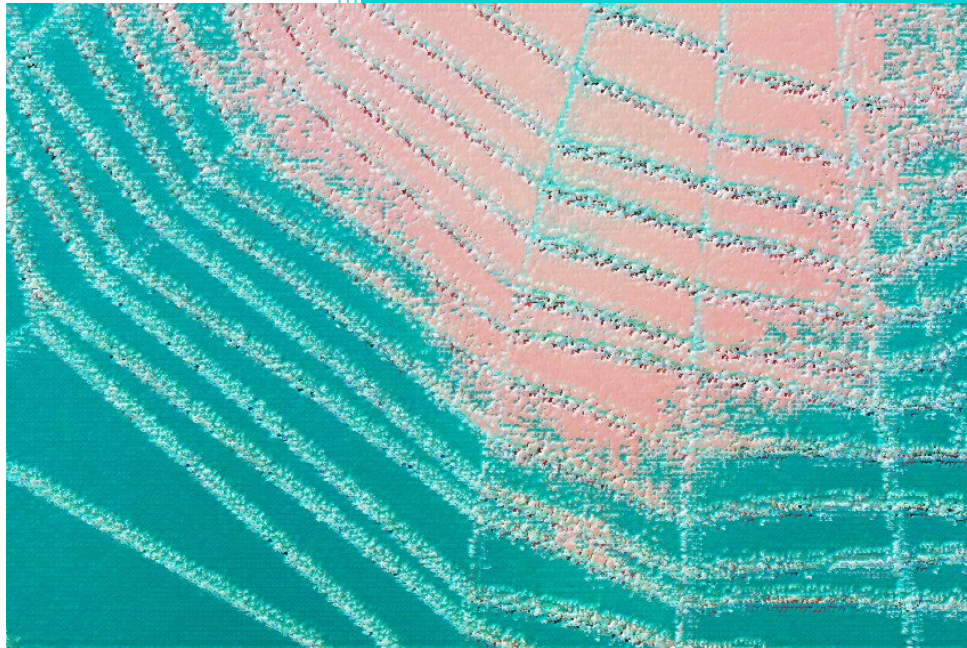**Dr. Sonja Bastian**

Netnography:
A Useful Market Research Tool for Pharmaceutical Industry?

Part 1: The Method

C-f-P

**Consulting for Pharma
Dr. Bastian**

TABLE OF CONTENT

EXECUTIVE SUMMARY

This paper is addressed, but not limited to people working in the Management, Marketing & Sales, Research & Development, as well as Regulatory and Medical Affairs departments of pharmaceutical companies. It gives an overview on an Internet based market research method called "Netnography", to evaluate customer's understandings, needs and compliance referring to a product or a service.

Examples are included to give an idea how the crude data, obtained in a netnographic project might look like.

At the end of the paper you will be able to answer the following questions:

1. What is netnography?
2. What are the benefits in general?
3. How to plan a netnographic survey?
4. How to conduct the survey?
5. How to interpret the results?

Part 2 of this publication will then present netnographic surveys from pharmaceutical industries (case reports) and an analysis under which circumstances it might be useful to undertake netnography.

NETNOGRAPHY – WHAT IS IT?

DEFINITION

"**Netnography** is the branch of ethnography that analyses the free behavior of individuals on the Internet and uses online marketing research techniques to provide useful insights. The word "netnography" comes from "Inter<u>net</u>" and "eth<u>nography</u>" and was a process and term coined by Dr. Robert V. Kozinets. As a method, "netnography" can be faster, simpler, and less expensive than ethnography, and more naturalistic and unobtrusive than focus groups or interviews" (Wikipedia, 2014)

Netnography (Syn.: ethnography on the Internet, online ethnography, cyber-anthropology, internet sociology) adapts classical ethnography to the study of cultures and communities emerging through computer–mediated communication in the Internet (Kozinets, 2002; Kozinets, 2009 (Chapter 1)). Netnographic studies are focussed on the observation of social interaction and communication between individuals without influencing the subjects involved in the process (Füller).

BACKGROUND

In 1996 there were approximately 250.000 sites offering published content to approximately 45 million global users, mainly located in North America and Western Europe. In 2009 there were registered 1.5 billion users of the Internet around the world (22% of the world population), which do not passively use the internet anymore but actively communicate with each other (Kozinets, 2009 (Chapter 1)).

