

# Acceptance and Quality Perceptions of Social Network Services in Cultural Context: *Vkontakte* as a Case Study

Katsiaryna S. BARAN  
Dept. of Information Science, Heinrich Heine University  
Düsseldorf, Germany

and

Wolfgang G. STOCK  
Dept. of Information Science, Heinrich Heine University  
Düsseldorf, Germany

## ABSTRACT

*In terms of network economics, as well as other information services, a social network service (SNS) has two chances—either it gains acceptance (“success breeds success”) and will become standard or it slowly dies. Nowadays, Facebook is the standard in the social network world, however, not in Russia’s and the neighboring countries’ social network communities. Here, Vkontakte, the domestic SNS, dominates. What are the reasons for this success of the regional SNS and the failure of the global giant? We answer this research question while we empirically studied both SNSs, Facebook as well as Vkontakte, among Russian users. In the evaluation, based on the Information Service Evaluation (ISE) Model, we found out that Vkontakte is perceived as more useful than Facebook, is much more trustworthy, and more enjoyable to use. The cultural environment of the Russian community plays an important role as well.*

**Keywords:** Social network services, Facebook, Vkontakte, Standard, Acceptance, Service quality, ISE.

## 1. INTRODUCTION

Great parts of whole world of social network services (SNSs) are dominated by only one site, namely *Facebook*. This does not held true for Russia and some other countries in Eastern Europe. Obviously, there is a geographically based community which will be supported by another SNS. In Russia, Ukraine, Belarus and Kazakhstan, *Vkontakte* (or VK; previous: *Vkontakte.ru*; now: *vk.com*) is the most popular social network. *Vkontakte* is ranked on the first place of all internet services in Ukraine and Belarus [2] [11]. In Russia, *Vkontakte* is the second most visited website (behind *Yandex*, the Russian search engine), and in Kazakhstan, it ranks third [32] [33].

We are going to explain this special Russian way of social networks. In this study, we investigate the growth, formation, system design, use and acceptance of *Vkontakte* in Russia compared to *Facebook*.

Based on our study, we advanced our understanding of the success of *Vkontakte* and the relative failure of *Facebook* in Russia’s and the neighboring countries’ social network communities. We evaluate empirically the information systems quality (perceived ease of use, usefulness, trust, fun; additionally, functionality, usability, effectivity, efficiency), and its acceptance (adoption, use, impact and diffusion), of both, *Vkontakte* and *Facebook* in Russia.

With Boyd and Ellison [4], we define “Social Network Sites” (SNSs) as “web-based services that allow individuals to (1) construct a public or semipublic profile within a bounded system, (2) articulate a list of other users with whom they share a connection, and (3) view and traverse their list of connections and those made by others within the system.”

## 2. PURPOSE OF THE STUDY

The diffusion of services on information markets such like *Facebook* or *Vkontakte* is a typical phenomenon of network economics following the principle of “success breeds success.” The more users an information service is able to attract the more the value of the service will increase. More valuable services will attract further users. If an information service passes the critical mass of users, network effects will start [14]. This leads to positive feedback loops for direct network effects (more users—more valuable service—any more users) and indirect network effects (more complementary products—more valuable service—any more complementary products) and in the end to *one* standard [16]. However, in the area of SNSs, we find *more than one* service: *Vkontakte* in Russia (and neighbors) and *Facebook* in many other countries

of the world.

The purpose of the study is to investigate how the perceptions of SNS affect its use. Is in Russia, Ukraine, Belarus, and Kazakhstan still a struggle on the standard between *Facebook* and *Vkontakte*? Or is there already a winner? What are the determinants of the success (or failure)?

#### ***Vkontakte and the Russian Internet community***

Russia is one of the most active social networking countries in Europe [27]. As of 2009, Russia's social networking audience was known to be the most engaged in the world [13]. In fact, in 2009 the RuNet generation (i.e. the Russian-speaking Internet) spends an average of 6.6 hours per month online (as opposed to a worldwide average of 3.7 hours), and consumes 1,307 pages per visitor and month (as compared to 525 worldwide) [3] [5]. The number of Russia's Internet users has indeed grown from 2 million in 2000 to 68 million by the end of 2013; and the Russian users spend more than 2 hours a day only on *Vkontakte*. The Russian digital landscape is dominated by Russian-bred sites like *Yandex*, *Vkontakte*, *Odnoklassniki* and *mail.ru*.

