing one's complaint and the refusal to refund money in case of purchase cancellation.

The fact that e-consumers take a variety of strategies in order to limit the risk of a failed purchase may be considered a common occurrence. The strategies used most often include choosing shops awarded certificates such as "trusted seller" or shops recommended by one's friends. In order to avoid negative consequences of online shopping, e-consumers also take anti-phishing actions, which mainly consist of making data used for user account and password identification inadmissible to others, as well as using anti-virus software.

The respondents' preferences regarding methods of payment for the goods purchased online mainly concentrate on two solutions. They are pre-payments

by means of e-transfer from one's bank account and payments on delivery of the product ordered.

In the event when online shopping fails, e-consumers are not going to immediately become discouraged from shopping on the Internet but to choose the seller more carefully and ensure better protection against cheating.

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Summary

In a common opinion, online shopping is considered more risky than traditional shopping in regular shops. The results of research presented in this article constitute an attempt to look at the issue from a wider perspective. In the article, the following questions have been answered: What apprehensions and doubts accompany e-consumers while making online shopping? Which are the most important for them? What are consumers doing to reduce the risk of a failed purchase? And also how much are e-consumers aware of their rights.

Keywords: e-consumer, risk of a failed purchase