Security and Trustworthiness as Drivers of E-shop Competitiveness (Opinions of Young Customers)

Petrtyl Jan

Abstract

Although the overall share of B2C e-commerce on the total retail turnover in the Czech Republic is low, e-shopping still indicates quite impressive year-to-year growth rates. Though very popular - especially in certain customer segments, such as young people - there are serious problems and challenges observed in this domain. Problems and challenges such as security and trustworthiness issues are often discussed and scrutinized. Thus, it is very important for both e-retailers and researchers to find out which factors drive e-shops' competitiveness. In the introductory part, this paper presents useful and clear definitions to enlighten and clarify the topic. The description of Czech B2C e-commerce market follows, and it emphasizes the issues of ethics, security and trustworthiness and problems customers often face. Results of empirical research focused on issues on security and trustworthiness in relation to e-shop competitiveness are then presented and discussed. Suggestions for future research form the final part of the article.

Key words: ICT, B2C, e-commerce, trustworthiness, ethics, competitiveness

1. INTRODUCTION

Information and communication technologies (ICT) have changed our lives dramatically. What seemed impossible has become a crucial part of today's reality. Proper use of ICT can enhance competitiveness not only of whole countries and regions, but also of companies and individuals. One of the most apparent domains transformed by the influence of ICT is trade. In this paper, author presents the following research problems:

- Characteristics of level of e-commerce use in the Czech Republic
- Evaluation of the factors determining competitive position of an e-shop emphasizing role of security and trustworthiness

2. THEORETICAL FRAMEWORK

2.1 Information society impacts

Among others, there are two important frameworks depicting role of ICT in society. The first one was defined by OECD and is called "Information Society Statistics Conceptual Model" (OECD, 2011). It tries to describe the complexity of the information society and includes all major entities and relations somehow related to ICT. Electronic trade is included in a group labeled "ICT Demand (Users and Use)". This framework is also related to "Information Society Impacts Measurement Model" (OECD, 2008). It indicates areas of interest that are divided into two groups—easier (economic, positive, short-term, direct, and narrow impacts) and harder

(social, negative, macro, long-term, and unintended impacts) to measure. The United Nations formulated an "ICT Impact Relationships Model" that comprises relations belonging to the three main fields: economy, society and environment (UNCTAD, 2011).

2.2 E-business and e-commerce

There are many definitions of these terms—some of them are wider, some narrower. Nevertheless, e-business and e-commerce certainly do not mean the same thing. E-business is described as "automated business processes (both intra- and inter-firm) over computer mediated networks" (OECD in European Commission, 2010a, p. 174). While e-business is a general term, e-commerce (electronic commerce) is by definition narrower one. It means "the sale or purchase of goods and services, whether between businesses, households, individuals, governments, and other public or private organizations, conducted over computer-mediated networks" (OECD in EITO, 2007, p. 93). As such, e-commerce represents a part of e-business and these terms should not be considered as substitutes.

Business tools using e-business and e-commerce technologies may be very effective and have the potential to enable a company to reach new customers, and serve them better than ever before. Nevertheless, such technologies require careful evaluation and thinking before the implementation phase. As seen in the beginning of the 21st century, simply "becoming digital" does not necessarily mean "becoming successful". Stories of Webvan.com, Pets.com, and Kozmo. com (German, 2012) are telling examples of risks and failures related to e-commerce.

Gartner (a consultancy company) publishes the so-called Hype Cycle Curve. It is the tool used for evaluation of emerging technologies (considering expectations and time). Technologies pass through several stages—including e.g. "Peak of Inflated Expectations" and "Plateau of Productivity" (Gartner, 2012)—and it pays off to watch and analyze, whether they may or may not be useful for actual business use. Not surprisingly, a special Hype Curve is formulated also for the field of e-commerce. As it is commonly well known, use of ICT without careful assessment and appropriate plan may not lead to positive economic effects, and e-commerce is, in this sense, definitely not exceptional.

2.3 Competitiveness and competitive advantage

Competitiveness is a very frequently used term, but somehow not commonly perceived in the same manner. Feurer & Chaharbaghi (1994) mention that although in the middle of business strategy development, definition of the term "competitiveness" is often vague. It means "the ability to provide products and services as effectively as, or more effectively and efficiently than the relevant competitors" (Omerzel & Gulev, 2011, p. 339) or "an advantage over competitors gained by offering greater customer value, either through lower prices or by providing more benefits that justify higher prices" (Kotler & Armstrong, 2010, p. 234). "A firm gains competitive advantage by performing (...) strategically important activities more cheaply or better than its competitors." (Porter, 1998, p. 34). Some business environments (markets) are described as "hypercompetitive". Electronic markets have almost no barriers for new entrants, thus new subjects can start business operations very quickly. Considering low costs of establishing an e-shop (e.g. basic e-commerce platforms are offered for free or just for symbolic amount of money), user friendly interfaces, and up-to-date communication tools implemented,

it has never been easier to become an e-tailer (electronic retailer). Hence, the need to gain a competitive advantage is becoming more and more important.

