

# USING WEBQUAL 4.0 IN THE EVALUATION OF THE RUSSIAN B2C COSMETIC WEB SITES

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**Abstract:** The rapid development of Russian e-commerce has involved the emergence of different Web sites. The latest tendencies showed that there is an upward trend in online purchases in the country. This paper examines the results of a quality survey of three different types of cosmetic Web sites in Russia. This industry sector is of particular interest because of its rapid growth and a wide range of organizations involved in this business. The Web sites are examined in terms of design, usability, and information quality. The findings show strengths and weaknesses of the sites and demonstrate user impressions over the interaction with the Web sites.

## 1 INTRODUCTION

The Russian economy has boomed averaging 7.3% annual real GDP growth between 2003 and 2007 (Euromonitor, 2008). Since late 1990s a substantial number of Russian companies decided to go online. This was the start of the new era of e-business in Russia.

According to Barnes and Vidgen (2002), a key challenge for e-commerce companies is to understand customer requirements and to develop their web presence and back-office operations accordingly. In cases when organisations' Web sites are poorly designed and users find them difficult to use and interact with, a poor image will be projected on the internet, thus weakening the organization's position. Therefore, it becomes imperative that a company is able to make an assessment of the quality of its e-commerce offering. Each time they do this, the companies can improve their performance over time and benchmark against competitors and best practice in any industry.

According to information provided by the research agency Romir Monitoring (2008) there are still no results regards the frequency of online shops visits in the country, but there is information that 60% of respondents have done shopping in internet shops this year and 75% of respondents have experience of online shopping in general. However, 25% of respondents find internet shopping too difficult.

## 2 e-COMMERCE IN RUSSIA

There was virtually no e-commerce in Russia prior to 1998. In 2002 Hawk stated that B2C and B2B e-commerce are both in their early phases in Russia (Hawk 2002). Today almost 28 million Russians use internet every day, of which 9.5 million are in the central regions (CIA Factbook, 2008).

According to Fey, Koning and Delios (2006), there is another difference from the world within the e-commerce field: in many developed countries, online purchases by individual consumers are made using credit cards. However, few Russians even those with a credit card will try to use it to make online transactions.

Generally, all international companies which come to the Russian market launch their Web sites, and those from domestic market have just started to pick up the idea, but the functionality of these Web sites is still limited. Market research shows that 12% of the respondents say that they buy cosmetics online (Romir Monitoring, 2007). This number is increasing by 1-1,5 % every season (once in 3 month) as buying things online became the latest trend in Russia. However, up till now, commercial e-business sectors such as cosmetics experience little competition, as e-business competition has yet to mature in this industry in Russia.

## 2.1 Cosmetic Web Sites in Russia

The culture of cosmetics consumption is strong in Russia. The tendency to “look beautiful anytime anywhere” has resulted in boom of the cosmetics market in Russia, reports Nielsen Russia. The market for upscale cosmetics and other personal care products is developing at a rapid pace (Grishenko, 2006). The Russian market for cosmetics and beauty products was growing by almost 20% a year in the early 2000s (15% in 2004 compared with 2003 according to Staraya Krepost, a Russian cosmetics market research group, and has already become one of the fifth largest in Europe. Cosmetic industry in Russia is the second fastest growing FMCG (Fast Moving Consumer Goods) sector and appears to be of great interest for the largest research agencies. The following Web sites of the three major industry players have been chosen by the author in order to compare different types of internet sites:

- leading Russian company, selling cosmetics both online and offline in a number of own shops thorough the country (L’etoile [www.letu.ru](http://www.letu.ru));
- a solely online shop of selective cosmetics and perfumery offering wide range of products at competitive price and a number of additional attractive offers (Aromat [www.aromat.ru](http://www.aromat.ru));
- online non transaction site with a printed catalogue available on subscription (La Parfumerie [www.laparfumerie.ru](http://www.laparfumerie.ru)).

## 3 RESEARCH METHOD

The main objective of any B2C Web site is to deliver information in such a way that a potential customer will become a real customer. This can be achieved through the qualitative and quantitative instruments of customer analysis. A review of the literature on the quality of web sites evaluation has not revealed any utility mechanism or instrument designed especially for cosmetic web sites. Therefore the WebQual 4.0 was adopted.

The WebQual model was originally invented by Stuart Barnes and Richard Vidgen and has seen improvement over the number of years (Barnes and Vidgen, 2001, 2002, 2005). This research will be based on the WebQual model which helps to evaluate the Web site in terms of design, usability and information quality from the “voice of the customer” perspective. A questionnaire was designed, then translated from English language into Russian and distributed among mainly young

women. 176 questionnaires were collected. After eliminating a number of non-answered and spoiled questions 150 remained.

