Model of Expectation and Satisfaction in B2C electronic commerce

R. Bilkova, H. Kopackova

Abstract — Expectation disconfirmation theory compares pre-purchase expectation with post-purchase perceived performance based on the subject of purchase. In this article we will expand this model to include other parameters that influence visitor willingness to buy. Causal loop diagram is used to find hidden links and feedbacks. Service performance, which emerged in model, is significantly associated with findability, usability and design of electronic commerce sites. On the basis of this finding, we prepared simulation to answer one important question. "How will differ metrics of customer satisfaction for two online stores if they will vary only in findability, usability and design?"

Keywords — expectation, satisfaction, B2C, system dynamics

I. INTRODUCTION

Online marketplace brings wide opportunities to those companies that accepted electronic way of business as being powerful instrument in customer satisfaction. However, any e-commerce website on this market is just one of millions lost in a sea of online stores demanding an attention. In such competitive e-marketplace, those with more interest in attracting customer's satisfaction will possess more shares in the e-marketplace.

Before we take closer look on customer satisfaction through expectation and disconfirmation model, it is necessary exactly define what the B2C model of e-commerce is.
Kauffman and Walden define B2C in this way: B2C electronic commerce is the use by business and consumers of the global Internet for the sale and purchase of goods and services, including business services and support after the sale to consumer [1]. For our research is important that buyer is also consumer so he is able to evaluate the level of satisfaction with product and service.

EDT (Expectation Disconfirmation Theory) is an essential theory that derives customer satisfaction from the comparison of pre-purchase expectation and post-purchase perceived quality of products or services. The difference between initial

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expectation or desire and perceived experience or performance is known as disconfirmation [2], [3]. Disconfirmation of expectation or desire can be positive or negative. Positive disconfirmation will occur when customer's perceived performance of specific product or service is higher than the initial expectation. Vice versa, when customer's perceived performance is worse than what was expected, the negative disconfirmation will happen [4], [5], [6]. EDT model is depicted in Fig. 1.
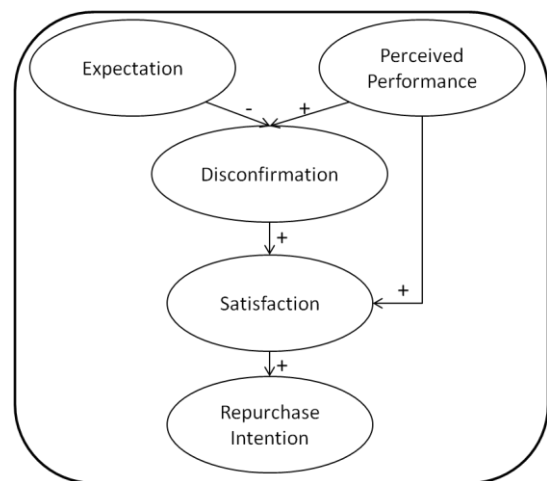

Fig. 1 model of Expectation Disconfirmation Theory

In our view, this model has one serious weakness. Perceived performance depends purely on the subject of purchase; quality of product (service) versus price. Nevertheless, disconfirmation can happen also in the stage of shopping. Only a small proportion of visitors are converted into customers, while others leave. When the environment of shop or quality of service is inappropriate, conversion rate is low as well as sales. At a time, when many stores offer the same products at similar prices, quality of service becomes a key factor. Especially true is this statement for electronic retailers.

Model of B2C e-commerce is based on the assumption that customers get more options to choose among competitors. When ignoring price competition, customer decision, if buy or not, is based on e-shop environment and customer trust.

We see therefore a need to expand Expectation Disconfirmation Theory, to the stage of pre-purchase. At the same time we will try to translate this theory into a system dynamics model. This model will help us to define variables affecting customer satisfaction. Finally, we will describe the

experiment in which we eliminated price competition and observed how quality of e-shop can influence sales.

II. METHODOLOGY

Causal loop diagram (CLD) from system dynamics modeling tools will be used to express pre-purchase and post-purchase satisfaction. CLD model enables visualization of feedbacks that are missing in EDT model.

CLD model will help us to find variables affecting pre-purchase satisfaction together with measures used by designers to build usable web pages.

To study customer satisfaction with service of online store, it was necessary to carry on the experiment with exactly given conditions. In the experiment was built new e-commerce site to prove that pure website service performance can bring purchases while other factors are obeyed.
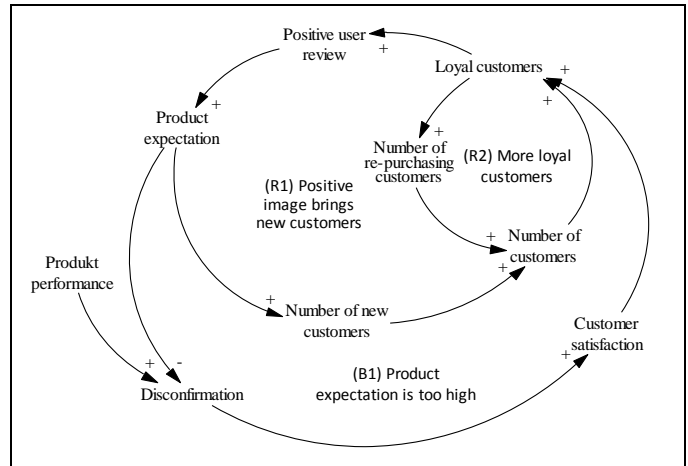
III. EDT MODEL FOR B2C FROM SYSTEM DYNAMICS POINT OF VIEW

First of all we started with modeling pure EDT model, as it was described in introduction. In this model we use variable Product performance even for purchased service in order to distinguish performance of purchased object from Service performance that will be studied in pre-purchase stage. Loyal customers represent group of customers with positive disconfirmation and intention to repurchase.