3. B2C E-COMMERCE IN THE CZECH REPUBLIC

As apparent from the definition, there are many models of e-commerce: B2C, C2C, B2B, and others (including government, employees etc.). This paper focuses especially on the businesses-to-consumers relations.

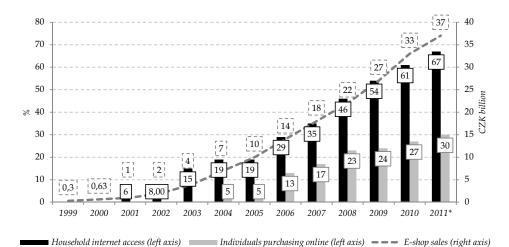


Fig. 1 – E-commerce volume, households online, and individuals purchasing online. Source: APEK (2011), ČSÚ (2011), Eurostat (2011a, b), GfK in American Chamber of Commerce (2001), Sedláčková & Cyprich (2011)

Sales in 2011 are based on estimates. There was a steady rise of electronic trade importance with only slight reduction in sales growth rate in the year 2011. An approximate share of B2C e-commerce on retail trade in 2010 was around 4%. The share of individuals purchasing online on population is higher in EU-27 than in the Czech Republic: 43% compared to only 30% (Eurostat, 2011b), but shopping online becomes more and more popular, and more than 95% of Czech internet users planned to buy Christmas gifts online in 2011 (Podnikatel.cz, 2011). Overall, the total number of e-shops operating on the Czech market is approximately between 10,000—23,000 subjects, but only 500—1,000 of them operate as "full-time" e-shops, i.e. companies focusing only on e-commerce (Hlavenka, 2009; Morávek, 2011). New ones are being created every day, but an apparent pressure to consolidate is noticeable. This can be illustrated by the merger of Kasa.cz and Vltava.cz, two of the biggest Czech e-shops that merged in 2010 (Punar, 2010). There is still enough market space for e-shops that differentiate and offer special goods, but probably not for subjects looking for turnover counting in billions of crowns.

4. ETHICS, SECURITY, AND TRUSTWORTHINESS IN B2C E-COMMERCE

Like other areas, also e-shopping offers customers not only many advantages, but also some inconveniences (and these may have very negative consequences, such as privacy issues, stolen money, and unfortunately many others).

4.1 Main advantages of e-commerce

It is easy to order almost any goods from all around the world within minutes and get it delivered soon. First, there may be major benefits occurring when shopping online (Prieger & Heil, 2010, p. 13; Goel, 2008, p. 9):

- 1. B2C interactions allow better matching of consumers to products and services (the so-called "global marketplace").
- 2. Search tools for buyers, retail auction sites such as eBay, and online brand communities all lower the consumers' costs of searching for goods and prices.
- 3. Reduced prices: Costs of products are reduced since stages along the value chain are decreased. Reynolds (2010) gives notice to the phenomenon of "dis-intermediation".
- 4. 24-Hours access: E-commerce allows people to carry out businesses without the time barriers.
- Increased convenience of purchasing, and faster delivery: Especially in case of fully digitalized products the process of consumption can begin almost immediately after the purchase.

These are just main issues characterizing advantages of e-shopping. Compared to the "classic" consumer goods purchasing, online shopping has indeed transformed the whole process of purchasing.

4.2 Inconveniences associated with e-commerce

E.g. Goel (2008, p. 11) states that there also some problems related to e-commerce:

- 1. Hidden costs: Especially shipping costs, difficulties when replacing goods, etc.
- 2. Network unreliability: Although they are meant to operate 24 hours a day, e-commerce websites may be impacted by technical difficulties that make a purchase impossible.
- 3. Privacy and security issues: There is a number of dishonest e-tailers who try to abuse customers' trust, hence economic/financial losses and similar problems are not rare in the e-commerce environment.

Clearly, not all subjects on the supply side follow fair-play rules. To protect consumer interests, OECD has come up with the so-called "Key Policy Principles" that reflect major security and trustworthiness issues in B2C e-commerce (OECD, 2009):

- (1) transparent and effective protection, (2) fair business, marketing and advertising practices,
- (3) clear information about: an online business's identity, the goods or services at offer, the terms and conditions of transactions, (4) a transparent confirmation process of the transaction, (5) secure payment mechanisms, (6) fair, timely and affordable dispute resolution and redress,

and (7) privacy protection.

European Commission (2010b) focuses on similar issues (and highlights problems in cross-border e-commerce), too, and publishes a special report (The European Marketplace: Consumer Complaints). As well as in the case of OECD, nature of complaints can be divided into several categories: (1) delivery, (2) product/service, (3) contract terms, (4) price and payment, (5) redress, (6) selling techniques/unfair commercial practices (UCP), (7) deceit, and (8) others.

