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Marketing communication and digital technology innovative instruments in promoting pharmaceutical brands in Ukraine and their efficiency estimation

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Abstract

The article systematizes the innovative instruments of marketing communications and digital technologies that are expedient for stakeholders of Ukrainian pharmaceutical market to apply in promoting medicines, pharmaceutical products and brands given the current state of informational-communicational environment in Ukraine. The place of Ukraine in the world-wide Internet environment as well as the level of informational access to the Internet of Ukrainian pharmacy and pharmaceutical enterprises have been analyzed. The main promotional instruments in social media have been determined; their practical importance for pharmaceutical market stakeholders has been substantiated. The case study of individual pharmaceutical market stakeholders has allowed analyzing their presence in social networks, estimating the popularity of the above networks with the stakeholders as well as substantiating scientific and practical application of certain marketing efficiency evaluation practices and their presence in social media.

Keywords: Marketing communications, the Internet, innovative instruments, digital technologies, medicines, pharmaceutical brands, pharmaceutical market stakeholders, social media, efficiency

1. Introduction

The rate of the global computer network Internet development has led to transferring marketing communication instruments to the digital environment. The above resulted in Ukrainian pharmaceutical market stakeholders introducing innovative marketing communication instruments in promoting their brands and products. The consumer, customer, partner, and competitor appeal of Internet communications is primarily determined by transaction costs reduction due to 24/7 access to online information resources. The issue of systematizing innovative marketing communication instruments in promoting medicines and pharmaceutical brands has gained vital importance. The study aims to systematize innovative instruments of marketing communications and digital technologies that can be applied by stakeholders of Ukrainian pharmaceutical market in promoting their brands and products, to substantiate the expediency of the above instruments, and evaluate their efficiency.

2. Materials and Methods research

Theoretical and methodological basis of the study was Ukrainian and foreign scientific literature on the practical application of innovative marketing communication and digital technology instruments in promoting brands as well as the results of Ukrainian pharmaceutical market stakeholders survey. System analysis, content analysis, monitoring, logical summarizing, market research and other methods have been used in the study.

3. Results and Discussion

An integral part of the present-day reality is the rapid development of IT technologies used for product promotion. In healthcare, the use of digital technologies covers a significant number of areas: clinical examinations, promotion of mobile medical applications, marketing communications in the system of promoting OTC- and Rx-medicines, etc. Under current conditions of high uncertainty, the transiency of the environment and hard budget constraints Ukrainian pharmaceutical market stakeholders have to seek innovative solutions on effective strategies for promoting medicines. Being an effective means of marketing strategy and practical implementation of pharmaceutical organization market goals, marketing communications are preferential anti-crisis marketing measures. They aim to inform, persuade, and remind the target audience of products and services, sales promotion, creation of an organization's positive image in the community and establishing close mutually beneficial partnership between a company and society [4, 14, 15].

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Given the financial crisis, a significant number of Ukrainian enterprises have cut down on traditional instruments of marketing communications. Modern tendencies in marketing communications development in Ukraine demonstrate an increasingly larger role of Internet advertising. According to Ukrainian Advertising Coalition the volume of Internet advertising has increased eight times over the past five years and tends upward as of 2016^[21].

The executives of the majority of Ukrainian pharmaceutical companies have faced a topical issue as to the reasonableness of the advertising budget division in order to achieve savings and the highest efficiency in promoting medicines and ensuring the availability of medicines to the end-consumer.

Forced reduction and cost optimization of pharmaceutical enterprises necessitate a research on efficient approaches to managing marketing communications under crisis. It stands to reason that it is the innovative marketing communication instruments that are most appropriate and flexible under crisis since a crisis gives companies extra options to improve their market position, provided adequate implementation of the marketing communication policy aimed to increase the level of trust and loyalty of the target audience to the product^[13, 14].

International Telecommunication Union statistics is a guide to the position of Ukraine in the global Internet space. The ICT Development Report 2014^[16]. Thus, she ranks 118th among 211 countries worldwide and 12th among 15 CIS countries as to the development of the Internet. The above data indicate a low level of Ukrainian population coverage by the Internet which confirms the need to further expand its business use and substantiate its practical efficiency.