Product expectation may be based on feedback from prior users, test users, media reports, or marketing initiatives. In next step, the consumer uses the product or service for a period of time and compares their actual experience with initial expectations of the product or service. This match, described as disconfirmation, compose a consumer's extent of satisfaction or dissatisfaction with the product or service (see Fig. 2).
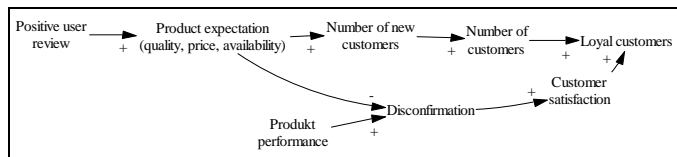

Fig. 2 transformation of original EDT theory into causal loop diagram

. System dynamics, as the discipline, assumes existence of feedbacks, which maintains the balance in systems. J. W. Forrester explained existence of feedback loops in [7]. "We live in a complex of nested feedback loops. Every action, every change in nature, is set within a network of feedback loops. Feedback loops are the structures within which all changes occur."

Presented model was missing any feedback, so we made small adjustment to get the balance. We also added purchases of loyal customers into model and the result can be seen in Fig. 3.

Fig. 3 **incorporation of feedback into the EDT model**

Last model combines adapted EDT model with new service expectation feedback (B2) and Findability variable. Findability will be explained in the next chapter. Service expectation is here compared with Service Performance forming Service disconfirmation. This model also distinguishes between visitors and real customers. Positive reference may attract many visitors (some of them "just looking"). yet that does not mean that they become buyers. Convince them to buy, means to have strong business strategy, knowledge of competitors and very good design of website based on usability measures.
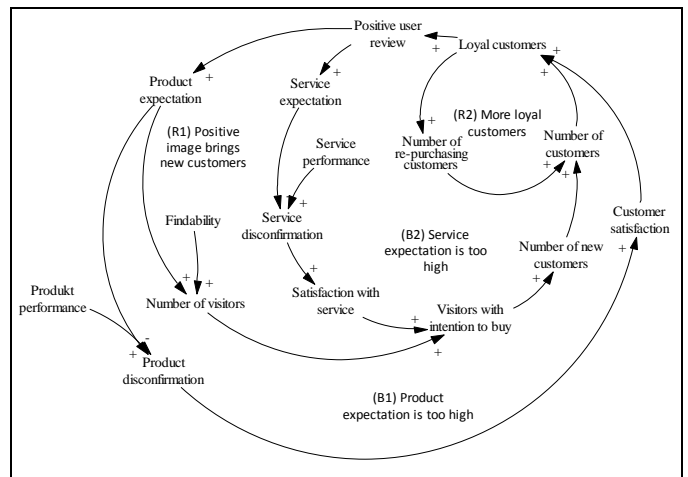

Fig. 4 proposed model of expectation for B2C electronic commerce

In the next chapter we will discuss main variables influencing success of online retailer and some measures that evaluate this success.

IV. VARIABLES AND THEIR MEASUREMENT

Proposed model of expectation for B2C electronic commerce has shown that if e-shop wants to convert as many visitors into customers, it must improve two main variables: Number of visitors and Service Performance.

Number of visitors depends on findability of website and positive image. Findability means the ability of users to find an appropriate website. The importance of findability through search engines is significant, because the overwhelming majority of users start working with the Internet by fulltext search. Recently, the state of URL addresses has been so complicated that it is within no Internet user's power to get about the Web without being assisted by search engines.

In relation to fulltext search, the term invisible web site is used to refer to pages which do not appear in search engines. This is not, however, quite accurate. Invisible web sites may often be found as soon as on the fourth Google page, because hardly anyone searches this far. That is why electronic retailers have to focus on SEO optimization in order to be visible and improve the findability.

Service performance can be defined in different ways. One definition offers Yoo and Donthu in [8]. It can be divided into two categories; vendor-related factors and quality related factors. Vendor related factor covers competitive pricing, clarity of ordering, the name value of site owner, uniqueness, product quality assurance. Quality factors were: ease of use, design, processing speed, and security.

Raganathan and Ganapathy [9] surveyed online shoppers and found that security, privacy, design, and information content had an impact on the online purchase intent.

Aladwani and Palvia [10] reported on the development of an instrument that captured key characteristics of Web site quality from a user's perspective. Their 25-item instrument measured four dimensions: specific content, content quality, appearance, and technical adequacy.

Walcott [11] describes the website evaluation of six different perspectives, including customer services and ease of use. Also Lee et al. [12] in their research examined the relationships among perceived usability before actual use, user performance, and design attributes on user preference for e-commerce web sites.
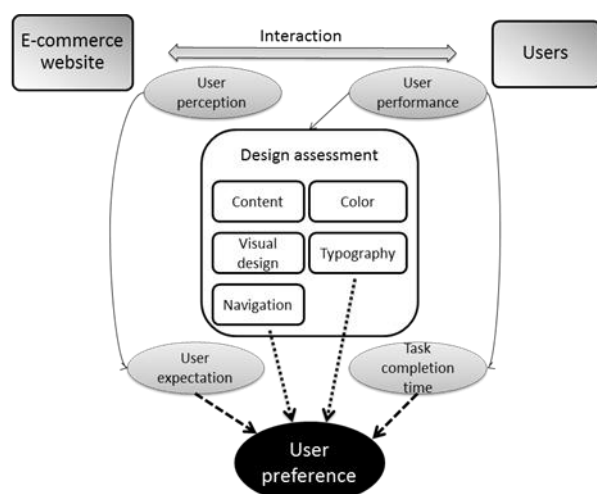

Fig. 5 components of website quality [12]

Muylle et al. [13] empirically validated a standard instrument for measuring the Web site user satisfaction construct (WUS). Their instrument consisted of three components: information (relevance, accuracy, comprehensibility, and comprehensiveness). connection (ease-ofuse, entry guidance, structure, hyperlink connotation, and speed). and layout.

