
The Role of Social-Ethical Marketing and Information and Communication Technologies in Response to Challenges of Oncology

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Abstract:

The aim of this article is to present theoretical justification of a possible and appropriate active use of social-ethical marketing in business and the involvement of the public and the professional medical community in communication on social networking platforms as an economic response to challenges of oncology, as well as elaboration of practical recommendations for this purpose.

The authors analyze the potential of social networks and the development of information and communication technologies in solving the oncological disease problem.

They compare current capacities of information and communication technologies and the desired level of their development in tackling the problem of oncological diseases in Russia.

They also present the role of the information component in social-ethical marketing for the solution of the oncological disease problem offering an original model of the economic response to challenges of oncology.

Keywords: *Social-ethical marketing, social networking, information and communication technologies, information society, information economy, oncology.*

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1. Introduction

Oncological diseases present one of the global problems of humanity in the 21st century. We can currently find neither a consensus on the causes of these diseases nor highly effective methods of their prevention and treatment. To date, the number of oncological patients has reached such a level, that oncology is starting to outreach the borders of a purely medical problem. Oncology incidence continues to grow rapidly around the world. Negative effects of oncological diseases on social issues can be traced clearly: they are connected with public fear of oncological diseases spread as well as difficulties of oncological patients' social adaptation.

In the sphere of economy, these effects are related to the growth of incapacitated population undergoing oncological diseases treatment, to a lower proportion of economically active population due to the high mortality rate of oncological diseases, as well as to higher costs of oncological patients' treatment. Current medicine's incapability to withstand challenges of oncology and the impossibility of further ignoring this issue determine the relevance of finding the solution in other spheres.

The given research is based on a hypothetical assumption that a promising solution or at least alleviation of the oncological diseases problem could lie in involvement of the public in communication on social networking platforms and an active implementation of social-ethical marketing tools in operation of various companies. The aim of our work is to present a theoretical justification of a possible and appropriate active use of social-ethical marketing in business and involvement of the public and the medical professional community in communication on social networking platforms as an economic response to challenges of oncology, as well as elaboration of practical recommendations for this purpose. The chosen aim has determined the formulation of the following tasks of this study:

- to analyze the potential of social-ethical marketing and information and communication technologies in solution of the oncological diseases problem;
- to compare current capacities of information and communication technologies in our society and the desired level of their development for involvement of the public and the medical professional community in solution of the oncological diseases problem;
- to identify promising ways of social media (social networks) and socially oriented marketing implementation in search of solution to the oncological diseases problem.

The subject covers institutional and management links and relationships arising in the process of implementing social-ethical marketing and social networking in the solution to the oncological diseases problem in modern Russia. In this regard, social-ethical marketing is determined as individual-needs-oriented and demonstrating

responsibility of a business, its participation in information support of the processes (Kuznetsov, 2012).

2. Materials and method

Large companies producing medicines for treatment of oncological diseases and providing healthcare services are involved into corresponding communication with the population in need of this help as part of social-ethical marketing measures. The opportunities for active social networking communication among population with oncological diseases, people wishing to find out more about this problem, and professional medical community assume a reasonable level of information and communication technologies implementation in the society. To assess the social-economic system's readiness to solve the problem of oncological diseases by means of information and communication technologies, we offer the following formula:

$$I_{ses} = (I_{eg} + I_{id} + I_{ie}) / 3 \quad (1)$$

where I_{ses} is the indicator of social-economic system's informatization level;
 I_{eg} is the electronic Government development Index;
 I_{id} is the Index of information and communication technologies development;
 I_{ie} is Information economy (knowledge economy) index.

We assume that the social-economic system's readiness to solve the problem of oncological diseases is defined by comparison of the current indicator of the social-economic system's informatization level and its potential value necessary for the solution of the oncological diseases problem. The potential value of the indicator of the social-economic system's informatization level necessary for the solution of the oncological diseases problem is defined by the expert method with causality analysis.

The study found informational analytical support in the content of the Global E-Government Development Index presented by the Division for Public Administration and Development Management of The United Nations, the ICT Development Index presented by the International Telecommunication Union, and the Knowledge Economy Index presented by the World Bank Group.