*Vkontakte* ("in touch") was founded by Pavel Durov in 2006. It is owned by Mail.ru, has about 200 employees, and is located in St. Petersburg, Russia. *Vkontakte* reports an average of 65m daily users (November 2014). In May 2014 it had at least 254 million accounts all over the world [33]. In 2012, *Vkontakte* had about 13.5bn page views in Russia. In 2013, *Vkontakte* generated revenues of \$85m, leading to a profit of \$1.2m.

#### ***Vkontakte studies***

*Vkontakte* is not so well studied as *Facebook* (here you can find thousands of scientific articles), but some works exist. Vasilyeva [28] discusses the use and perception of social network sites by young adults in Russia. Sapargaliyev studied social media in Russian Higher Education [23]. Klimanova and Dembovskaya [15] are working on the role of language in social networking use among Russian users (second language is the main point). Similarly, Doludenko [9] has investigated the language use in *Vkontakte*. Niadzviecki [20] demonstrates the use of *Vkontakte* and (to a much lesser extend) of *Facebook* in a local election in Belarus. Schekoturov [24] shows gender self-representation of young people on *Vkontakte*.

### **3. RESEARCH QUESTIONS**

This study aims to investigate:

- 1) What causes Russian users not to switch from their

local SNS, *Vkontakte*, to the global one, *Facebook*?

- 2) Why is *Vkontakte* more popular than *Facebook* in Russia? Is there still a struggle on the standard between the two SNSs?

In order to answer the main questions, we formulate three supporting research questions:

- 1) What are the characteristics of the Russian users of SNS?
- 2) In terms of the Technology Acceptance Model (TAM), how do the Russian users perceive the quality of the both SNSs? And how do they accept the services?
- 3) What are the major functionalities and characteristics of *Facebook* and *Vkontakte* from a user-independent view?

### **4. STRUCTURAL MODEL FRAMEWORK FOR THE STUDY**

Fig. 1 presents this study's research model, developed on the basis of the Information Service Evaluation (ISE) model [25], which is a modified version of the Technology Acceptance Model (TAM) [6], the DeLone and McLean model [7] [8] and the Jennex and Olfman model [12].

The model has two main focuses: first, to study the perceived information service quality of an SNS, and second, to incorporate the information acceptance of an SNS. Additionally, we work with further aspects to get an objective impression of the service's quality: efficiency (doing the things right), effectivity (doing the right things), functionality and usability [21].

The user is the center from which we start and build our framework:

- 1) Is the design constructed in accordance with the user needs, or are there difficulties in dealing with the platform?
- 2) For what purpose will the SNS be used?
- 3) Does the SNS satisfy the user or not?
- 4) Has an actual user fun?
- 5) Do they trust the SNS (e.g., in respect to their privacy)?
- 6) Will the user continue to actively use the system?
- 7) How does the system provoke active use—every day or every hour?
- 8) What does the active use influence: friends, needs to certain information, boredom in everyday life?

Only if the average users' answer is positive, we can speak about the system's acceptance and success.

To understand, how the Russian users apply the SNS and why exactly *Vkontakte* is so important, we concentrate

particularly on the indicators of the perceived SNS quality and of SNS acceptance. The user-oriented quality estimation takes place in the dimension of perceived SNS quality (with the indicators: ease of use, usefulness, trust, fun).

The dimension of SNS acceptance involves the indicators of the adoption, use, diffusion of SNS, and the impact on the users' information behavior. If the „right” person in an appropriate situation meets the „right” SNS, she or he will adopt and use this SNS. Adoption does not mean use. One can adopt a SNS and stop to use it. And one can adopt it and use it permanently. We speak of use, when the user applies some of the SNSs' functionalities in his or her professional or private life when there is an information need on hand. In the case of use it is possible that the user's SNS behavior will change. We will call this aspect impact. Finally, an SNS will diffuse into a society, when many people use it and it has impact on their information behavior. Here, we find the aspect of social influences from the technology acceptance model, TAM 2 [29]. Diffusion is a typical phenomenon of network economics following the principle of „success breeds success.”