Following figures depict frequencies and characters of complaints as published by the two mentioned institutions. It is very likely, that having bad experience or just being afraid to shop abroad electronically can result in lower volume of trade and thus represent one of many factors undermining economic development. Viviane Reding (Eurocommissioner) estimates overall losses in cross-border online transactions within the EU reach EUR 26 billion per year (Klesla, 2011).

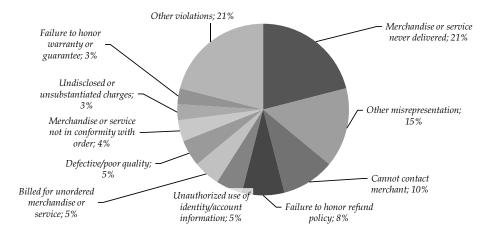


Fig. 2 – Top law violations for e-consumer complaints, 2008 (N=14,214). Source: US FTC (2009) in OECD (2009)

This chart presents relative amount of problems faced by U.S. e-consumers. Answers were acquired during year 2008. Almost one quarter of violations accounts for not delivered articles. Czech customers strongly prefer cash-on-delivery payment (APEK, 2011) mainly just because they want to eliminate risks associated with delivery.

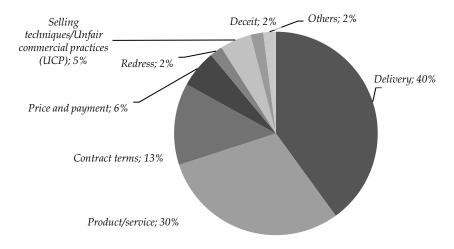
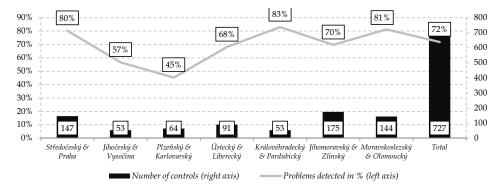


Fig. 3 – Nature of complaint, 2009 (N=7,051). Source: European Commission (2010b)

Like US FTC, also the European Commission watches the e-commerce environment. Cross-border e-trade included the problems as mentioned above. Delivery problems were somehow more frequent (approximately twice as high) than in case of the United States of America, maybe because some dishonest e-tailers in the EU bank on language and other barriers.

Security/trustworthiness situation in the Czech domestic e-commerce is monitored e.g. by the Czech Trade Inspection (ČOI). During Q1—Q3 2011 this institution found out that market



situation was still far from being without problems.

Fig. 4 – Law violating practices in Czech e-shops (in regions), Q1—Q3 2011. Source: ČOI (2011)

The use of unfair commercial practices was one of the most frequent violations (52%), followed by providing incorrect information on complaint procedure (40%). Czech Trade Inspection therefore recommends to: (1) scrutinize e-shop before purchasing goods/services, (2) read carefully trade terms and conditions, (3) not to pay in advance, and (4) watch online discussions about e-shops where customers would like to purchase a product.

4.3 Certification

B2C E-commerce exists in a legal framework (for details see e.g. BusinessInfo.cz, 2010). But following legal rules do not necessarily mean that an e-shop also follows ethical principles. There are three main certification authorities operating in the Czech Republic. Since 1998, the Association for Electronic Commerce (APEK) unites subjects associated with e-commerce market that consider trustworthy issues to be of great importance, and want to be differentiated from others. Two-level certification should provide a guarantee that a certificate holder (an e-shop) provides high quality services and the probability of problems customers may face is very low. Unfortunately, members of APEK can be counted in hundreds and certificate holders are even fewer. Another organization operating in this field is called the Association for Direct Marketing and Mail Order Trade (ADMAZ), and the third one is the Association for Consumer Defense (SOS).

4.4 Drivers of e-shop competitiveness

An e-shop is competitive if it attracts customers and outperforms its competitors. Thus it can raise sales and possibly also its market share. Rational customers (for details see e.g. Gravelle & Rees, 2004) should probably select an e-shop that is more trustworthy (that means it provides all necessary information, has positive references on the internet etc.) instead of the other ones. On the other hand, Czech customers are very price sensitive (Vylet'al, 2010) and sometimes may even prefer lower price to accuracy of information provided (and thus the emphasis on security is overshadowed). This may depend on the total value of purchased goods: probably the higher the price of demanded article, the more carefully customer will evaluate e-shop characteristics (this might not be necessarily valid allegation in all cases). As stated above, the internet provides excellent tools for price and product assessment and comparison (e.g. Heureka.cz, Zboží.cz, and others).

The access to experience of real customers and their product/retailer review is one of the most useful ways to eliminate possible risks. Combined with the power of the so-called word-of-mouth, or even transformed to "world-of-mouth" (Qualman, 2011) social networking sites (or more generally—social media as such) can increase transparency of market environment and awareness of customers. Most likely, the importance of social media for e-commerce will increase hand in hand not only with strengthening audience, but with companies' better understanding of their actual and future possibilities. Impressive numbers are predicted: "By 2015, world's top companies will generate up to 50% of their web sales via their social presence and mobile applications." (Reynolds, 2011, p. 28).