3. Discussion

The nature and specificity of oncological diseases, modern challenges of oncology, the role of marketing in improving the functioning of organizations, as well as the role of social-ethical marketing are described in the works of such authors as Morgan and Wilkes, 2017; Nicholson, 2017; Wagland *et al.*, 2017; Round, 2017; Przhedetskaya *et al.*, 2016; Kocaöz *et al.*, 2017; Akuoko *et al.*, 2017; Bondarenko *et al.*, 2017. The future and possibilities of using modern information and communication technologies are presented in the studies of such scholars as Chumak

et al., 2013; Chumak *et al.*, 2014; Przhedetskaya *et al.*, 2016; Malyshkov and Ragulina, 2014.

The role and the importance of social media, game platforms for involvement of the public into professional communication as part of information and communication technologies promotion and building an information society and information economy are analyzed in the works of such scholars as Gretter and Yadav, 2016; Leonova, 2009; Ranieri and Fabbro, 2016; Vogt and Maschwitz, 2014; Bondarenko *et al.*, 2017; Apokova *et al.*, 2017.

Overall, it can be concluded that information and communication technologies, the use of social media platforms and social-ethical marketing's information component in oncology present an uncommon and peculiar issue for modern science. This probably comes from the lack of multidisciplinary studies that could unite advances in the field of medicine, marketing, information and communication technologies and economics.

4. Results

Medical social-ethical marketing applied to oncology primarily consists in information support of the public, offering the necessary data on obtaining help, consultations, opportunities and importance of early detection of diseases. In this connection it must be noted that major pharmaceutical companies and referral hospitals offer free diagnostic services to population, can participate in seeking sponsorship possibilities for acquisition of expensive medications and carrying out a range of procedures on a targeted basis, for the patients in need. They also hold online and offline consultations with leading specialists.

Information and communication technologies possess a significant potential in tackling the oncological diseases problem. We have identified three key areas of their use for this purpose. The first area is organizational. It is connected with modernization of consulting, diagnostics and treatment of oncological diseases with the help of information and communication technologies on social networking platforms. This area assumes the use of information and communication technologies by patients suffering from oncological diseases and public authorities, which means that its realization requires formation and development of specialized infrastructure. The term infrastructure here refers to a platform for electronic provision of government services. Information and communication technologies in this area can be used for the following purposes:

- 1) For online medical appointments and a queue management system. People suffering from oncological diseases have to seek medical services regularly. They can be a doctor's examination, diagnostic, treatment and rehabilitation procedures as well as getting a prescription for medications. Since oncology treatment involves the use of drugs prohibited for free distribution, it may be demanded to submit

numerous documents to obtain them. Moreover, such drugs are distributed in very limited quantities, which means that oncological patients in need of these drugs have to get new prescriptions every few days and account for their use (provide medicine packages after use). For health reasons many oncological patients can't stand in queue, and modern Russia has a double-queue system: the first queue is to make an appointment at the registration desk of the medical organization; the second queue is outside the doctor's office, since patients are seen on a first-come, first-served basis. The method of online appointments and a queue management system could make it possible to eliminate this problem.

2) For receiving oncological medications. Oncological patients must be able to get all the necessary (and legally permitted) prescriptions for medications at home. The Public Services Portal of the Russian Federation must have a special-purpose service for this. Due to the fact that many oncological medications need to be tightly accounted for, the first time a prescription could be given requiring the patient's personal presence at the doctor's office, however, a repeat prescription could be given online.

3) For keeping the electronic medical record. An ordinary (paper) medical record is kept at the medical institution, which prevents the patient from visiting other medical institutions, since in this case neither the doctor nor the patient can access the medical record data. An electronic medical record is linked to the patient, but not to the medical institution, which enables visiting various medical institutions with full access to the medical record, and the patient's independent review of the record.

4) For disability registration. Most cases of oncological diseases present medical grounds for disability. In Russia, as in many other countries, establishing the status of a disabled person is a very complicated procedure. Since oncological patients obtaining their disability status are unable to visit numerous doctors and undergo different medical examinations, they must be presented with an opportunity to register (or at least to prolong) disability without leaving home through a special online service on the public services portal.

The level of information and communication technologies development in this sphere is estimated on the basis of the Electronic Government Index, since it reflects the share of public services delivery in electronic format.

The second area is social; it reflects the use of information and communication technologies in social rehabilitation and adaptation of oncological patients. This area involves the use of information and communication technologies by oncological patients. It also requires specialized infrastructure, which has already been created, debugged and successfully launched in most countries of the world, including modern Russia. By this we mean private electronic portals.