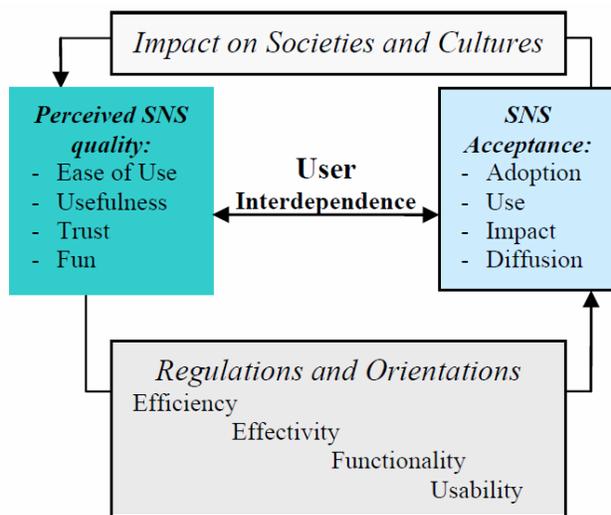


Figure 1: Interdependencies between Acceptance and Quality Perceptions of SNS in the context of the Information Service Evaluation (ISE) Model.

## 5. RESEARCH METHOD

We tested our structural model framework on a case study. The target respondents of this study were current SNS users in Moscow. Empirical data for this study was collected by a questionnaire and additionally by in-depth interviews in February 2014. Our test persons were Russian students from *Lomonosov Moscow State University*. The interviews took place at *Lomonosov University*. We conducted the study among those user groups, because

both SNSs, *Facebook* and *Vkontakte*, were initially targeting students, but later welcoming everyone [26]. A large proportion of the students in Russian universities has a *Vkontakte* account and use *Vkontakte* frequently; a small amount of Russian students have also a *Facebook* account, but most of them do not actively use it. A total of 54 test persons finished the questionnaire and the interview. Among these SNS users, 61.1% were female and 38.9% were male.

Most of the test persons were between 18 and 25 years old. All 54 participants are the active *Vkontakte* users. 52 from 54 users have answered to be registered on *Facebook*, but they do not use it, they are passive users; only 2 participants are active *Facebook* users. At the time of the survey, everyone had usage experience of *Vkontakte* and *Facebook* for more than 6 months and had more than 100 friends on *Vkontakte* and about 10 friends on *Facebook*. A total of 79.6% of them spent more than 2 hours a day on *Vkontakte* and 61.1% of them spend less than 15 minutes a day on *Facebook*.

The questionnaire included 50 items. On a scale between 1 (not at all) and 10 (highly applying), every test person had to estimate the importance of an indicator for his or her SNS behavior for both services, *Vkontakte* and *Facebook*.

Typical questions for the dimension of perceived SNS quality were: “Is the design of SNS clear and easy to use?”, “Could you quickly orient yourself on the website?”, “Do you find that *Vkontakte* / *Facebook* enriches your life” etc. In regard to SNS acceptance we asked for example, “Has *Facebook* / *Vkontakte* strong influence on your life / daily behavior?”, “I have once used *Facebook* / *Vkontakte*, and since I am an active user of it.”, “How often do you use *Facebook* / *Vkontakte*?” etc.

## 6. RESULTS

In this section we present the results of our analysis as guided by the aforementioned structural model framework.

### 6.1 PERCEIVED SNS QUALITY AND THEIR ACCEPTANCE

For all indicators of perceived SNS quality and SNS acceptance our Russian participants favor *Vkontakte* over *Facebook*—(almost) all values are twice as high (Tab. 1). Additionally, the differences between *Vkontakte* and *Facebook* are statistically very significant for nearly all indicators. *Vkontakte* is perceived as very easy to use (mean: 9.16) in contrast to *Facebook* with a value of only 4.93. Users trust *Vkontakte* (6.37) much more than *Facebook* (2.38), and they have more fun with *Vkontakte* (5.77) than with *Facebook* (2.49). The difference between

both SNSs with regards to usefulness is not very high (but here, too, *Vkontakte* is perceived more useful). All indicators of SNS acceptance (adoption, use, impact and diffusion) show double or even triple the values in favor of *Vkontakte*.