The actual data on internet usage worldwide are shown in table 1. Especially the emerging countries in Africa, Asia, Middle-East and Latin America / Caribbean show a remarkable increase in the growth of Internet usage compared to dates from 2000 – 2008. More than 2/3 of the population in the developed countries in Europe, North America, and Oceania / Australia / New Zealand, where the Internet use started in the last decade of the previous century, use the Internet. Assuming that about 20% of the population in this countries are children, these figures indicate that one can expect that nearly every adult uses Internet in developed countries.

In every region the Internet use varies from heavy users like Germany, Norway and Austria and weak users like Spain, Italy and Greece. (Kozinets, 2009 (Chapter 1)) This should be considered in the concept of a netnographic study on a complete region, therefore the analysis of data on country base is recommended. Otherwise the interpretation of the study results on a regional basis will possibly advice actions which do not reach the target groups in several countries of that region.

A detailed analysis additionally shows that there are several countries in each region, which can serve as a benchmark because of particular demographic or cultural groups. For example Japan is an excellent place to investigate online communication accessed using mobile devices (mobile phones and tablets) (Kozinets, 2009 (Chapter 1))

	Population estimated	Internet users	Internet penetration (% of population)	Internet use (% of total global use)	Growth in Internet usage (2000-2008*	Growth in Internet usage (2010-2014)
Africa	1,125,721,038	240,146,482	21.3 %	8.6%	1,031.2%	5,219.6%
Asia	3,996,408,007	1,265,143,702	31.7 %	45.1%	406.1%	1,006.8%
Europe	825,802,657	566,261,317	68.6 %	20.2%	266.0%	438.8%
Middle East	231,062,860	103,829,614	44.9 %	3.7%	1,176.8%	3,060.9%
North America	353,860,227	300,287,577	84.9 %	10.7%	129.6%	177.8%
Latin America / Caribbean	612,279,181	302,006,016	49.3 %	10.8%	669.3%	1,571.4%
Oceania / Australia / New Zealand	36,724,649	24,804,226	67.5 %	0.9%	165.1%	225.5%
Global Total	7,181,858,619	2,802,478,934	39.0 %	100.0%	305.5%	676.3%

Table 1: Internet Usage and World Population Statistics

Internet Usage and World Population Statistics are for December 31, 2013. Demographic (Population) numbers are based on data from the US Census Bureau and local census agencies. Internet usage information comes from data published by Nielsen Online, by the International Telecommunications Union, by GfK, local ICT Regulators and other reliable sources. For definitions, disclaimers, navigation help and methodology, please refer to the Site Surfing Guide.

Sources: (Miniwatts Marketing Group, 2014) and * (Kozinets, 2009 (Chapter 1))

People often use the Internet as a highly sophisticated communication device. They form communication platforms where they belong to, exchange information and report their experiences, often very emotional. (Kozinets, 2009 (Chapter 1))

Chatting and checking information with the online community before visiting a doctor, making therapy decisions or purchasing a pharmaceutical product delivers very vivid and specific information for pharmaceutical industries.

The reasons for people to contact online communities and to raise their medical questions in these communities are:

- **Maintenance of anonymity** in the Internet makes people free to talk about their medicinal problems. It is easier to write to a faceless crowd than to talk about intimal topics face to face even to a physician.
- Because a lot of physicians have only limited resources for conversations, chats and forums **without time limit** enable patients to formulate a more complete and detailed description of their problem.
- The discussion of topics in a group of patients with the **same experience** produces a **family atmosphere** and furthermore
- can identify a common problem and may lead to **solutions** by creative ideas for solving the problem. (Kozinets, 2009 (Chapter 1))

Finally the virtual communities are real. They reflect the experiences of patients and caregivers in a virtual room from real life. They communicate by exchange of texts as well as audio, visual and audiovisual information. (Kozinets, 2009 (Chapter 1))

BENEFIT

Netnography delivers information on consumer's questions and possible answers to the questions. This information is relevant, detailed, natural, authentic, spontaneous and unforced, unelected, obtained in an unobtrusive way, actual and obtainable in a timely, effective and efficient manner. Solutions created by consumers can be powerful, innovative and creative. (Kozinets, 2010)

The results of netnographic studies can be used for:

- description of **the market** – segments, product groupings, attribute sets
- comprehension of online **communication** – categories, trends, symbols, images
- understanding of **consumer's choice** – influencers, adopters
- **Brand** meaning – consumer language and terms
- Consumer discoveries and **innovation** – lead user, creativity (Kozinets, 2010)

Netnography is a very powerful tool to learn about the product's importance, image, and reputation in the market. Preferences, needs, customer's satisfaction, therapy compliance and purchasing motives are very good indicators for the product development to meet customer's needs and to enhance satisfaction and compliance. (Bartl, et al., 2008) In addition to classical market research conducted by face-to-face interviews the researcher is able to follow the discourse and discussion (pros and cons, risks and benefits, argumentation…) between people engaged in a communication on a topic referring to a specific product or market. (Kozinets, 2002) The communication is not influenced by an interviewer or a researcher and therefore the greatest benefit is that it reflects the real image of the netnography's object in the consciousness of the target group in the respective market.