This closely corresponds with main barriers of online purchasing. These can involve (Bártová in Shopcentrik.cz, 2007): (1) impossibility to test and see real goods, (2) uncertainty of getting ordered product, (3) uncertainty about complaint procedure, (4) fear of abuse of data/information, and (5) unawareness of purchase process. Although these factors may evolve, the framework seems to be clear: declared and proved trustworthiness and security can enhance the competitive position of an e-shop.

Security and trustworthiness are almost always mentioned among factors determining quality of a B2C e-commerce website (see e.g. Davidavičiene & Tolvaišas, 2011; Rababah, Al-Shboul & Al-Sayyed, 2011; Chiou, Lin & Perng, 2010; Rababah & Masoud, 2010; Petre, Minocha &

Roberts, 2006). Although many studies focus on detailed website evaluation, it may be inefficient for a customer to study every aspect of an e-shop in detail, because this kind of shopping behavior may take too much time. People may rather select an e-shop by evaluating it in a more general way (and not such thorough), although it is highly recommended to scrutinize the e-tailer carefully before any purchase (and even before paying for the goods).

First of all, an e-shop must offer an article a customer is looking for (reasonably priced). Customer may have heard or read about the e-shop earlier, but naturally can also compare the offer with other e-shops' offers seen on the internet. He/she may also wish to discuss product characteristics and delivery details with an employee of the e-shop; then a communication quality, openness and accurateness starts to play important role.

5. OBJECTIVES AND METHODOLOGY

When formulating research questions, private/public sector surveys that had been performed were taken into consideration (APEK, 2011; Gemius, 2011, 2010; European Commission, 2010b; OECD, 2009). Thus, formulation of questions has drawn on "old" ones, but other ones were newly created and included. Main research questions then reflect current market conditions:

- Which factors are the most important drivers of B2C e-commerce website competitiveness?
- Which strategies do people follow most often when shopping online?
- Which types of problems do people who shop online face most often?
- Does the amount of types of problems faced when shopping online depend on perceived importance of security and trustworthiness?

To get answers to these questions, an online survey was realized with use of Google Documents Form. Respondents had the chance to answer the questions (9 in total) during one month (November 2011). Hyperlinks leading to the questionnaire were published on Facebook site administrated by the Department of Marketing, Trade and Services (Faculty of Economics, University of West Bohemia), and students were also asked to fill in the questionnaire in person in lessons. Obtained data were originally of qualitative type, and were transformed into the quantitative one (a certain number was assigned to each type of answer). Thus, the dataset for quantitative analysis has been defined.

5.1 Target group characteristics

Tab. 1 – Respondents' sample characteristics. Source: own

N (total)	Males	Females	Mean (Age)	Median (Age)	Min (Age)	Max (Age)	SD (Age)	
202	47	155	22.54	22	20	36	2.4192	

The sample consisted mainly of university students or fresh graduates. The target group was selected because of future importance of its members. As stated above, "digital natives" consider ICT as a common part of their lives and even though they may not have huge amounts of

money to spend right now, they will probably form one of the most important online customer segments in near future (Bártová in Shopcentrik.cz, 2007).

This statement is also supported by higher expected earnings because of acquired university degree. A vast majority of people polled have already shopped online, however. Thus, their opinions are very useful and important. Moreover (based on official statistics), people aged 16—24 and 25—34 have shopped online in 44.3% and 49.8% of population group, respectively (the highest rates in population); higher education also increases the probability of eshopping (ČSÚ, 2011).

6. RESULTS

Out of 202 respondents, only 5 (i.e. 2.48%) have never shopped online (but 2 of them would like to do so in future). 150 people think that e-shopping is cheaper than shopping in classic "bricks-and-mortar" stores, 128 (63.36%) think that it saves time, 45 (22.27%) think that it is risky, and only 2 (0.99%) think that it is complicated. 21 (10.39%) people think also something else (e.g. there is a wider variety of goods available on the internet, e-shopping is comfortable etc.). The importance of e-shop characteristics from customers' point of view is depicted on following chart. Statistical data follow in table 2.

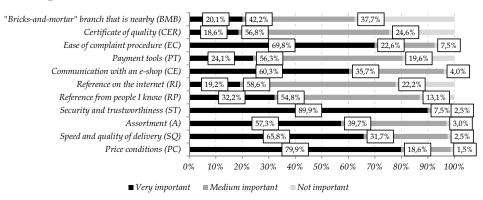


Fig. 5 – Importance of e-shop characteristics (N=199; people who have shopped online or would like to do so in future). Source: own

Char.	BMB	CER	EC	PT	CE	RI	RP	ST	A	SQ	PC
Mean	1.82	1.93	2.62	2.04	2.56	1.96	2.19	2.87	2.54	2.63	2.78
score	1.02	1.75	2.02	2.01	2.50	1.70	2.17	2.07	2.01	2.03	2.70
SD	.7414	.6563	.6225	.6613	.5728	.6428	.6464	.4011	.5568	.5329	.4478
N	199 (people who already have shopped online or would like to do so in future)										

Tab. 2 – Evaluation results of e-shop characteristics. Source: own

3=very important, 2=medium important, 1=not important

The data from table 2 (supplementing Fig. 5) describe the perceived importance of each factor (driver of e-shop competitiveness). The higher the mean score, the more important the factor

is for customers. Standard deviations in respondents' answers are presented as "SD". Lower values mean lower variability in the responses.