	<b>Vkontakte Mean (SD)</b>	<b>Facebook Mean (SD)</b>	<b>Significant difference?</b>
<b>Ease of use</b>	9.13 (0.99)	4.95 (2.34)	***
<b>Usefulness</b>	3.93 (1.99)	2.49 (1.67)	**
<b>Trust</b>	6.38 (2.52)	2.46 (1.93)	***
<b>Fun</b>	5.77 (2.39)	2.60 (1.71)	***
<b>Adoption</b>	7.98 (2.76)	2.57 (2.53)	***
<b>Use</b>	7.47 (2.06)	2.13 (1.58)	***
<b>Impact</b>	5.17 (2.66)	1.76 (1.44)	***
<b>Diffusion</b>	6.95 (2.65)	3.87 (2.91)	***

Table 1. Perceived SNS quality and SNS acceptance indicators for *Vkontakte* and *Facebook*.

Russian *Vkontakte* and *Facebook* users;  $N = 54$ ;  
scale: 1 (not at all) to 10 (highly applying);  
SD: standard deviation; \*\*:  $p < 0.01$ , \*\*\*:  $p < 0.001$

## 6.2 VKONTAKTE'S AND FACEBOOK'S SERVICE QUALITY IN TERMS OF USER-INDEPENDENT INDICATORS

### *Effectivity*

“Media are not used in isolation but as part of a repertoire that affords connection to resources and to others. This repertoire also includes face-to-face interaction...” [10]. As any SNS, *Vkontakte* connect users “with friends and people with similar interest” [19]. *Vkontakte* is based on the sense of community—users “collect” friends to communicate with, send messages to each other, take an active part in discussions in different chats and blogs, write posts on their page walls, invite each other to events and groups, etc. Participants may use the sites to interact with people they already know offline or to meet new people [3]. *Facebook* in turn does more or less the same, but is even more staffed by advertising.

The interface design of *Vkontakte* does not change frequently (as *Facebook*'s does) and remains stable for years. “Website design we do not have to change, we like the minimalistic and simply constancy way it has looked at the beginning and also looks now,” as the supporting team of the *Vkontakte* approves [32].

### *Efficiency*

According to Alexa [1], the load time of the *Facebook* site is slow with, it is 2.791 seconds, since 77% of WWW sites are faster. *Vkontakte* site loads on average in 1.611 seconds. Here, 51% of sites are slower. The

impression is created that where *Facebook* is working normally, *Vkontakte* flies [31].

### *Functionality. Unique selling propositions*

The *Vkontakte* site's functionality includes personalized pages with a lot of information about the users in order to present themselves in an online profile, have an easy access to friends' pages and news, and communicate to each other via a simple messaging system. Due to the fact that almost all of the information provided by users is subject to an easy search, other users are able to search for people those from the same school or city, with similar interests etc. *Vkontakte* members can also participate in virtual groups based on common interests; they can learn each other's hobbies, tastes in music and films, and the relationship status through the profiles.

Another important issue is the content offered by the resource: a database with numerous video and audio files, and tools of web-technology [32]. Regarding to our interviewees, the main advantage is free music and video sharing, what violates Russian law of N 230-F3, part 4, chapter 70, from 18.12.2006. The music and video sharing is “free,” but is illegal for both, *Vkontakte* users and for the SNS itself [18].

*Vkontakte* is available in 70 languages but most popular among the Russian speaking community [33]. The design of *Vkontakte* is minimalistic.

It could be seen that *Facebook* and *Vkontakte* are very similar, and pursue the same goals, but their approach is different, and, in some cases, even diametrically opposite: its incorporation of other features (videos, music) makes *Vkontakte* more like YouTube, Pandora, and MySpace all in one, with an interface highly reminiscent of *Facebook* [26].

We maintain the opinion that *Vkontakte* is a Russian analog, not clone, of *Facebook*, with its own history and its own path [31]. The administration as well as the programming and implementation units of *Vkontakte*, have successfully cooperated with their counterparts from other countries. Complaints and accusations of plagiarism have never been reported [31].

### *Usability. Heuristic Evaluation*

The results of the Heuristic Evaluation [21] show that *Facebook* and *Vkontakte* perform plenty of traditional usability guidelines. But, usability is not the end in itself. “We scientists now understand how important emotion is to everyday life, how valuable. Sure, utility and usability are important, but without fun and pleasure, joy and excitement, and yes, anxiety and anger, fear and rage, our lives would be incomplete” [22]. SNSs obviously follow such maxims of emotional design.

For some of our test persons *Facebook's* interface is not just overloaded—additionally, it is overloaded with advertising. *Vkontakte* includes the advertising platforms with great potential as well, but it is shown only on the Russian interface (when users switch to English, the advertising goes missing) and not as overcharged as on *Facebook*.