METHOD

Like in classical ethnographic studies netnography uses a defined structure for the planning and conducting of studies:

ENTRÉE

Before starting time has to be spent on the

DEFINITION OF A SPECIFIC MARKET RESEARCH QUESTION.

As for any research the specific question is of importance. It should be open to get unknown and even unexpected information but on the other hand specific to focus on the topic of interest.

If you enter "ibuprofen forum" into the German version of the google search engine you will get a lot of hits. Adverse reactions are the focus discussed in many forums (see "NOTE!"). Three groups can be identified: (1) Healthy people with minor pain episodes (runnersworld.de, 2009) who asses possible occurring adverse reactions as severe and (2) really sick people with a history of pain (unfallopfer.de, 2013), who do not matter about the adverse reactions and are informed about preventive medication to avoid adverse reactions. Another important group are (3) pregnant women (gofeminin.de, 2014), who are afraid of using ibuprofen during pregnancy.

In this case adverse reactions are a very common theme of chats. Therefore it is recommended to discuss research questions and the upcoming consequences (e.g. possibly more adverse reactions occurring during the netnographic study) with the respective departments (Pharmacovigilance, Regulatory Affairs, Medical Affairs).

Specification of the research question or the definition of a specific target group (HCP only) reduces data overflow. Another important tool to focus on ideal target groups is the

NOTE!

Adverse Reactions

The EMA Guideline on good pharmacovigilance practices (GVP) Module VI – Management and reporting of adverse reactions to medicinal products (08 September 2014) states that all suspected adverse reactions originating from non-medical source (press or other media) should be handled as a spontaneous report.

It should be assessed to determine if it qualifies for reporting, and every attempt should be made for follow-up the case to obtain the minimum information that constitutes a valid ICSR (Individual Case Safety Report).

- One or more identifiable reporter (e.g. email-address)
- One single identifiable patient characterized by initials, patient identification number, date of birth, age, age group or gender
- One or more suspected substance / medicinal product
- One or more suspected adverse reaction

Lack of one of the four minimal criteria, mentioned above means that the case is considered incomplete and therefore not reportable.

(EMA-GVP-MVI, 2014)

IDENTIFICATION OF PARTICULAR ONLINE SOURCES.

There exist different sources for netnography in the Internet: boards, which are often organized around a specific product (e.g. Aspirin (BAYER, 2014)), independent web-pages and

web-rings (e.g. (diabetes, 2014)), lists or listservs, which are email mailing lists united by common themes (e.g., (Allgemeinmedizin, 2014)) and multi-user dungeons and chat rooms (Alzheimer, 2014), which are less market oriented in their focus. (Kozinets, 2002)

Often you will find at the first set hundreds or thousands of different sources. Only 5 in maximum should be identified for the observation in the study. Criteria to identify suitable sources are

- Focussed and research question relevant segment, topic or group,
- High "traffic" of postings,
- Large number of discrete message posters,
- More detailed or descriptively rich data and
- More between-member interactions. (Kozinets, 2002)

Before initiating the data collection the characteristics (group membership, market oriented behaviours, interests, and language) of the online communities should be familiar to the market researcher. (Kozinets, 2002)

DATA COLLECTION AND ANALYSIS

Data are collected by simply copying posts from the online communication to a database. Another method is to document the researcher's observations on the community its members, the interactions and meanings (field research notes). Netnographers may also use automated transcriptions of the downloaded documents. The data collection delivers plentiful and easy accessible data, which is an advantage compared to classical ethnography. The challenge for the researcher is to decide which data to safe or to pursue. To simplify this decision a very specific research question has to be formulated. Often here is a break point to readapt the question and therefore limit data overflow.

Relevant data can be selected by categorization either the post (message) or the posting person as follows:

SELECTION CRITERIA FOR POSTS:

One can categorize the posts according their emotional connection to the group (informed/social) and their thematic relation to the topic (on/off topic). To demonstrate the selection process some examples from a community found in a German cooking-forum by the search string "aspirin forum" in google was selected and attached to the 4 categories according to figure 1. The originally German posts were translated to English language.