McKinney et al. [14] presented evidence that a user's satisfaction of an EC Web site can be modeled as a perceived disconfirmation, resulting from a gap between user expectations and the actual performance of the EC Web site with respect to information and software quality.

Since there has been growing interest in identifying design principles and features that can enhance user satisfaction and loyalty to the proliferation of the electronic commerce, with changing consumer expectations in the Internet environment firms need to rethink ways to improve online customer relationships and generate better profits [15] and establish customer loyalty. We can say that it is cheaper to retain customers than to target new ones where studies have shown that winning new customers can be up to five times more expensive than maintaining existing customers [16].

The literature indicates that measuring user satisfaction with e-commerce applications is an important but complex task. User satisfaction with e-commerce applications has been found to be significantly associated with usability and design features unique to the Web, such as download delay, navigation, content, interactivity, and responsiveness [17].

In this article we propose five measures that are introduced in Table 1 and further explained in following text.

Attraction and Findability measure have the impact on the number of visitors. Conversion ratio shows the intention to buy. Attraction, Findability and Conversion ratio are all pre-purchase measures. Customer loyalty and satisfaction are post-purchase measures, based both on product performance and service performance.

Table 1 Measures of customer satisfaction

Measure	Calculation
Attraction measure	number of visitors per period of time
Conversion ratio	ratio of customers who really bought to all visitors
Customer loyalty	conversion rate of returning visitors
Customer satisfaction	evaluation of customers
Findability measure	ratio of visitors coming from search engines to other visitors

Attraction measure is the fundamental measure. E-shop with low attraction measure has inadequate number of visits so it cannot generate high profits. Nevertheless the reverse is not true. People coming just to look increase the traffic but not the profit. High attraction measure is thus a necessary, but not sufficient.

Conversion ratio takes into consideration that only some part of traffic is done by visitors willing to buy. This measure shows what portion of visitors spent some money at the e-shop but it does not measure how much.

Findability measure is the ratio of visitors coming from search engines to other visitors.

Customer loyalty is defined as conversion rate of returning

visitors. People coming to buy again at the same e-shop are obviously satisfied.

Customer satisfaction is very special measure. Customers are asked to fill a questionnaire and define how satisfied with the trade are they. This measure is supposed to be objective but it can be sometimes tricky. Generally, customers that are satisfied are not really willing to fill this questionnaire because they do not feel any problem and take it as time-consuming. Explanation of this behavior can be found in Santos and Boote Model of Satisfaction [18]. There is clearly explained that if the post-purchase state is satisfaction or acceptance then the customer is more likely to give no response.
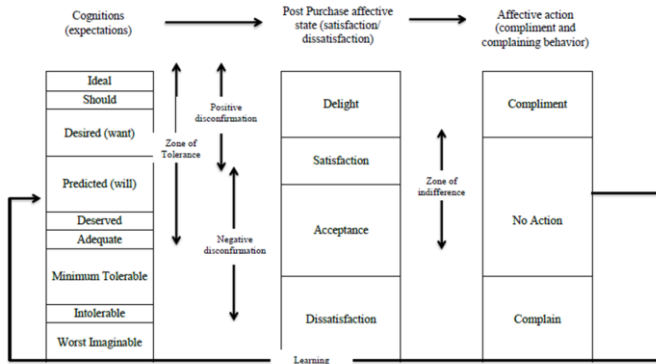

Fig. 6   Conceptual framework of EDT according to [18]

V.   EXPERIMENTAL SET UP

Last chapters defined variables that influence customer satisfaction and his/her willingness to buy or re-purchase. Based on this information, we wanted to find out what impact on customer satisfaction can have quality of web site (e-shop). This is the only factor that can be affected by website designer. Therefore, we set up an experiment, which is now running nearly two years.
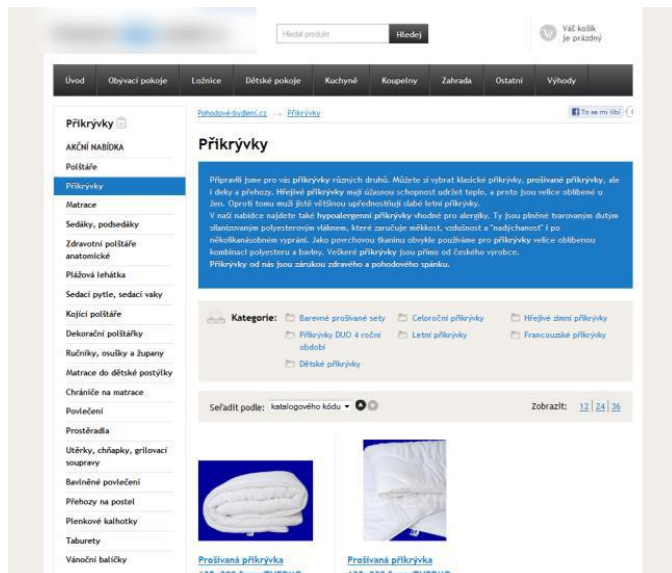

Fig. 7 New e-shop website

Our experiment is based on comparison of two websites, first website operated by producer, with producer name in URL, having also offline sales channels. On the other side we put new e-commerce site operated by designer of the site, having the same prices and terms and conditions, with expedition of goods done by producer. The only way how this site can compete is quality of e-shop based on findability, usability and design.