## 4 DATA ANALYSIS

The WebQual technique has been applied to the questionnaire responses. Both quantitative and qualitative results were analysed. Table 1 shows a number of items for discussion. It is based on 150 responses. Three cosmetic Web sites have been assessed by the respondents and the importance rating for each question and customer perception ratings regarding each Web site has been reflected. Summing up the results, three items are shown in this table for each question and subset: the mean, standard error and standard deviation.

A pattern can be seen in the data shown in Table 1. The questions considered most important, with a high rating from 6.52 to 6.95 were closely connected with information accuracy, usability and issues of trust. It should be noted that Russia has a history of a country with low trust background, so trust turned out to be one of the key aspects for the respondents.

Referring to the table, we can find the questions in descending order of importance to the consumer: 22, 17, 16, 18, 9, 10, 19, 1 and 13. These questions are heavily tied with the organization’s reliability in relation to transaction performance, accuracy of the information presented on the Web site and ease of use and navigation. The most interesting item here is a Web site reputation. It can be noted that only L’etoile Web site was considered to have good reputation in comparison to the other two. This derives from the fact that it is a well-known company which operates on the Russian cosmetic market for a long time and has a good and stable reputation with its offline customers. In spite of the fact that its online shop has been just introduced to the consumers it already has a leadership within the market.

The table indicates that difference in usability and navigation is relatively small, showing that a certain level has been achieved by all three web sites. So it won’t be a differentiating factor. However it can be noticed that last three questions have very low results, since respondents did not transact with a website.

Questions rated lower than 4.52 were considered less important. Here we can see quite a versatile range of questions. The lowest score is 2.59 is referred to the question about empathy, namely the sense of community. Quite highly rated was a perception of Web site design, where La Parfumerie

Table 1: Mean and standard deviation for the questionnaire data (n=150).

Description	Importance			L'etoile			La Parfumerie			Aromat		
	Mean	St.Err	StDev	Mean	St.Err.	StDev	Mean	St.Er	StDev	Mean	St.Err	StDev
I find the site easy to learn to operate	6,65	0,16	0,25	5,91	0,13	0,21	4,96	0,09	0,18	5,37	0,12	0,21
My interaction with the site is clear and understandable	6,15	0,16	0,23	5,16	0,10	0,19	6,41	0,13	0,21	4,89	0,11	0,19
I find the site easy to navigate	6,18	0,09	0,18	5,56	0,17	0,23	5,63	0,12	0,20	5,38	0,14	0,21
I find the site easy to use	5,82	0,10	0,19	5,86	0,14	0,22	6,10	0,04	0,18	4,47	0,17	0,23
The site has an attractive appearance	6,43	0,12	0,23	5,56	0,09	0,17	2,98	0,07	0,16	5,97	0,05	0,18
The design is appropriate to the type of site	5,50	0,15	0,23	5,87	0,15	0,22	4,55	0,15	0,22	5,97	0,12	0,21
The site conveys a sense of competency	4,35	0,15	0,24	5,15	0,09	0,18	3,59	0,08	0,17	5,39	0,12	0,21
The site creates a positive experience for me	4,77	0,07	0,17	4,27	0,06	0,16	3,59	0,08	0,22	5,32	0,10	0,19
Provides accurate information	6,79	0,25	0,29	5,95	0,24	0,28	6,13	0,15	0,22	5,82	0,14	0,22
Provides believable information	6,78	0,24	0,28	5,73	0,09	0,18	6,15	0,10	0,19	5,19	0,05	0,15
Provides timely information	3,21	0,07	0,16	6,15	0,10	0,19	5,24	0,07	0,19	6,18	0,10	0,19
Provides relevant information	4,52	0,07	0,16	4,99	0,02	0,17	5,11	0,08	0,17	4,95	0,09	0,18
Provides easy to understand information	6,52	0,16	0,23	6,10	0,06	0,18	5,89	0,05	0,18	5,73	0,18	0,24
Provides information at the right level of detail	6,41	0,13	0,21	5,77	0,06	0,16	6,13	0,04	0,18	5,40	0,08	0,17
Presents the information in an appropriate format	5,93	0,09	0,18	6,21	0,07	0,18	6,38	0,11	0,20	6,39	0,11	0,20
Has a good reputation	6,91	0,29	0,32	5,91	0,11	0,20	1,99	0,08	0,17	2,80	0,08	0,17
It feels safe to complete transactions	6,91	0,29	0,32	2,93	0,10	0,19	3,18	0,15	0,22	2,99	0,10	0,20
My personal information feels secure	6,83	0,33	0,29	6,41	0,12	0,20	6,11	0,05	0,18	6,15	0,15	0,22
Creates a sense of personalization	6,74	0,23	0,27	6,03	0,10	0,20	6,09	0,14	0,22	5,22	0,07	0,16
Conveys a sense of community	2,59	0,16	0,23	4,57	0,13	0,22	2,34	0,16	0,23	1,84	0,04	0,23
Makes it easy to communicate with the organization	6,48	0,14	0,23	2,11	0,18	0,24	1,04	0,25	0,29	1,42	0,22	0,27
I feel confident that goods/services will be delivered as promised	6,95	0,45	0,34	0,61	0,41	0,32	0,75	0,39	0,31	0,37	0,45	0,33

Web site lags far behind others with its loud colors, impossibility to perform transactions and unattractive appearance. Other questions fall in between these groups and the median is 5.88.