The purposes of information and communication technologies' use as part of this area are as follows.

Firstly, they can be used for communication with other oncological patients. Discussing their diseases and life hardships, oncological patients can share their experience, get social support and take their mind off stressful thoughts. This can become a means of social relief and psychological help for them.

Secondly, patients can use technologies to collect information on their disease. In many cases, a person needs to tell the doctor about all his complaints during the consultation. However, many patients don't do this out of ignorance, which hinders diagnosing, treatment and consequently recovery. The internet encompasses a huge amount of useful information, which could come in handy to oncological patients. They can use this information to form their own opinion on the current treatment and its potential consequences, which is important when the doctor's consultation time is limited or when there are contradicting recommendations from different doctors.

Thirdly, technologies can encourage early detection of oncological diseases. Mass media (especially social networks) can serve as an effective tool of sharing information about oncological diseases and promotion of their early detection and treatment. The use of information and communication technologies based on social media enables communication between population and medical staff, which raises the share of early-detected oncological diseases, thus increasing the number of successfully treated patients and lowering mortality rates from oncological diseases. The level of information and communication technologies development in this sphere is estimated according to the Index of information and communication technologies development.

The third area is technical; it refers to optimization of research and development processes in professional community of oncology with the help of information and communication technologies. This area implies the use of information and communication technologies by medical organizations including research organizations specializing in oncology, remote consultations, remote surgeries with the use of robotic technologies, and other telemedicine technologies. This demands strong development of infrastructure. Besides the institutional framework (legal and regulatory basis for possibility and necessity of information and communication technologies use by organizations), a material and technical base (relevant technologies and equipment) and substantial financial support are also required. The use of information and communication technologies in this area is realized in the following ways.

Firstly, it is necessary for scientific research aiming at discovering new methods of oncological diseases treatment. Information and communication technologies can be

applied to both keeping information about undertaken medical studies and data systematization, dissemination, etc.

Secondly, technologies are essential for building international cooperation of scientists seeking new methods of oncological diseases treatment. Online scientific forums, conferences and seminars encourage the establishment of close relations between research institutions from different countries for exchange of experience and new ideas, as well as for running joint multicentered research projects. This helps to avoid overlap of functions and increase efficiency.

Thirdly, information and communication technologies can be used for immediate treatment of oncological diseases. They can get an unexpected development, become an implicit tool for oncological diseases treatment, since they have not been studied to full extent yet, and possess a wide range of perspectives.

The level of information and communication technologies development in this sphere is estimated according to the information economy (knowledge economy) index, as it reflects the intensity of information and communication technologies use in business, and a part of the healthcare system in the modern market economy is a commercial branch functioning in a competitive environment on entrepreneurial principles.

We estimate that the practical use of information and communication technologies in the abovementioned promising areas of oncological diseases treatment requires the Indicator of social-economic system's informatization level to be above 7. Based on the data of 2016 the Indicator for Russia is estimated as follows: $I_{\text{Russia-2016}} = (7.29+6.95+5.78)/3 = 6.67$. The resulting value of the Indicator of social-economic system's informatization level in modern Russia reflects a lack of its preparedness to solve the oncological diseases problem.

An increase in the social-economic system's informatization level requires application of social-ethical marketing with regard to business/governmental activities encouraging different sectors of society to learn how to use specialized content and communicate through social networking. For this we recommend starting a universal education program at multifunctional centers, specialized offices providing state (municipal) services. This education should be free and as comprehensible as possible, so that every social group could have a chance to learn the basics of how to use electronic means of obtaining state services. Oncological patients could be provided with such services at institutes of oncology, health centers, and hospitals.