The initial question was posted on 08.01.2004; 12:13: "One says that an aspirin a day is good to reduce the risk for heart attack or stroke. Is this true even for the fizzy tablets which one can dissolve in water, and would this be harmful to take one of those every day as preventive measure?" (chefkoch.de, 2004)

A long discussion started where the following messages were found. These selected posts fit perfectly into the above described scheme and were chosen to make the abstract classification more naturalistic. To keep up anonymity nick names were removed and the posts were numbered.

Post1, 08.01.2004; 12:16: "My mother takes ASS100 since years because of this reason. But I think that the normal fizzy tablet has maybe a different dosage. Ask your physician or pharmacist…" (chefkoch.de, 2004)

> This post has correct information, even if it is formulated vague, and is on the topic "Aspirin" → **category 1**

Post2, 08.01.2004; 12:19: „I know this popular beliefs, too. Have read that Jean Pütz, the guy from Hobbythek, takes a quarter (!) Aspirin every day as prophylaxis. I myself would never do that. First you get addicted to this stuff and you will get headaches if you get rid of. Second, what do you want to take if you do have headaches? Third, even the harmless Aspirin do have adverse reactions. I never would take drugs, which I do not need. There might be other ways to manage your problem." (chefkoch.de, 2004)

> This post is on the topic "Aspirin" but it contains only amicable suggestions. Therefore it was classified as more social oriented. → **category 2**

Post3, 08.01.2004; 12:17: „The same is said for consumption of a glass of red wine every day. Opponents on the other hand say that daily consumption of alcohol makes one addicted, regardless of the amount." (chefkoch.de, 2004)

> This post has correct information but there is no link to the topic "Aspirin" → **category 3**

Post4, 08.01.2004; 12:21: „Why do I always write so much and so slowly??? When I started to write my post, nobody had answered…. I should learn to write faster and shorter!" (chefkoch.de, 2004)

> This post does not contain any information on the topic "Aspirin", it is only for socializing with the community → **category 4**

Figure 1: Selection Criteria for posts, see also (Kozinets, 2009 (Chapter 2))

In most netnographic work only category 1 is of interest, because there are reliable and dense data which will serve as a basis for trustworthy interpretation. (Kozinets, 2002)

SELECTION CRITERIA FOR POSTERS OF ONLINE MESSAGES:

Four groups of posters can be identified. The parameters for grouping used here are consumption interest (interest/no interest) and the attachment to the group (socialized/un-socialized) which is illustrated in figure 2.

In the following the groups are described according to Kozinets (Kozinets, 2002) and the posts from the same forum mentioned earlier were taken to make the groupings more vivid.

"Tourists": they lack strong social ties and deep interest in the activity (they often post casual questions). (Kozinets, 2002)

Post5, 08.01.2004; 19:19: "I agree with all others. If you want to stay healthy do sports. Have fun all tablet-... This has to be said now." (chefkoch.de, 2004)

Field note: Post5 occurred only once in the forum. The content of the message is very general and limited by itself.

"Minglers": have strong social ties, but minimal interest in the consumption activity.

Post6, 08.01.2004; 12:20: "If you aren't sick, then you should not take drugs for prophylaxis. If you are sick, then you should consider together with a healthcare professional, if the benefit overweighs the risk. But as prophylaxis: no! I would recommend: not to smoke, healthy and well-balanced nutrition and spending lots of time out and about in fresh air. It will cost you close to nothing and has no adverse reactions." (chefkoch.de, 2004)

Field note: Post6 is opposite for the use of drugs. The message is emotional and seems to be addressed to a near friend.

"Devotees": have strong consumption interests, but few attachments to the online group. (Kozinets, 2002)