The most important factor when talking about competitiveness of an e-shop is security & trustworthiness (rated 2.87 with standard deviation=0.4011), followed by price conditions, speed and quality of delivery, ease of complaint procedure, and communication with an e-shop. At the other end of the spectrum we see bricks-and-mortar branch located nearby, and whether an e-shop is holder of a certificate ("trustmark") proving its quality. It is very likely that people do not perceive a certificate to be of great importance because they do not even know the most promoted ones awarded by APEK. This also corresponds with strategies which people use when shopping online—no one answered that she/he buys mainly in a shop that holds a certificate.

All people who shop online follow some kind of strategy. Potential customers have many ways to reach an e-shop where they finally purchase demanded goods. Main possible strategies are depicted on following chart:

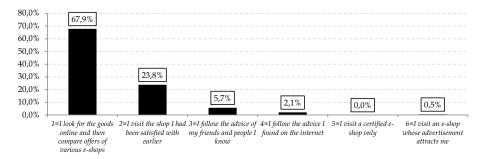


Fig. 6 – The main strategy followed when shopping online (N=193; people who have shopped online and answered the question). Source: own

Price sensitivity and issues of security and trustworthiness project into the followed strategies. Online services that allow customers to compare prices and providing useful evaluation and information drawing on real users' experience are probably the reasons for the popularity of strategy 1—"I look for the goods online and then compare offers of various e-shops". Notably, this strategy is often mentioned as the first necessary step to a successful purchase and it is highly recommended to look for positive references before ordering (and even paying) goods (see e.g. ČOI, 2010; SOS, 2011). Strategy 2—"I visit the shop I had been satisfied with earlier" reflects customer loyalty. Strategies "1" and "2" are then the dominant ones, followed by minority of people emphasizing mainly friends' recommendation and advise, and reference found on the internet. On the other hand, advice from "online people" probably plays important role in strategy "1".

As security & trustworthiness is the most influential factor when talking about competitiveness, it is important to find out how people who consider this factor as "very important" differ in their opinions from those, who consider it only as "medium important" or even "not important". 20 respondents (i.e. approximately 10%) polled in the survey consider security and

trustworthiness to be medium- or not at all important factor. This may have implications for e-tailers as they can then identify areas to pay more attention to.

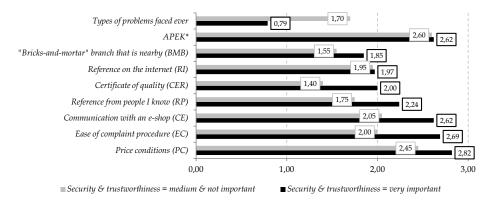


Fig. 7 – Perception of competitive factors based on the perception of security and trustworthiness (N=199; people who have shopped online or would like to do so in future, 197 respectively /in case of "Types of problems faced ever"/). Source: own

Note: * APEK: 1=I know exactly what this term means; 2=I more or less know what this term means; 3=I have never heard of this term. Otherwise: the higher the score, the more important the factor is.

Although the vast majority of respondents (88.6%) think security and trustworthiness is very important, their knowledge of APEK—as an example of certification/"trustmark" authority—is as poor as of those who do not consider security issues as such important.

The group emphasizing security and trustworthiness also valuates ease of complaint procedure (2.69 compared to the score 2.00 in case of ST=2; 1), communication with an e-shop (2.62 compared to 2.05), reference from friends/people they know (2.24 compared to 1.75), and prefer a certification (2.00 to 1.40), although nearly no one knows APEK as stated above. There is almost no difference in perception of internet references that are more or less the same "important" in case of both groups. A very interesting difference can be seen in case of "price conditions" evaluation (2.82 to 2.45).

Significant difference can be seen in case of types of problems faced (list of possible answers to be selected from /"Have you ever faced this problem when shopping online..."/ corresponds with Fig. 2). This proves that it pays off to evaluate security/trustworthiness issues of an eshop. People who assess ST=3 have faced on average 0.79 types of problems (ever), although those who valuate ST=(2; 1) have faced on average 1.70 types of problems, which is more than twice higher number. In total, out of 197 people who have already shopped online, 49.7% have had some problems, as shown on Fig. 8.