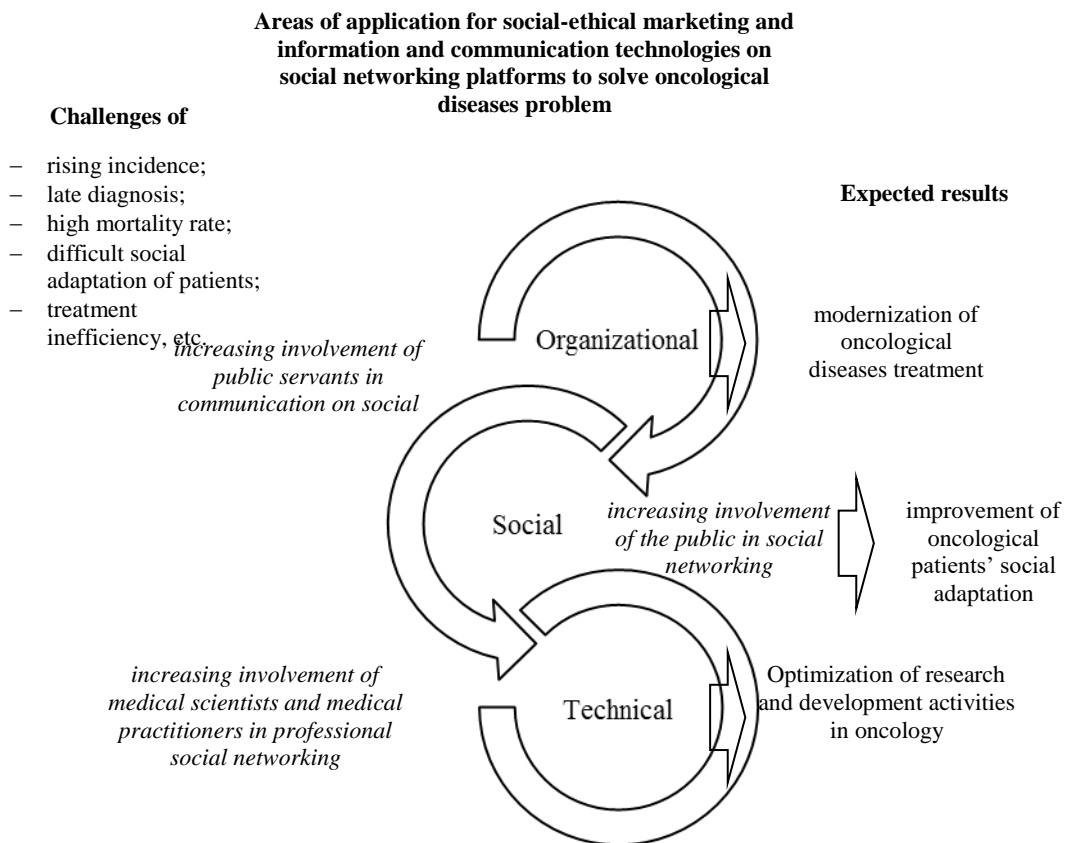
The second area concerns increasing the level of public servants' involvement in professional communication in specialized social networks. Public servants' (primarily multifunctional centers clerks') IT awareness level can be characterized

as low. In order to increase it clerks should be taught peculiarities of work with relevant applications and services.

The third area concerns improving the level of involvement of medical scientists and medical practitioners in communication in professional social networks as well as in consulting the public. Medical staff needs to possess certain competences in order to keep electronic medical records and offer other electronic medical services. Medical scientists also need to be competent enough to work with the latest information and communication technologies, research repositories.

In view of the foregoing, we have built a conceptual model of an economic response to challenges of oncology with the help of the information component in social-ethical marketing and communication of different social groups on social networking platforms, which is represented in Figure 1.

Figure 1. The Model of Economic Response to Challenges of Oncology



Development of information and communication technologies on social networking platforms plays the key role in the process of drawing up a model of economic

response to the challenges of oncology in the modern society, as it enables both timely receipt of necessary data and getting consulting and diagnostic help.

5. Conclusion

Thus, social-ethical marketing and the potential of social media present a promising tool for solving modern oncology problems, helping to find an economic respond to its relevant challenges, which confirms the hypothesis put forward in this study. The key component of maximizing the existing potential in practice is active involvement of the social groups participating in this process (most important of which are medical staff of scientific and practical spheres, patients with oncological diseases and public officials providing electronic services to the public) in professional communication on social networking platforms.

In summary, it should be noted that even though an economic response to challenges of oncology makes it possible to obtain a significant effect, it is not a way to overcome the threat posed by oncological diseases to modern social-economic systems. It is the reason why measures to control and prevent oncological diseases and to support oncological patients must be comprehensive and systematic, whereas the economic response must be complemented by medical activity and social measures. Development of the outlined scientific fields presents prospects for further research in this area.

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