Post7, 08.01.2004; 17:09: "My husband and I take ASS 100 Aspirin for years. But only this or something comparable from another company. Our family doctor prescribed this until now. He takes it himself. If you ask some elderly physicians you will recognize that most of them take it as prophylaxis against stroke or heart attack. It is obvious that it thins blood. It has to be withdrawn 14 days prior to a surgery. I additionally always carry a paper with me, which states that I take this drug. In the case of an accident it is important that the doctor is informed about this." (chefkoch.de, 2004)
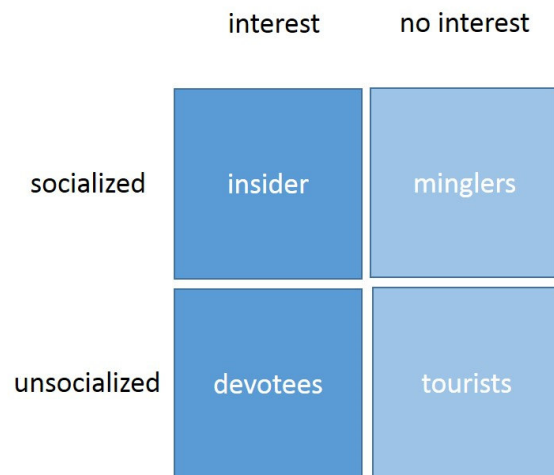

Figure 2: Categorization of posters see also (Kozinets, 2009 (Chapter 2))

Field note: Post7 appeared only with this message in the forum, but the message contains a strong evidence for Aspirin usage resulting from her own experience.

"Insiders": have strong ties to the online group and to the consumption activity. (Kozinets, 2002)

Post8, 09.01.2004; 01:10: "Hi Community, dear future patients, dear madams and sirs:

I think that stroke and the prophylaxis against stroke are too important, to let all this, what has been written until now, be uncommented. I have to deal with it every day in my job and I have to state that stroke can change your life. The outcome of a lot of cases may have been altered, if the patient, families, physicians would have had react properly. I know that all preventive measures of the world are not sufficient to avoid ALL strokes. […] Drug brands are mentioned only for examples. There are a lot of pharmaceutical manufacturers, who distribute comparable products with other names.

[…] All drugs containing acetylsalicylic acid, will be abbreviated with ASS. […]."
(chefkoch.de, 2004)

Field note: Post8 considers him-/herself as a specialist and posts a variety of very emotional messages, but the post's content is focused on taking Aspirin, benefits and risks. Some messages of Post8 are addressed to another member of the community.

For most research conditions only devotees and insiders are of special interest providing most important data on the research question. In some circumstances it is interesting what makes tourists or minglers "upgrade" to insiders or devotees. (Kozinets, 2002)

Data collection should continue as long as new insights on important topical areas are still being generated. (Kozinets, 2002) Depending on the messages posted to a special research question this may need a time frame of 1 to 6 months.

In addition to the crude source data from the communication the researcher may write reflective field notes on their own observations, conditions and personal emotions occurring during the research, which is a recommended procedure to contextualize the data. (Kozinets, 2002). The comments to the messages above stand as an example for such reflective field notes.

For further processing, especially in the case of data overload the use of special software might be useful. (Kozinets, 2002)

INTERPRETATION

Netnographic data are different to traditional ethnographic data. While interpreting the results one should consider the following points:

- In the web people show different behaviour compared to face-to-face communication. Maintenance of anonymity (nick-names) makes it much easier for them to communicate honestly and frankly. This is further more supported by the fact that chats and forums might suggest an atmosphere of privacy or even insularity.
- Because of anonymity netnographic data are lacking individual's information on gender, age, nationality, education and so on. This makes it impossible to compare these data with demographic facts or to draw conclusions on the behaviour of subgroups (e.g. young vs. elderly).
- As mentioned above the distribution of subgroups is unknown. Some subgroups might be heavily over-represented, which is not observable by the researcher. Therefore some statements and opinions might be overestimated leading to misinterpretation if generalized to the market.
- Interpretation of the data from netnographic research reveals not only facts and figures. Netnographic studies observe communications and therefore every aspect of the interaction (act, type and content of the posting, medium) is relevant for the interpretation.
- Generalization of netnographic study results to markets or communities other than the one studied, has to have corroborating evidence. (Kozinets, 2002)

RESEARCH ETHICS

In internet communication very private information is posted. The members of the community are often not aware that the information can be used for other circumstances than the exchange of ideas and thoughts in the community. Netnography uses these interactions in the online communities for research that means the posts originally only addressed to the members of the community are now shifted into a completely different context.

This brings up some questions:

1. Are online forms public or private? (Kozinets, 2002)
2. What constitutes "informed consent" in online communication? (Kozinets, 2002)
3. How to enable anonymity?

These questions con not be answered clearly, because the situation is not fully understood and discussion is still going on. But, it is a real risk, especially for research on medical questions in pharmaceutical industry's projects.

In the planning phase of a netnographic survey this should be considered. To prevent future troubles informed consent might be obtained, if possible.