The results show that there are a number of prioritized items for the cosmetic Web sites. Customers are particularly concerned with the information dealing with ‘trust’ and Web site usability. These items have been noted to be dependent on each other. These features are believed to be critical for e-commerce cosmetic Web sites. However the ‘soft’ qualities (Barnes and Vidgen, 2002) such as sense of community, communication with the organization are quite low. It can be identified that L’etoile is rated much higher than two other scoring higher on each question. Aromat and La Parfumerie varied in their scores, although the latter appears to be a loser of the challenge between these two.

The weighted scores and the Web Quality Index were also calculated. It has been calculated that the highest score again belongs to L’etoile. The only

way to do it is to index the total weighted score for a site against the total possible score. The highest possible score that a site can achieve is the mean importance taken from Table 1 multiplied by 7, the maximum rating for a question Aromat, for example, achieves a score of 604.08 of a maximum possible 905.94, giving it a WebQual Index (WQI) of 0.68, or 68%. Overall, L’etoile is still benchmarked well above the other two online cosmetic B2C Web sites, with an overall WQI of 0.77. La Parfumerie follows with a WQI of 0.75, which is close behind losing only 0.02 points, whilst Aromat is behind these two losing 0.07 points to the latter and coming up with the result of 0.68.

To sum up, there are five factors in the WebQual 4.0 instrument. The data has been summarized around the five questionnaire subcategories, and the WebQual Index as shown in Figure 1. The scale has been restricted to values between 0.5 and 0.9 to allow clearer comparison. The figure shows a clear picture of the L’etoile Web site leadership in

comparison to the two other sites; however it does not stand out in terms of results. Nevertheless the Aromat Web site has been evaluated rather poorly in comparison with the other two. The only item on which it was behind La Parfumerie was 'trust'. Aromat is only 0.01 point ahead but still loses 0.03 points to the leader- L'etoile. It can easily be identified that 'trust' is the only category where all Web sites scored low. This WQI appeared to be the lowest because of people's low trust background in which they were born. The remaining categories contain almost equal scores for two Web sites - L'etoile and La Parfumerie.

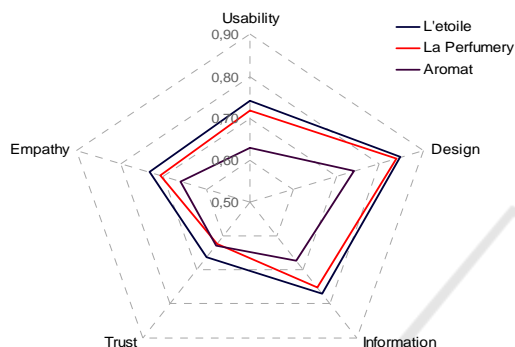


Figure 1: Radar chart of WebQual 4.0 subcategories.

## 5 LIMITATIONS

Not denying the circumstance that all the research and discussion were performed in accordance with the well thought scheme, it should be noted that there are still some limitations to this study, and interpretation of the results needs to be undertaken with caution. Firstly, it is a relatively small sample size of cosmetic Web site users. It represents a specific part of the population, whose opinion may not represent the opinion of all users of the cosmetic Web sites in Russia. Secondly, the research only identifies the customers' expectations and perceptions about certain Web sites which represent only a small part out of the whole cosmetics B2C industry.

## 6 CONCLUSIONS

Russian cosmetic Web sites receive close attention from customers and from the competing organizations. WebQual 4.0 has been shown as a proven method of assessing consumer perceptions about particular Web sites. Five factors which

influence the overall rating index have been identified. It can be concluded that potential Russian customers evaluate the company's reputation prior to ordering. Word-of-mouth information is also likely to be used in order to make the Web sites recognizable. Building the reputation will help the Web site in its future much more than anything else. This has been stated by the authors of the WebQual method and now has been proved by the authors of this work considering the performed research.

The results shown have a significant level of reliability. However the results are limited by a relatively small sample size, and this should be eliminated in further researches. Currently the model provides valuable results that can show where the potential problems lie. The findings regarding the importance of the 'trust' component of the WebQual 4.0 point toward the need for systematic research into differences between Russian and foreign customers' perceptions about the web site qualities. Moreover, there is potential to future investigations linked to this search involving the same Web sites in order to analyze and reflect on changes over time.

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