Comparing the possibilities of both sites suggests that the producer site can highly benefit from promotion in offline channels. While the new site, must rely on the Internet sources for promotion and need to convince customers that it is worth to use this e-shop.

As the primary source of potential customers for new e-shop we selected database of actual customers of the company that designed the e-shop. These customers obtained e-mail newsletter with the information about new e-shop.

In parallel with the creation of the newsletter, some products have been added to price comparison websites. Regarding [19] and [20], the most frequently used price comparison websites in the the Czech Republic are Zboží.cz (55 %). operated by the SEZNAM.cz and Heureka.cz (41 %).

Other competitors have only 1-2 % share. Thus the new ecommerce site created export feeds into these two strongest players in the marketplace.

Efforts to increase sales in the next period focused on creation of the most successful SEO optimization strategy of website. For both e-shops have been chosen search optimization targeted on Seznam.cz mainly for two reasons. First of all it is the most popular search engine in the Czech Republic [21]. Second reason was given by designers of new eshop; Seznam.cz is the most common source of traffic for this segment of market.

Fig. 8 Producer website

It was clear that in the first months, efficiency of SEO search engine optimization) would be minimal - the position in the search engine is highly influenced with the history of the

site that was minimal. This problem is matter of time so in the future it will disappear.

SEO optimization can be focused on general phrases like (house, pillow) or on long tail phrases like (modern wooden house, pillow 50x70). Focus on highly competitive general phrases is time consuming and financially demanding. Targeting optimization on general phrases also means high competition among other e-shops and omitting of other variants of queries meaning the same product.

Studies [22] tell that users enter rather specific questions, covering general phrases, if they look for particular goods. Those, who entered the general question are just beginning the search for their question and will continue to specify it. In contrast, customers who go to the web with intention to buy are using specific search phrases. This is the targeted group for eshops. The aim of the e-shop is to get customer as close as it is possible towhat they're looking for without the need for tracing and the need to browse other sites that customers do not care that much, because here increase the risk of losing customer. The use of longer phrases that are more specific and use different keyword variations (long tail phrases) brings higher search efficiency [23].

While the producer e-shop is optimized for general, highly competitive phrases, the aim of new e-shop is optimization on such long tail phrases that customers like to look for and also provide the greatest degree of conversion.
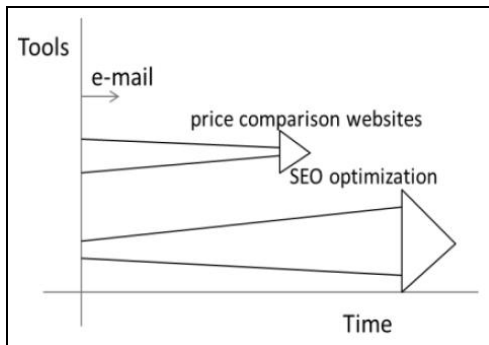

Fig. 9 Intensity of usage of particular tools to increase findability

Three different tools were used to enhance findability of website. Each was used with specific intensity and duration. E-mail newsletter was used only once at the beginning of the project. Price comparison websites are useful but expensive tool that is why the intensity of use is declining. Only carefully selected items are now being there. SEO optimization is the main tool driving attention of consumers in our concept. With the buildup of history in search engines we can rely more on this tool.

Findability represents basic feature of quality in our concept, nevertheless graphic design and good usability of eshop are no less important. Under its form customer evaluates the expected quality of goods and services. Good usability can mean the difference between one site's success and the downfall of another. Usability is especially important in the case of e-commerce websites. While most usability principles of regular websites still apply for e-commerce sites as well, the different specific pages such as shopping carts, shipping methods, shipping and billing addresses, order reviews, payment options, etc. all add another layer of complexity to creating usable online shops. Usability is a prerequisite for an online store to achieve its full potential. For our e-commerce site we used best practices explained in [24], [25], [26], especially clarity, easy orientation and simple pages of purchase.

VI. EXPERIMENTAL RESULTS

Experimental e-shop has been launched in December 2011, which is ideal season because of increased sales of all goods.

At the first month, e-shop had already 1608 visits, which compared to manufacturer e-shop (6190 visits) is considerably less, but it was the beginning of the operation and e-shop did not have a built up reputation. Visitors came mostly from comparison websites or directly due to e-mail newsletter. Initial results of this experiment were published in [27][26]. Now, after 22 months of operation, we can see seasonal fluctuations but the traffic is still higher than at producer web site (see Fig. 10).
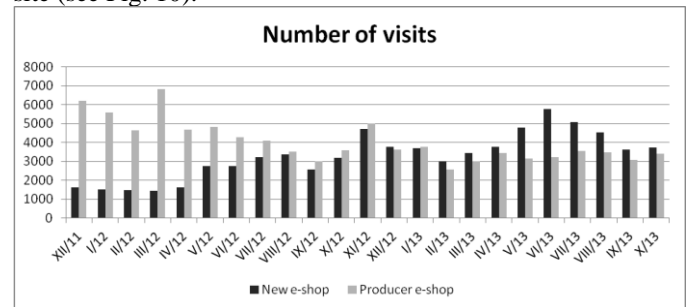