Compared to Fig. 2 and Fig. 3, problems with delivery are the most frequent, again. Defective/poor quality follows and proves that emphasis put on the role of "ease of complaint procedure" issues as seen on Fig. 5 and Tab. 2, is not accidental. Considering this, it is very surprising that people do not "insist" on having a "bricks-and-mortar" branch nearby to solve reclamation issues more easily. Those who assess security and trustworthiness to be very important see the

nearby branch only slightly more important (score 1.85 compared to 1.55) than those who do assess it to be medium- or not important, though.

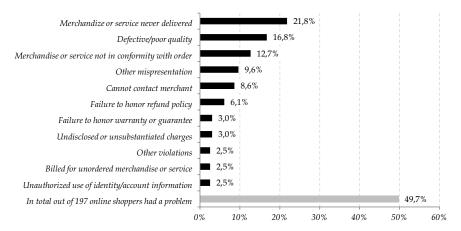


Fig. 8 – Types of problems online shoppers faced (N=197; people who have shopped online). Source: own

7. DISCUSSION AND RESEARCH LIMITATIONS

The results reflect current market situation. It was proven that e-shopping deserves careful evaluation and that it is needed to watchfully assess an e-shop before ordering and paying for demanded goods. The most frequent problem when shopping online was the same in target group as in the results of OECD (2009): merchandise or service never delivered. This is also related to the negative aspect (inconvenience) of e-commerce, as e.g. Goel (2008) points out: hidden costs of e-shopping. Nevertheless, price conditions are still one of the most important drivers of e-shops' competitiveness. Considering availability of information, customer loyalty and price requirements, gained results confirm that e-shops which provide transparent information and care about their customers (as respected institutions, like ČOI, SOS or APEK recommend), have better chance to gain and sustain the competitive advantage.

Although the total number of respondents (202 from one specific segment) is sufficient (respected surveys carried out e.g. by Gemius cover approximately 1,250 people in total including various segments), it was not possible to perform any statistical hypothesis testing: (1) parametric tests were not suitable because of lack of normality in respondents' answers, and (2) non-parametric chi-square test of independence (meant to find possible relations between variables) was not applicable, because some expected frequencies of answers were smaller than 5 (caused by zero/low obtained answers in certain categories). Thus, the test strength would be weak. On the other hand, primary data interpretation, complemented by secondary filtration provide useful information that is coherent and proves results that could be expected (e.g. people who care less about security face problems more often etc.) but also reveals some surprising data (e.g. unawareness about APEK, lower than expected importance of internet references etc.). Respondents sample consisted of 23% of men and of 77% of women, which reflects gender distribution of Faculty students. All in all, in spite of the described difficulties, the data have explanatory power.

8. CONCLUSION

E-shopping is a phenomenon that retailers must take into account. As in every field of human activity, also this domain is not free of risk. Difficulties and inconveniences are not rare (as seen e.g. in case of controls performed by the Czech Trade Inspection), so that respected organizations like OECD or the European Commission pay attention to them. Although there are given common legislative rules, market itself tries to self-regulate to reach higher level of security. This can be illustrated by various associations providing certificates that should prove an appropriate quality of an e-tailer. Nevertheless, customer must stay watchful, because some subjects pretend to be certificate holders even though they are not (simply by putting logo of a certificate on their website). Solution to this problem is to check a certificate ownership in the certification authority database.

It seems that young people prefer secure and trustworthy e-shops. They mainly compare offers on the internet and then select an e-shop that meets their requirements the best. It is very positive that people from the selected segment prefer security compared to price conditions (albeit the latter is the second most important driver of competitiveness). Regardless of the importance of security and trustworthiness, almost one half of people from the survey have experienced some difficulties when shopping online. Surprisingly, knowledge of APEK (the authority providing e-commerce certification) is very bad and also a significant part (approximately a quarter) of respondents does not consider certification to be important. This remains a challenge for both, e-tailers and certification authorities, to better promote their initiatives aimed at strengthening security and trustworthiness, and guaranteeing appropriate quality of their services.

People with tertiary education and familiar with using computers represent a very important segment of customers. Almost all respondents from the poll have already shopped online. They will probably form the core segment generating e-shop sales in the future and thus it is worth knowing and evaluating their customer behavior. Reliable and solid e-tailers may improve the way of offering and promoting goods in a way that better meets requirements of this important group of customers and thus they can become even more competitive.

8.1 Future research

It would be worth asking also other segments of customers who shop online to acquire information on their customer behavior and its determinants. This article is another one among author's other papers focusing on e-commerce. It complements the description of the overall state of e-commerce in the Czech Republic (compared to situation in the EU and USA) and relates also to the newest published paper focusing especially on the ethical and security issues. The future research will focus on the topic of e-shop website evaluation. Drawing on results of former research, issues of security and trustworthiness will be emphasized. The work will be aimed at comparing websites of sample e-shops, identification of their strengths, weaknesses and unique tools they offer to customers. Thus, a complex evaluation will be provided to researchers, customers and also subjects of market supply side.

Acknowledgement

This paper was formulated within research project "Chování podnikatelských subjektů na trhu a jeho dopad na celospolečenské klima v ČR" realized at Faculty of Economics, University of West Bohemia.