## 7. DISCUSSION

Is there still a struggle on the standard of SNSs in Russia? The answer is a clear “no.” The struggle was over before it began. *Facebook* was never actively used; *Vkontakte* is the standard SNS in Russia. “We see that, yes, Facebook came, it took some market share [...], and we see that growth is a new audience out there, *Vkontakte* are growing faster than Facebook” [17].

What is the reason for this development? Russian users value *Vkontakte's* ease of use, they trust the service and they enjoy it. The figures for the perceived SNS quality of *Vkontakte* and for the SNS acceptance indicators are twice as high compared to *Facebook*. While *Facebook* introduces new functions, *Vkontakte's* interface remains more or less stable without ongoing modifications (as it was perceived on *Facebook*).

Each SNS reflects the specific characteristics of the country it originates from; it is a question of mentality. *Facebook* represents “a democratic independent state which does not want excessive regulation, and that if something is needed, then it creates the conditions that all have been profitable to do so,” and *Vkontakte* is “very reminiscent of the USSR, and Putin’s Russia, with its hand-operated “vertical,” where orders are given to and everything is controlled by the authorities in person” [30]. *Vkontakte* is “tailored” to Russian users. What started as an undaunted “hijack” of *Facebook* it has turned into an information service that in a unique way meets the user needs of Russians [17].

*Vkontakte* as a regional SNS contains a lot of engaging content, i.e., they provide a platform not only for communication but also for entertainment. Extensive databases of audio and visual content, numerous fun communities with Russian humor (understandable only for Russians)—it is a Russian product, and a source of some national pride. Many Russians prefer to communicate only with other Russians. For such users moving to *Facebook* is not necessary. As a result, users prefer the domestic product. “*Vkontakte* is a more popular SNS because it is simply easier to use and more convenient, and there are more opportunities (audio and video collection) in addition,” as the support team of

*Vkontakte* said [32], even though some services (e.g., music and video files) are illegal under Russian copyright law.

**Acknowledgment.** We gratefully acknowledge the participation on our study by the students from Lomonosov Moscow State University. We also would like to give special thanks to Sofia Polyanskaya, Eugenia Krukova, Andrej Kitashov and Michael Kirpitsnikov for their great co-operation in selecting students for interviews and for filling out the questionnaires.

## 8. REFERENCES

- [1] Alexa, “How fast does vk.com/Facebook.com load?”. Online: <http://www.alexa.com/siteinfo/> (accessed 19 December 2014).
- [2] Alexa, “How popular is vk.com?”. Online: <http://www.alexa.com/siteinfo/vk.com> (accessed 9 January 2015).
- [3] G. Beger, P. K. Hoveyda, and A. Sinha, **The RuNet Generation. An Exploratory Study of the Russian Digital Landscape**, New York, NY: UNICEF, Division of Communication, Social and Civic Media Section, 2011.
- [4] D. M. Boyd, and N. B. Ellison, “Social network sites: definition, history, and scholarship”, **Journal of Computer-Mediated Communication**, Vol. 13, No. 1, 2007, pp. 210-230.
- [5] Comscore, “Russia Has World’s Most Engaged Social Networking Audience”, 2009. Online: [http://www.comscore.com/Press\\_Events/Press\\_Releases/2009/7/Russia\\_has\\_World\\_s\\_Most\\_Engaged\\_Social\\_Networking\\_Audience](http://www.comscore.com/Press_Events/Press_Releases/2009/7/Russia_has_World_s_Most_Engaged_Social_Networking_Audience) (accessed 3 January 2015).
- [6] F. D. Davis, “Perceived usefulness, perceived ease of use, and user acceptance of information technology”, **MIS Quarterly**, Vol. 13, No. 3, 1989, pp. 319-340.
- [7] W. H. DeLone, and E. R. McLean, “Information systems success: The quest for the dependent variable”, **Information Systems Research**, Vol. 3, 1992, pp. 60-95.
- [8] W. H. DeLone, and E. R. McLean, “The DeLone and McLean model of information systems success: A ten-year update”, **Journal of Management Information Systems**, Vol. 19, No. 4, 2003, pp. 9-30.
- [9] E. Doludenko, “Morphological analysis of the lexicon used in the Russian social network “Vkontakte”, **Studies in the Linguistic Sciences. Illinois Working Papers**, 2012, pp. 17-31.
- [10] A. Gruzd, and C. Haythornthwaite, “Enabling community through social media”, **Journal of Medical Internet Research**, Vol. 15, No. 10, 2013, e248.
- [11] Internetworldstats, “Usage and Population Statistics”, 2012. Online: <http://internetworldstats.com> (accessed 2 November 2014).
- [12] M. E. Jennex, and L. Olfman, L., “A model of knowledge management success”, **International Journal of Knowledge Management**, Vol. 2, No. 3, 2006, pp. 51-68.