Finally although many bloggers use nicknames, it is sometimes possible to identify the person behind. To avoid this in presentations and publications the names (even the nicknames) should not be used. In this article the names of the posters were eliminated, too.

OUTLOOK PART 2: EXPERIENCES IN PHARMACEUTICAL INDUSTRY

Now the method has been introduced and described in detail with all pros and cons.

If you came to this point of the article you might be curious to see whether this market research tool would be suitable for your field of interest. Netnography: A Useful Market Research Tool for Pharmaceutical Industry? Part 2 – Experiences (scheduled for Nov 2014) will give you insights in netnographic research performed by pharmaceutical industries. It will provide an investigation which departments (R&D, prelaunch, post approval…) and phases during the product life cycle (development, launch, post-approval…), which products (generics, block busters, orphan drugs, medical devices…) and indications netnographic surveys are useful for.

FIGURES AND TABLES

REFERENCES

Allgemeinmedizin Listserv DEGAM [Online]. - 2014. - 09 22, 2014. -
http://www.degam.de/link_listserver.html.

Alzheimer Chatroom Healthful Chat [Online]. - 2014. - 09 22, 2014. -
http://www.healthfulchat.org/alzheimers-chat-room.html.

Bartl M., Hück S. and Landgraf R. Information pur - Netnography erschließt Online-
Communities als Innovationsquelle [Online] // Research-Results - Die Marktforschungsseite. -
HYVE, 2008. - 09 12, 2014. - https://www.hyve.de/cms/upload/f_1355_ResearchResults1-
08.pdf.

BAYER Die neue Aspirin Tablette [Online]. - 2014. - 09 22, 2014. - www.aspirin.de.

chefkoch.de Jeden Tag ein Aspirin! Ist das schädlich? [Online] // chefkoch.de. - 01 08, 2004. -
09 16, 2014. - http://www.chefkoch.de/forum/2,22,57900/Jeden-Tag-ein-Aspirin-Ist-das-
schaedlich.html.

diabetes children with webring [Online]. - 2014. - 09 22, 2014. -
http://hub.yourtakeonfitness.com/hub/kidsdiabetes?list&page=0;rd=n.

EMA-GVP-MVI Guideline on good pharmacovigilance practices (GVP) Module VI (Rev 1)
[Online] // European Medicines Agency. - September 08, 2014. - 09 15, 2014. -
http://www.ema.europa.eu/docs/en_GB/document_library/Scientific_guideline/2014/09/WC
500172402.pdf.

Füller J. Universität Innsbruck [Online]. - no date available. - 09 11, 2014. -
http://www.uibk.ac.at/smt/marketing/files/uibk_marketing_netno.pdf.

gofeminin.de Das Forum [Online] // Schwangerschaft. - 04 09, 2014. - 09 22, 2014. -
http://forum.gofeminin.de/forum/matern1/__f216916_matern1-ibuprofen-im-dritten-
Trimester.html.

Kozinets R.V. Cultures and Communities Online [Online] // SAGE. - 08 09, 2009 (Chapter 1). -
09 11, 2014. - http://www.sagepub.com/upm-data/31333_01_Kozinets_Ch_01.pdf.

Kozinets R.V. Netnography: The Marketer's Secret Weapon [Online] // netbase. - 03 2010. - 09
10, 2014. - http://info.netbase.com/rs/netbase/images/Netnography_WP.pdf.

Kozinets R.V. The Field Behind the Scree: Using Netnography for Marketing Research in Online
Communities [Article] // Journal of Marketing Research. - 02 2002. - Vol. 39. - pp. 61-72.

Kozinets R.V. Understanding Culture Online [Online] // SAGE. - 08 09, 2009 (Chapter 2). - 09
11, 2014. - http://www.sagepub.com/upm-data/31334_02_Kozinets_Ch_02.pdf.

Miniwatts Marketing Group internetworldstats [Online]. - 2014. - 09 12, 2014. -
www.internetworldstats.com.

runnersworld.de Die Community von Runners World [Online]. - 01 07, 2009. - 09 22, 2014. -
http://forum.runnersworld.de/forum/foren-archiv/44798-schlimme-nebenwirkungen-von-
ibuprofen.html.

unfallopfer.de Forum für Unfallopfer [Online]. - Unfallopfer Hilfswerk, 07 23, 2013. - 09 22, 2014. - http://www.unfallopfer.de/forum/showthread.php?t=28429.

Wikipedia Wikipedia [Online] // The free encyclopedia. - 06 15, 2014. - 09 10, 2014. - http://en.wikipedia.org/wiki/Netnography.