References

- 1. American Chamber of Commerce. (2001). *E-commerce in the Czech Republic 2000*. Retrieved February 7, 2011, from http://www.hifi-web.com/www.nmd.cz/files/E-Commerce.pdf
- APEK. (2011). Internetové obchody loni utržily rekordních 33 mld. Kč. Retrieved February 7, 2011, from http://www.financninoviny.cz/zpravy/apek-internetove-obchody-loni-utrzily-rekord-nich-33-mld-kc/577320&id_seznam=
- BusinessInfo.cz. (2010). Elektronický obchod. Retrieved November 20, 2011, from http:// www.businessinfo.cz/cz/clanek/orientace-v-pravnich-ukonech/elektronicky-obchodopu/1000818/7013/
- 4. Chiou, W., Lin, C. & Perng, C. (2010). A strategic framework for website evaluation based on a review of the literature from 1995–2006. *Information & Management*, 47 (4), 282-290. doi: 10.1016/j.im.2010.06.002
- ČOI. (2011). ČOI: Internetové obchody jsou fenomén i problém doby. (Press release). Retrieved January 7, 2012 from http://www.coi.cz/files/documents/tk-1018-internetove-obchody-1-3-q2011-3.doc
- ČOI. (2010). Nákup přes internet. Retrieved January 7, 2012, from http://www.coi.cz/cs/esc-2/spotrebitel-2/nakup-pres-internet/
- ČSÚ. (2011). Informační společnost v číslech 2011. Retrieved January 15, 2012 from http://www.czso.cz/csu/2011edicniplan.nsf/p/9705-11
- 8. Davidavičiene, V. & Tolvaišas, J. (2011). Measuring quality of e-commerce web sites: Case of Lithuania. *Ekonomika ir vadyba (Economics and Management)*, (16), 723-729.
- 9. EITO. (2007). European Information Technology Observatory Berlin: European Economic Interest Grouping.
- European Commission. (2010a). ICT and E-Business for an Innovative and Sustainable Economy.
 Retrieved September 17, 2011, from www.empirica.com/themen/ebusiness/documents/ EBR09-10.pdf
- European Commission. (2010b). The European Online Marketplace: Consumer Complaints 2008-2009: A summary and analysis of consumer complaints reported to the European Consumer Centres' Network. Retrieved December 20, 2011, from http://ec.europa.eu/consumers/ecc/docs/european_online_marketplace_complaints_2008_09_en.pdf
- 12. Eurostat (2011a). *Households Level of Internet access*. Retrieved January 15, 2012, from http://appsso.eurostat.ec.europa.eu/nui/show.do?dataset=isoc_ci_in_h&lang=en
- 13. Eurostat. (2011b). *Internet purchases by individuals*. Retrieved January 15, 2012, from http://appsso.eurostat.ec.europa.eu/nui/show.do?dataset=isoc_ec_ibuy&lang=en
- Feurer, R. & Chaharbaghi, K. (1994). Defining competitiveness: A holistic approach. *Management Decision*, 32(2), 49-58. doi: 10.1108/00251749410054819
- 15. Gartner. (2012). *Gartner's Hype Cycle Special Report for 2011*. Retrieved February 27, 2012, from http://www.gartner.com/DisplayDocument?doc_cd=215667&ref=g_noreg
- 16. Gemius. (2011). *E-commerce 2010: Trendy a názory*. Retrieved April 17, 2011, from http://issuu.com/mediar/docs/e-commerce_2010-gemius