Fig. 10 Number of visits at compared e-shops

Attracting shoppers to come into e-shop is one side of the coin but electronic retailers need to sell therefore they have to monitor also other key performance measures. Among the main measures it is conversion ratio. Conversion ratio is calculated as the rate of number of visits with realized purchase to all visits expressed in percent. The importance of conversion rate is evidenced by survey conducted in 2004, where 81 % of sites were measuring their conversion rates. Forty five percent of those surveyed reported an overall 1 to 4 percent conversion rate [28]. According to Moe and Fader [29] over 70 % of online retailers experienced less than 2 % overall purchase conversion rate. According to another study, the strongest websites have conversion rates of 12 % and the poorest ones have 0,4 % while the average is 2,5 % [30].
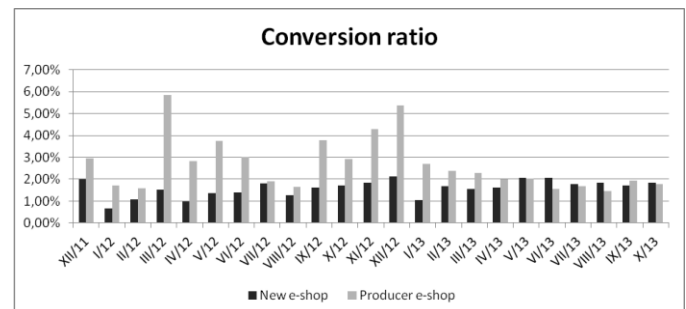

Fig. 11 Conversion ratio at compared e-shops

In 2011, Forrester Research report [31] puts the typical e-commerce conversion rate at between 2 % and 3 %, but says that nearly two-thirds of respondents reported higher rates for the past 12 months.

Average conversion rate for new e-shop in our experiment is 1,87 % in comparison with producer e-shop having 2,90 %. In terms of new e-shop progress, we can see that this rate fluctuated initially, but now the ratio is stabilized around 2%, which is the same value as for producer website. Significant increases of conversion ratio at producer website are visible during the promotional campaign on the discount portal in March, September and December. Fig. 11 depicts conversion ratio for both e-commerce sites.

The present findings are confirmed by changes in sales that is also stabilized and comparable with results at producer website (see Fig. 12).

Unfortunately producer disagreed with release of actual sales data that is why we can show only the proportion without numbers on y-axis.
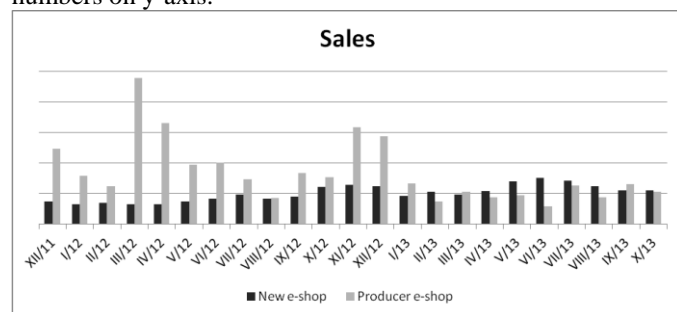

Fig. 12 Sales at compared e-shops

Sales per visit show conversion ratio expressed in money. Reason for the introduction of this indicator is not only to be compared with the cost of traffic, but we are also able to identify influence of promotion actions on discount portals.

Since 2010, discount portals ranked among a whole new way of online shopping. Behind the emergence of these portals is the idea of collective buying, meaning that a group of users purchase one type of product or service and pay in advance. This form of purchases in the Czech Republic is among the very popular and discount portals have become a really profitable business plan for many people. According to a local survey [32] focused on shopping at discount portals, 49 percent of the adult Czech population used offers of discount sites for shopping.

Increase in sales and sales per visit demonstrate popularity of discount portals. We can also see that purchases realized through vouchers (bought at discount portals) made higher sales at the time of promotion even in following month (see Fig. 13).
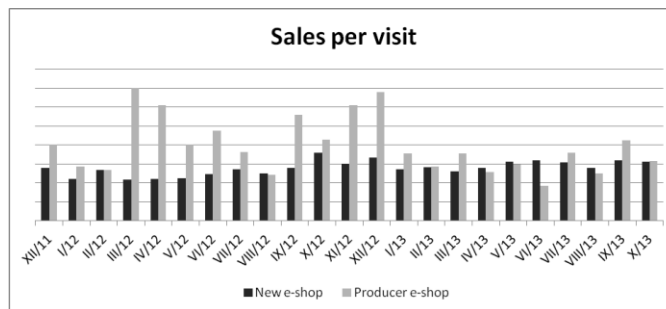

Fig. 13 Sales per visit at compared e-shops

In the first months of its existence, new e-shop had to acquire their customers without extensive advertising campaign. If we look at the composition of shoppers at the new e-commerce site in the first months of operation of business, the buyers come mainly from price comparison websites. This confirms the theory that customers coming from price comparison websites are willing to buy even in a brand new e-shop.

