

Example of time being spent in the social networks as a criterion for targeting: ...

[Technology](#), [Internet](#)



Abstract

In today's world the importance of online marketing is hard to overestimate – business model of many online platforms is based on utilization of traffic with help of targeted advertisement campaigns. Without a doubt, the success of these campaigns (which is crucial for the long-term success of the company) depends on the precision of targeting, with the websites, especially social networks, doing their best to collect as much information about the users as possible and to exploit for more and more narrow targeting. This work suggests another criterion for targeting: the time the users spend on the websites. According to the results of the work, the students who are the moderate users of social networks tend to have better results in studies and read more books, which is likely to make them a more specific target group.

Introduction

One may find it problematic to abstain from the ambitious claim that Internet has changed the world, and there are good reasons for that. The Internet became the last of the major inventions in the field of communications, drawing a line under two extremely productive in this context centuries, which saw the rise of telegraph (in this case – the fall, too), telephone, radio, personal computer and mobile phone. In the voting for the most important inventions since 1800 conducted by BBC (2005), the Internet occupied honorable 7th place, trailing only to radio in the communication 'division' (notably, bicycle prevailed overwhelmingly having collected 59% of votes). Has the Internet changed the world or not, it definitely made it more convenient and contributed to the process of globalization. Fast and not

depending on distance communication as well as easy access to information are the main features of the Internet, in which both advantages and disadvantages lie. The upside of the Internet is convenience and saving of time, which takes various forms for different groups of concerned: individuals can comfortably keep in touch with friends and relatives, companies have the easier access to the customers, lower transaction costs and possibility to have the distribution option other than physical retailers, ensuring a completely new business model; B2B communication benefits in the same fashion as communication between individuals. Benefits to individuals and businesses are interconnected: social networks (aimed for easy communication and socialization) are built upon business model that allows the companies to target users, seemingly making every stakeholder better off.

Or do they? While the advantages of the Internet are immense and obvious, there is a downside, too. First of all, as time Internet provides plenty of opportunities to spend time surfing, there appeared a group of Internet-addicted people abusing the invention and spending time that could be productively employed otherwise, which represents a social cost. Secondly, many would argue that virtual intercourse is far from a perfect substitute for face-to-face communication, which, however, does not find confirmation in actions of certain individuals, who spend hours online in the social networks, neglecting the opportunities for live or, as it is called nowadays, 'offline' conversations. There is also an opinion that communication on distance lost its soul as hand-written and long-awaited letters are now replaced with cold and instantly coming emails.

While almost 80% of the United States population are the Internet users, two thirds of those are also Facebook users. In Mexico, Turkey and on the Philippines (each of these is in top-10 in terms of Facebook users) the percentage of Facebook users among Internet users reaches as much as 90%. Currently, there are more than 1.1 billion Facebook users worldwide, and while they differ in terms of loyalty and duration on visits, it is still the amazing audience for marketing campaigns. It is also worth mentioning, that Facebook is not the only social network: in China, where Facebook is non-present, the Internet user base at 500 millions is twice bigger than that in the U. S., with around 300 million being the active users of different kinds of social media. Apart from that, Vkontakte – the second-largest social network in Europe that mostly connects users in Russia and other Russian-speaking countries – adds another 230 million users, though the number might be inflated by the multiple registrations and abandoned accounts.

With around quarter of world population being the users of social networks, the marketing potential appears to be unlimited, yet these companies struggle to come up with a sustainable business model to fully utilize the number of visitors. The purpose of this paper is to offer rather counterintuitive way of user segmentation – by the time they spend on the website on average. The study explores the link between intensiveness of use of social networks and such variables as GPA and number of books read.

Literature review

Nowadays, it is not necessary to conduct a sophisticated study to realize that plenty of people have become addicted to computers, especially to social

networks, like Facebook, Twitter, Vkontakte (a version of Facebook for the CIS countries, notably, with free access to video and audio materials) and Instagram. Social networks can be compared to the computer games: while in the video-games people manage the heroes who most usually fight (and eventually beat) evil, which makes a gamer feel satisfied, in social networks the fictional characters are being created too (though more resembling their creator – his/her nicer, wiser and funnier version). In social networks, by adding friends and posting various content, one aims to raise his/her popularity, which requires significant investment of time that otherwise could be spent on other activities, and numerous studies demonstrate that the net effect on the individuals may be not just negative, but disastrous. Shapira et al. (2003) argue that earning virtual status in online networks, can lead not only to the Internet addiction, but also to loneliness and antisocial behaviour, or even more dangerous psychological disorders.. Widyanto and Griffiths (2011) constructed a survey measuring levels of both Internet addiction and self-esteem and analysed the sample of 1, 467 users, reaching the conclusion that two are strongly negatively correlated (higher level of Internet addiction corresponds to lower level of self-esteem). The causal link, however, is hard to establish: it is unclear whether problematic use of Internet leads to lowering of self-esteem or the other way around. Young and Roberts (2009) found the relationship between Internet addiction and depression and call for effective management of psychiatric symptoms as the way to fight problematic use of the Internet. Derbyshire et al (2012) conducted the study of 2, 108 college students and found that 5, 3% of them could be classified as “ moderate to severe Internet users”, with both Grade

Point Average and frequency of exercises negatively correlated with the use of Internet. They also confirmed findings on relationship between Internet use and depression and showed that the level of perceived stress is strongly associated with hours of Internet use.