- 17. Gemius (2010). *E-commerce 2009 Česká republika: trendy a názory*. Retrieved December 7, 2010, from http://cz.gem.pl/files/2009_e_commerce_short_free_CZ_final.pdf
- 18. German, K. (2012). *Top 10 dot-com flops*. Retrieved February 25, 2012, from http://www.cnet.com/1990-11136_1-6278387-1.html
- 19. Goel, R. (2008). E-Commerce. New Dehli: New Age International Pvt. Ltd. Publishers.
- 20. Gravelle, H. & Rees, R. (2004). Microeconomics. Harlow: Pearson Education.
- 21. Hlavenka, J. (2009). Horních deset tisíc internetových obchodů. Retrieved August 15, 2011, from http://www.lupa.cz/clanky/hornich-deset-tisic-internetovych-obchodu/
- 22. Klesla, J. (2011). Strach lidí z nákupů v zahraničí nás stojí miliardy, tvrdí eurokomisařka. Retrieved December 15, 2011, from http://byznys.ihned.cz/c1-53652740-strach-lidi-z-nakupu-v-zahranici-nas-stoji-miliardy-tvrdi-eurokomisarka
- 23. Kotler, P. & Armstrong, G. (2010). Principles of marketing. New Jersey: Pearson Education.
- 24. Morávek, D. (2011). *Jan Vetyška: Český zákazník je náročný, e-shopy si vychoval do nadstandardních služeh.* Retrieved August 2, 2011, from http://www.podnikatel.cz/clanky/jan-vetyska-cesky-zakaznik-je-narocny/
- 25. OECD. (2011). Guide to measuring the information society. doi: 10.1787/9789264113541-en
- OECD. (2009). Empowering e-consumers: Strenghtening consumer protection in the internet economy. Washington. Retrieved September 10, 2011, from http://www.oecd.org/ict/econsumerconference
- 27. OECD. (2008). Measuring the Impacts of ICT Using Official Statistics. doi:10.1787/230662252525
- 28. Omerzel, D. G. & Gulev, R. E. (2011). Knowledge resources and competitive advantage. Managing Global Transitions, 9(4), 335-354. Retrieved January 7, 2012, from http://www.fm-kp.si/zalozba/ISSN/1581-6311/9_335-354.pdf3
- 29. Petre, M., Minocha, S. & Roberts, D. (2006). Usability beyond the website: an empirically-grounded e-commerce evaluation instrument for the total customer experience. *Behaviour & Information Technology*, 25(2), 189-203. doi: 10.1080/01449290500331198
- 30. Podnikatel.cz. (2011). Vánoční tržby e-shopů dosáhnou až 15 miliard korun. Retrieved December 17, 2011, from http://www.podnikatel.cz/clanky/vanocni-trzby-e-shopu-budou-atakovat-15-miliard/
- 31. Porter, M. E. (1998). Competitive advantage, creating and sustaining superior performance: With a new introduction. New York: Simon & Schuster.
- Prieger, J. E. & Heil, D. (2010). The Microeconomic Impacts of E-Business on the Economy.
 In I. Lee (Ed.), Encyclopedia of E-Business Development and Management in the Global Economy (pp. 12-22). New York: Business Science Reference. http://dx.doi.org/10.4018/978-1-61520-611-7.ch002
- 33. Punar, T. (2010). Konkurence: Vltava.cz v rukou Kasa.cz. Retrieved December 4, 2011, from http://channelworld.cz/sluzby/konkurence-vltava-cz-v-rukou-kasa-cz-2454
- 34. Qualman, E. (2011). Socialnomics: How social media transforms the way we live and do business. Hoboken, New Jersey: John Wiley and Sons, Inc.

- 35. Rababah, O. M., Al-Shboul, M. & Al-Sayyed, R. (2011). A new vision for evaluating the quality of e-commerce websites. *International Journal of Advanced Corporate Learning*, 4(1), 32-41. http://dx.doi.org/10.3991/ijac.v4i1.1456
- Rababah, O. M. & Masoud, F. A. (2010). Key factors for developing a successful e-commerce website. Communications of the IBIMA. Retrieved January 15, 2012, from http://www.ibimapublishing.com/journals/CIBIMA/2010/763461/763461.pdf. http://dx.doi.org/10.5171/2010.763461
- 37. Reynolds, M. (2011). *Top Technology Predictions for 2011 and Beyond.* Gartner Webinar. Retrieved September 17, 2011, from http://my.gartner.com/portal/server.pt?open=512&objID=202&mode=2&PageID=5553&resId=1587114&ref=Webinar-Calendar
- 38. Reynolds, J. (2010). E-Business: A Management Perspective. Oxford University Press.
- Sedláčková, V. & Cyprich, P. (2011). Počet podvodných e-shopů v ČR nepřekračuje světový standard.
 Retrieved January 10, 2011, from http://www.rozhlas.cz/zpravy/domaciekonomika/_zprava/962405
- 40. ShopCentrik.cz. (2007). Nakupování na internetu roste závratným tempem. Ženy dohánějí muže a dnešní náctiletí představují obrovský nákupní potenciál. Retrieved December 29, 2011, from http://www.shopcentrik.cz/aktuality/nakupovani-na-internetu-roste-zavratnym-tempem-zeny-dohaneji-muze-a-dnesni-nactileti-predstavuji-obrovsky-nakupni-potencial.aspx
- 41. SOS. (2011). ČOI: 76% kontrolovaných e-shopů porušuje předpisy na ochranu spotřebitele. Retrieved December 27, 2011, from http://www.spotrebitele.info/it-a-telekomunikace/296-oi-76-kontrolovanych-e-shop-poruuje-pedpisy-na-ochranu-spotebitele.html
- 42. UNCTAD. (2011). Measuring the impacts of information and communication technology for development. Retrieved September 18, 2011, from http://www.unctad.org/en/docs/dtlstict2011d1_en.pdf
- 43. Vyleťal, M. (2010). *České e-shopy v roce krize*. Retrieved January 17, 2010, from http://www.lupa.cz/clanky/ceske-e-shopy-v-roce-krize/

Contact information

Ing. Jan Petrtyl
Department of Marketing, Trade and Services,
Faculty of Economics, University of West Bohemia
Husova 11, 306 14 Plzeň
Tel: +420 377 633 317
E-mail: petrtyl@kmo.zcu.cz

JEL Classification: L81, D12, D18