Although the absolute number of shoppers coming from price comparison websites remains roughly at the same level, their proportion progressively decreases as increases findability through search engines in accordance with growing percentage of customers coming from this source. See Fig. 14.
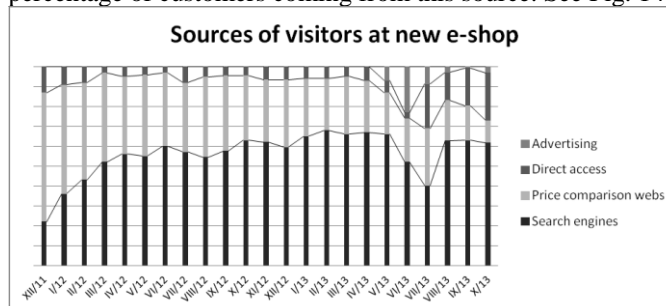

Fig. 14 Rate of visitors coming from different sources

New site have to rely on the Internet sources for promotion therefore the SEO optimization is necessary tool for attraction enhancement. Efficiency of SEO (search engine optimization) in the first month was low. Over time, however findability increased to the current 58 % of the traffic, which reached producer level. The difference between traffic sources in new e-shop during the first and the last month of the monitoring period is shown in Fig. 15.

Traffic sources at producer e-commerce site (Fig.16) during reporting period did not change significantly. Findability by search engines is at the same level as for the new e-shop at the end of the reporting period. Producer e-shop earn some extra traffic through PPC advertising during the first months of our monitoring and three advertising campaigns for discount portals in March, September and December.
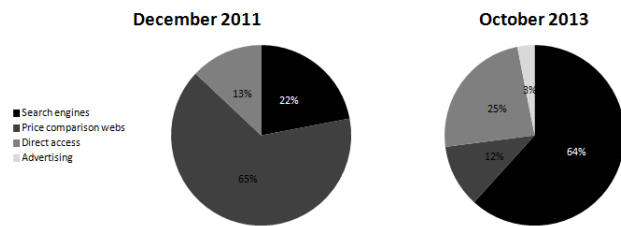
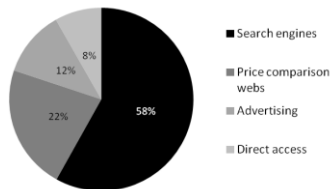Fig. 15 Comparison of new e-shop traffic sources

Fig. 16 Producer e-shop traffic sources

Another observed attribute of new e-shop shows how the design and usability of website can influence sales. Measuring of the feature is based on the conversion ratio of returning visitors. The basis for the selection of this criterion is the fact that returning user is apparently satisfied with this store. And because all other criteria than the quality of the e-shop was excluded in the measurement, it is obvious that this is because of usability and design of e-shop. Present returning visitor conversion rate for new e-shop is 4,25 % (new visitors only 1,56 %).
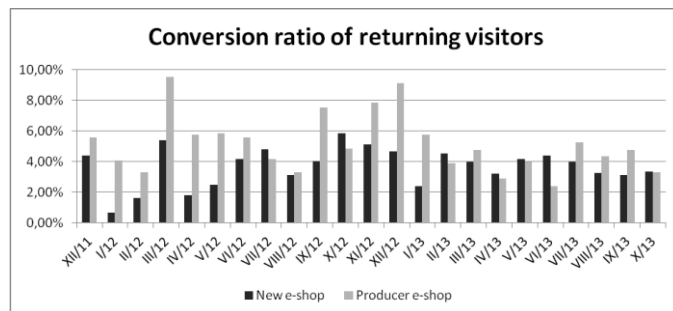

Fig. 17 Conversion ratio of returning visitors

Fig. 17 display that parameter approach to the same value nevertheless promotion actions on discount portals are so strong that makes also returning visitors buy additional goods.

Last variable concerned important question: "How to find an objective customer evaluation of e-commerce sites?"

Since both monitored shops use price comparison website Heureka.cz, we can use their customer evaluation service as one of the criteria for the evaluation of customer satisfaction. The service is asking only customers who bought at the store. It is done by sending a simple questionnaire 10 days (time limit can be changed for each store depending on the nature of goods) after making a purchase, which is previously confirmed by e-shop. The goal is to get an objective opinion to certify the quality of business and minimizes false evaluation.

On the Internet there are many other review websites attempting to evaluate e-shops. Unfortunately the evaluation is open, so business owners can evaluate themselves (of course,

positive). or vice versa competition (obviously negative). This makes such an assessment unusable for decision-making in which shop to buy.
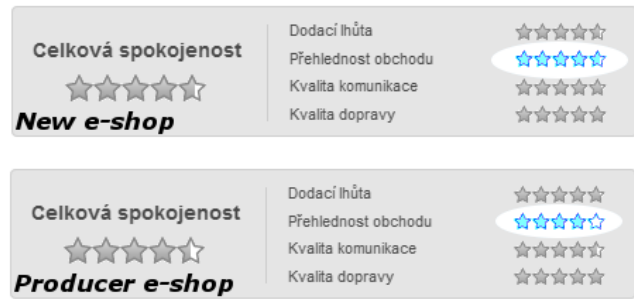

Fig. 18 Customer satisfaction by Heureka.cz

From customer responses (see Fig. 18) can be seen that the differences in their evaluations are based on convenience of shopping. New e-shop received better reviews from customers and even comments from people included one that producer e-shop should be "modernized" and need to improve its clarity.

The overall objective of ensuring the fulfillment of findability was fulfilled with increase of number of visitors from search engines. However, we wondered how well the two e-shops perform in terms of long tail phrases.

The current positions of both e-commerce sites with conversion rates for the selected period are prepared in Table 2. First five phrases are general so not optimized for search engines in contrast with other five long tail phrases giving quite good conversion rate.