- [13] A. N. Joinson, “‘Looking at’, ‘looking up’ or ‘keeping up with’ people? Motives and uses of Facebook”, in **Proceedings of the 26<sup>th</sup> Annual CHI Conference on Human Factors in Computing Systems**, Florence, Italy, 2008, pp. 1027-1036.
- [14] M. L. Katz, and C. Shapiro, “Systems competition and network effects”, **Journal of Economic Perspectives**, Vol. 8, No. 2, 1994, pp. 93-115.
- [15] L. Klimanova, and S. Dembovskaya, “L2 Identity, discourse, and social networking in Russia”, **Language Learning and Technology**, Vol. 17, No. 1, 2013, pp. 69-88.
- [16] F. Linde, and W. G. Stock, **Information Markets. A Strategic Guideline for the I-Commerce**, New York, Berlin: De Gruyter Saur, 2011.
- [17] A. Malahov, “Facebook не грузится. Популярность сети в России одна из самых низких в Европе. [Facebook is not loaded. The popularity of the social network in Russia is one of the lowest across Europe]”, **Kommersant**, No. 33, 25.02.2011, p. 12.
- [18] N. Malevanny, “New Russian legislation on ISP Liability and Copyright Enforcement”, **International Review of Intellectual Property and Competition Law**, Vol. 45, No. 2, 2014, pp. 212-220.
- [19] K. Nahon, and J. Hemsley, **Going Viral**, Malden: Polity Press, 2013.
- [20] M. Niadzviecki, “The level of web activism by candidates in the local elections 2010 (Minsk city)”, **Belarusian Political Science Review**, Vol.1, 2011, pp. 169-200.
- [21] J. Nielsen, **Usability Engineering**, Cambridge, London, UK: Academic Press, 1993.
- [22] D. A. Norman, **Emotional Design: Why we Love (or Hate) Everyday Things**, New York, NY: Basic Books, 2004.
- [23] D. Sapargaliyev, “Social media in Russian higher education”, in **Proceedings of the European Conference on Social Media**, Reading, UK: Academic Conferences and Publishing International, 2014, pp. 474-477.
- [24] A. V. Schekoturov, “Gender self-representations of teenagers on social networking site Vkontakte”, **Monitoring of Public Opinion**, Vol. 4, No. 110, 2012, pp. 80-88.
- [25] L. Schumann, and W. G. Stock, “The Information Service Evaluation (ISE) model”, **Webology**, Vol. 11, No. 1, 2014, art. 115.
- [26] O. Sikorska, “Facebook vs. Vkontakte: Kampf der Titanen auf dem russischen Markt”, 2013. Online: allFacebook.de (accessed 11 Oktober 2013).
- [27] E. L. Vartanova, **World of Media. Yearbook of Russian Media and Journalism Studies**, Moscow, 2014. Online: <http://worldofmedia.ru/volumes/2013/>.
- [28] M. Vasilyeva, **The Use and Perception of Social Network Sites by Young Adults in Russia**, Master’s Thesis, School of Social Sciences and Humanities, Tampere, Finland, 2012.
- [29] V. Venkatesh, and F. D. Davis, “A theoretical extension of the technology acceptance model: Four longitudinal field studies”, **Management Science**, Vol. 46, No. 2, 2000, pp. 186-204.
- [30] S. White, and I. McAllister, “Did Russia (nearly) have a Facebook revolution in 2011? Social media’s challenge to authoritarianism”, **Politics**, Vol. 34, No. 1, 2014, 72-84.
- [31] Wikidot, *Vkontakte vs Facebook (plagiarism or not)*. Online: <http://fb-vs-vk.wikidot.com> (accessed 2 January 2015).
- [32] *Vkontakte* support, personal communication, June, 10, 2014, support agent #314.
- [33] *Vkontakte* catalog. Online: <https://vk.com/catalog.php> (accessed 2 October 2014)