On the other hand, Amichai-Hamburger and Hayat (2011) showed that social networks has positive effects for many people, as they help find friends and acquaintances, while work and relationships have become stronger, as the Internet have made possible doing many old things in new ways. The authors argue that the psychological quality of Internet social interaction is lower than that of traditional face-to-face interaction, but in spite of this, the network social communication allows to arrange meetings, making it an effective way of dating and maintaining relationships. In their opinion, certain degree of soullessness of online-communication is more than compensated by convenience the Internet is providing, and that is the main reason why in our days, communication and work with information online, by using e-mail, social networks and search engines, have become an integral part of the life of individuals.

While the influence of the Internet on the society is debatable, what is important from the marketing perspective is whether segmentation is possible basing on the time users spend in the social networks. The task of this paper is to establish quantitative connection between number of hours spent in the social networks and such variables as GPA and self-reported number of books read during past 12 months, which might be correlated with the IQ of the users and therefore represents valuable information for marketing segmentation. The research question is the following

Methodology and data collection

Kozminski University situated in Eastern Europe (more precisely – in Warsaw, Poland) was used to collect data for the study. This business school was found in the Financial Times rankings of the best schools in Europe and the choice is also explained by the fact that the school officials kindly agreed to distribute the questionnaire through the automated system (Virtual University), which allowed to automatically import students' current GPAs. Kozminski University is deemed to be the leading business school in Eastern and Central Europe and conducts a range of programs in English, attracting students from abroad. Apart from the standard demographical question regarding gender, age and nationality, the respondents had been asked to estimate the time they actively spend in the social networks weekly and the number of books they had read in the past 12 months. It was crucial to keep the questionnaire as short as possible to secure a decent response rate. The questionnaire had been sent to more than 1500 students (both full-time and part-time), and we received exactly 150 useful responses, meaning that the response rate was just below 10%. The sample included 78 males and 72 females from 11 countries: Poland (around half of respondents from that country), Ukraine, Belarus, Russia, Georgia, Kazakhstan, Germany, France, Ireland, Vietnam and Nigeria.

The following two main hypotheses were drawn:

H1: GPA is negatively correlated with the number of hours spent in the social networks

H2: Number of books read during past 12 months is negatively correlated

with the number of hours spent in the social networks.

Data was tested firstly for the whole group, and then for the three segments: rare users, moderate users and severe users. Correlation coefficient (R) and coefficient of determination were used to assess the significance of the results.

Results

The table below presents the basic statistics for the entire group of users: If self-reported estimations are to be trusted, the participants of our study spend approximately 1,5 hours per day in social network (either Facebook or V Kontakte) and average one book every 1,5 months. However, it needs to be noticed that the respondents were answering the questions having logged in with their personal credentials and therefore could have experienced discomfort stating inconvenient truth on both matters, even though the anonymity statement had been included.

The graph below demonstrates the relationship between social network usage and GPA:

The results suggest that i) each additional hour per week spent in a social network decreases the GPA by 0,06; ii) a person who does not spend any time in social networks is expected to have GPA of 4,74; iii) variability in time spent in a social network explains more than a third of variability in GPA.

The graph below presents the relationship between the number of hours spent in the social networks and number of books read during past 12 months:

The results suggest that i) each additional hour per week spent in a social network prevents a student from reading from 0, 7 of a book per year; ii) a person who does not spend any time in social network is expected to read approximately 16 books per year; iii) variability in number of hours spent in the social networks explains 44% of variability in annual number of books read.

The table below demonstrates the results for three segments (rare - 0 to 7 hours weekly, moderate - 8 to 14 hours weekly and severe - more than 15 hours weekly - social networks user):

The table shows that correlations within the segments are significantly smaller than for the entire group - for instance, if a person spends more than 7 hours per week in the social network, there is no meaningful difference between not being registered in the social networks at all and spending exactly one hour per day. At the same time, there are significant differences in both average GPA and average number of books read across the segments.

Discussion

In line with our expectations, the less students spend in social networks, the better their results in studies are and the more they read. The study presents no proof of causal relationship, but one may assume that the relationship is at least partly causal: the time spent in the social networks could be otherwise employed for studying or/and reading. Besides, paying attention to activity in a social network disturbs concentration and negatively affects the effectiveness of studying efforts. On the other hand, the results

partially might be a mere correlation, as a generally more ambitious and intellectually advanced person is likely to have his or her interests structured in a way that favours studying and reading over surfing and communicating in the social networks. Interestingly, correlations between social networks usage and GPA are weakening within the segments, while those between social networks usage and books remain strong, meaning that the latter is rather rigid function, perhaps, due to more obvious causality.

Which is also important, the results suggest that to optimize results in studying, it is not necessary to neglect the social networks entirely - it is enough to limit the usage to one hour per day. Students who are not registered at all are doing pretty much as well as students who do not exceed this limit.

Conclusion

As this study demonstrates, the amount of time a person spends in the social networks may provide a useful insight for marketing segmentation of the users. Students who limit their time online to one hour daily are likely to have better results in studying and to read more, therefore they are more likely to be good targets for related products, such as books or career fairs. The future studies may include larger samples and more sophisticated quantitative techniques to develop the hypothesis further.

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