Table 2 Efficiency of long tail phrases

Keyword	New e-shop position on Seznam	Producer e-shop position on Seznam	New e-shop Conversion rate		Producer e-shop Conversion rate	
			IV-V 2012	IV-V 2013	IV-V 2012	IV-V 2013
anatomical pillow	21	4	0,00%	0,00%	1,03%	0,00%
coach	60+	14	0,00%	0,00%	0,00%	0,00%
coaches	60+	37	0,00%	0,00%	0,00%	0,00%
decorative pillows	8	3	0,00%	0,00%	0,00%	0,00%
pillows and covers	30	21	0,00%	0,00%	5,88%	8,33%
healthcare pillow	12	60+	0,00%	0,00%	3,03%	0,00%
mattress 200x180	7	60+	0,80%	1,66%	1,85%	0,00%
Pillows 50x70	1	6	31,25%	50,00%	0,00%	0,00%
covers from the hollow fibers	13	60+	1,90%	3,51%	0,00%	0,00%
sunbed	6	60+	0,00%	12,50%	0,00%	1,60%

VII. DISCUSSION

On the Internet appear a large number of e-shops offering goods comparable to those offered by our e-shop. Therefore it is necessary to see competition between producer website and the experimental e-shop in broader context of other competitors. Both sites have to follow trends and implement

new services that are available. Recently, the traffic rather stagnates than growth. The challenge for the future is to stimulate further growth in site traffic. Visitors were used to come through general search or direct access to the site, but today's situation changed the battlefield. Important sources of traffic are also price comparison websites, discount and auction sites and high traffic source can be increasingly promoting social networking.

Most social networking sites are ideal places to share content. Simply pull up relevant material and hit the "Share" button to spread the word. If people like what they see or hear, they are likely to share it with their own network, which can increase site traffic.

According to a study [33], more than a third of respondents used social media like Facebook or Twitter daily. For now, there are only very few people (3 %) who buy through social networks. However, an opportunity for promotion at social networks as well as their potential is only a slight exaggeration virtually unlimited. Arguments for the expansion of business activities towards e-commerce to social networking sites are simple - since 2008, the number of users on social networks increased by 500 % [34].

At the beginning of the year, both companies created a profile on social networking site Facebook and the home page of both e-shops links were added to it. For now Facebook sites works most like a fan pages or blog. Both shops post news of their current and upcoming products and services and, of course, contain a link to e-shop. Based on the obtained data on the sources of traffic can be observed increasing number of visitors from this source.

Furthermore, the beauty of social networking is easy integration of Facebook and e-shop sites. Uploading content on one account, gives the option of sharing it on other networks as well.

Unlike producer e-shop, a new e-shop built in a programming environment that can automate the connection with auction sites and Facebook shop application. Therefore, in December this year, a new e-shop will be created in an environment of social network Facebook. It can open another potential for new customers and additional distribution channel for the sale of goods.

VIII. CONCLUSION

Presented experiment brought many interesting conclusions about customer behavior at B2C site. We have tried to show what variables affect customer satisfaction with the main attention paid to service performance.

In this article we used web analytics to study the success factors of e-commerce sites. Web analytic tools give us statistics about visits and behavior of customers that can be used to enhance effectiveness of that site.

Service performance of the new e-shop was measured according to three features; findability, usability and design. Findability, as the variable influencing number of visitors, was evaluated by increase of visitors coming from search engines. Prepared new e-shop proved that from March the prevalence

of traffic came from search engines with the traffic as a whole tripling in the studied period.

Evaluation of design and usability is covered in conversion rate of returning visitors and partly in customer satisfaction evaluation. Returning visitors are obviously satisfied with website quality of e-commerce site when all other factors are obeyed.

Results of our experiment after reporting period show that having the same prices (no discount action) both e-commerce sites are going to have similar sales and conversion ratio. Quality of website therefore prevailed the fact that our e-shop is not manufacturer as well as the fact that we do not have offline selling channel. Nevertheless, we must conclude that price competition is much stronger than non-price. Conducted research also revealed very interesting fact. Czech online market is appropriate for discount portals. People like shopping with discount therefore using this channel bring high increase in sales.

It will be very useful to continue in observation of these two e-shops in order to find if the results will change, especially for the findability measure.

REFERENCES

[1]   J. Kauffman, E.A. Walden (2001). "Economics and electronic commerce: survey and directions for research". International Journal of Elec tronic Commerce 5 (4) (2001) 5–116.
[2]   R. L. Oliver (1980). "A cognitive model of the antecedents and consequences of satisfaction decisions". Journal of Marketing Research, 17(November). 460–469.
[3]   P. Patterson, & L. Johnson. (1997). "Modeling the determinants of customer satisfaction for business-to-business professional services". Journal of the Academy of Marketing Science, 25(1). 4-17.
[4]   R. A. Spreng, & Jr., T. J. P. (2003). "A Test of Alternative Measures of Disconfirmation". Decision Sciences, 34(1).
[5]   A. Bhattacherjee & G. Premkumar (2004). "Understanding changes in belief and attitude toward information technology usage: A theoretical model and longitudinal test". MIS Quarterly, 28(2). 229-254.
[6]   A. Bhattacherjee, J. Perols, et al. (2008). "Information technology continuance: a theoretic extension and empirical test". Journal of Computer Information Systems 49(1): 17-26.
[7]   J. W. Forrester (2009). "Some Basic Concepts in System Dynamics". [online]. Available: http://www.clexchange.org/ftp/documents/system-dynamics/SD2009-02SomeBasicConcepts.pdf
[8]   B. Yoo, N. Donthu (2001). "Developing a scale to measure perceived quality of an internet shopping site (SITEQUAL)". Quarterly Journal of Electronic Commerce (2:1) pp 31-46.
[9]   C. Raganathan, S. Ganapathy (2002). "Key dimensions of business-to-consumer web sites". Information & Management 39, pp. 457–465.
[10] A.M. Aladwani, P.C. Palvia (2002). "Developing and validating an instrument for measuring user-perceived web quality". Information & Management 39, pp. 467–476.
[11] P. A. Walcott (2007). "Evaluating the Readiness of E-Commerce Websites". International Journal of Computers, 1(4). 263–268.
[12] S. Lee, R. J. Koubek (2010). "The effects of usability and web design attributes on user preference for e-commerce web sites". Computers in Industry, Volume 61, Issue 4, May 2010, pp. 329–341.
[13] S. Muylle, R. Moenaert, M. Despontin (2004). "The conceptualization and empirical validation of web site user satisfaction". Information & Management 41, pp. 543–560.
[14] V. McKinney, K. Yoon, F. Zahedi (2002). "The measurement of Webcustomer satisfaction: an expectation and disconfirmation approach". Information Systems Research 13(3), pp. 296–315.
[15] N. R. Ab Hamid (2008). "Consumers' Behaviour Towards Internet Technology and Internet Marketing Tools". International Journal of Communications, 2(3). 195-204.

[16] L. Harrison-Walker, L. Jean, & S. E. Neeley (2004). "Customer relationship building on the Internet in B2B marketing: A proposed typology". Journal of Marketing Theory and Practice, Winter, Vol. 12 No. 1, pp.19-35.

[17] J.W. Palmer (2002). "Web site usability, design, and performance metrics, Information Systems Research 13(2). pp. 151–167.

[18] J. Santos, J. Boote (2003). "A theoretical exploration and model of consumer expectations, post purchase affective states and affective behaviour". Journal of Consumer Behaviour 3(2): 142-156.

[19] H1.cz (2008). "Use the search engines to maximum", "Vyhledávače zboží využijte na maximum". [online] Available: http://www.h1.cz/fol/2008/ zbozove-vyhledavace.

[20] Mergado (2012). "Who is the leader of search engines", "Kdo je král vyhledávačů zboží". In: Mergado.cz, 2012 [online] Available: http://www.mergado.cz/kral-vyhledavacu-zbozi-2.

[21] Factum Invenio (2013). "The most widely used Internet search engine is Seznam.cz", "Nejpoužívanějším internetovým vyhledávačem je Seznam.cz". [online] Available: http://www.factum.cz/ 274_nejpouzivanejsim-internetovym-vyhledavacem-je-seznamcz.

[22] J. Rowley (2000). "Product search in e-shopping: a review and research propositions". Journal of Consumer Marketing, Vol. 17 Iss: 1 pp. 20 – 35.

[23] R. Fishkin (2009). "Illustrating the Long Tail". November 2009, [online] Available: http://www.seomoz.org/blog/illustrating-the-long-tail

[24] eCommerceOptimalization (2007). "eCommerce & Shopping Cart Usability: 21 Best Practices". October 2007, [online]. Available: http://ecommerceoptimization.com/ecommerce-marketing/ecommerce-shopping-cart-usability-21-best-practices/

[25] J. Maguire (2011). "E-Commerce Best Practices: Ten Rules of the Road". January 2011, [online]. Available: http://www.ecommerce-guide.com/solutions/advertising/article.php/3457431/ECommerce-Best-Practices-Ten-Rules-of-the-Road.htm

[26] Spyrestudios (2012). "Usability Best Practices For eCommerce Websites". [online] Available: http://spyrestudios.com/usability-best-practices-for-ecommerce-websites

[27] R. Bilkova, H. Kopackova (2012). "Using web analytics to study non-price competition in the e-commerce environment". In Advances in Computer Science: proceedings of the 6th WSEAS European Computing Conference (ECC '12). Stevens Point: WSEAS Press, s. 187-192. ISBN 978-1-61804-126-5.

[28] Z. Greenspan (2012) "E-commerce mainstream, measurements lacking". [online] Available: http://www.clickz.com/3338561

[29] W. W. Moe, P. S. Fader (2001). "Which visits lead to purchases? Dynamic conversion behaviour at e-commerce sites". The Wharton School, Working Paper 00-023.

[30] V. Agrawal, L. D. Arjona, R. Lemmens (2001). "E-performance: The path to rational exuberance". *The McKinsey Quarterly, 1*, pp. 30-43.

[31] SeeWhy Research (2011). "Is Your Website a Bucket or a Sieve?". May 2011, [online]. Available: http://seewhy.com/blog/2011/05/18/website-traffic-source-analysis.

[32] KPMG (2012). "Czech is a paradise for discount sites", "Česko je rájem slevových serverů". [online]. Available: http://www.kpmg.com/cz/cs/ issuesandinsights/articlespublications/ press-releases/stranky/cesko-je-rajem-slevovych-serveru.aspx.

[33] PWC (2012). "The average European buy online 2 to 3 times per month", "Průměrný Evropan nakoupí na internetu 2-3krát měsíčně". [online]. Available: http://www.pwc.com/cz/cs/tiskove-zpravy/2012/ prumerny-evropan-nakoupi-na-internetu-2-3krat-mesicne.jhtml.

[34] ITU News (2010). "The rise of social networking". [online]. Available: http://www.itu.int/net/itunews/issues/2010/06/35.aspx.