The level of information accessibility of Ukrainian pharmacies and pharmaceutical companies to the Internet has been analyzed. To that effect, a survey of pharmaceutical experts from 23 regions of Ukraine was made in January-February 2016. It has been established that the level of information accessibility of domestic pharmaceutical organizations to the Internet is rather low; according to respondents, it averages at 6 points on a 10-point scale. The rapid development of IT technologies in society suggests a need to improve the access level of Ukrainian pharmaceutical market stakeholders to the Internet since IT technologies are currently becoming increasingly important in dealing with business strategies of enterprises. Innovative marketing communications will make stakeholders of the pharmaceutical market more mobile in solving some business problems, including the public relations marketing strategy generation and development, company reputation and image management, customer growth, public opinion shaping, target audience capture, pharmaceutical products promotion in certain segments, external marketing environment monitoring, etc. Given the development of personalized marketing communications in promoting medicines, digital-marketing communications enable enterprises to aim their efforts in line with the needs of specific consumer groups; to segment Internet shoppers, to make interactive client maps and analyze their medicine purchase records; to correct the posted marketing information and adapt it according the target audience needs, etc.^[13, 14].

The rapid development of digital communications necessitates their systematization. In this regard, according to Ukrainian and foreign scientific literature^[1-3, 5-7, 9-12, 17, 18, 22, 23] innovative instruments of marketing communications and digital technology in promoting pharmaceutical brands that are expedient for Ukrainian pharmaceutical market stakeholders have been analyzed and structured, namely:

- promotion in social media: Social Media Optimization (SMO) and Social Media Marketing (SMM), including:
 - ✓ social networks;
 - ✓ theme blogs and forums;
 - ✓ Internet communities;
 - ✓ video- and photohostings;
- a pharmaceutical and pharmacy company website;
- e-mail marketing;
- advertising banners;
- a pharmaceutical brand (product) website;
- Internet advertising:
 - ✓ media advertising;
 - ✓ contextual advertising and PPC (Pay-per-click);
 - ✓ geocontextual advertising;
 - ✓ targeted advertising;
 - ✓ product placement;
- search engine marketing (SEM) and search engine optimization (SEO);
- mobile applications;
- SMS-mailing;
- electronic publications;
- CLM systems;
- iVideo;
- information Internet portals;
- an electronic medical (pharmaceutical) advisor at the pharmacy;
- viral marketing;
- guerrilla marketing;
- friending.

Social Media Marketing is a popular promotion instrument in digital environment. The choice of Social Media channels enables pharmaceutical brands to increase customer loyalty, to establish effective feedback from Internet users and improve their service policy, to stand out among competitors, to analyze the popularity of certain posts considering this information in future work to increase sales. Besides Social Media Marketing helps increase the efficiency of goods promotion and significantly reduce the contract cost. Using promotion in social media provides pharmaceutical market stakeholders with certain advantages, among which the main ones are:

- increasing pharmacy and pharmaceutical company site traffic through social networking;
- providing a larger audience with information about pharmaceutical brands;
- forming the recognition of and trust in pharmaceutical brands among social media users;
- attracting new customers;
- enhancing the target audience loyalty to pharmaceutical brands;
- popularizing pharmaceutical brands;
- providing feedback from social network users;
- ensuring the growth of sales of goods, etc.

The main Social Media promotional instruments are social networks, theme blogs and forums, online communities, photo- and videohostings. Promotion in *social networks* allows achieving personified influence on the target audience, to choose the sites with the largest number of the present audience, and to determine reasonable methods of communication with them. In recent years the importance of social networks in health care in general has increased greatly, as well as patient and doctor confidence in the potential of Internet resources.

According to scientific literature, in developed countries both formal and informal health professional organizations and patient groups are involved in ensuring accuracy and availability of health information. In this regard, monitoring and regulation of Internet space with patients gathering information that allows them to form their own opinion are becoming increasingly important [18].

A company presence in social networks contributes to forming loyalty to the pharmaceutical market stakeholders and attracting customers. The analysis of the pharmaceutical market stakeholders presence in social networks as exemplified by Ukraine pharmacy networks demonstrates the active use of the above instrument for medicines and their brands promotion. According to the achieved results, the majority of the surveyed pharmacy chains (63%) use social media in their marketing communication activities. The interviewed experts believe that with the restrained budget the use of social networks is considered to be an appropriate and innovative approach to

company branding strategy formation in the Internet environment; promotion of medicines to the target audience; their sympathy formation, and increase of loyalty to the organization activity in general. It has been established that the most popular social networks among Ukrainian pharmacy networks are Facebook, VK, Google+, Twitter (Figure 1).

However, 37% of the surveyed pharmacy networks do not use social networks in their marketing communication activities. The executives of these pharmacy chains can be recommended to consider using this innovative promotional instrument in their further work since, given the current extensive use of digital communications, social networks allow establishing the customer feedback, thus improving the organization service policy and increasing sales of pharmaceutical products. Using social networks also allows analyzing the popularity of certain posts and using this information in further marketing activities as well as organizing various promotional activities.

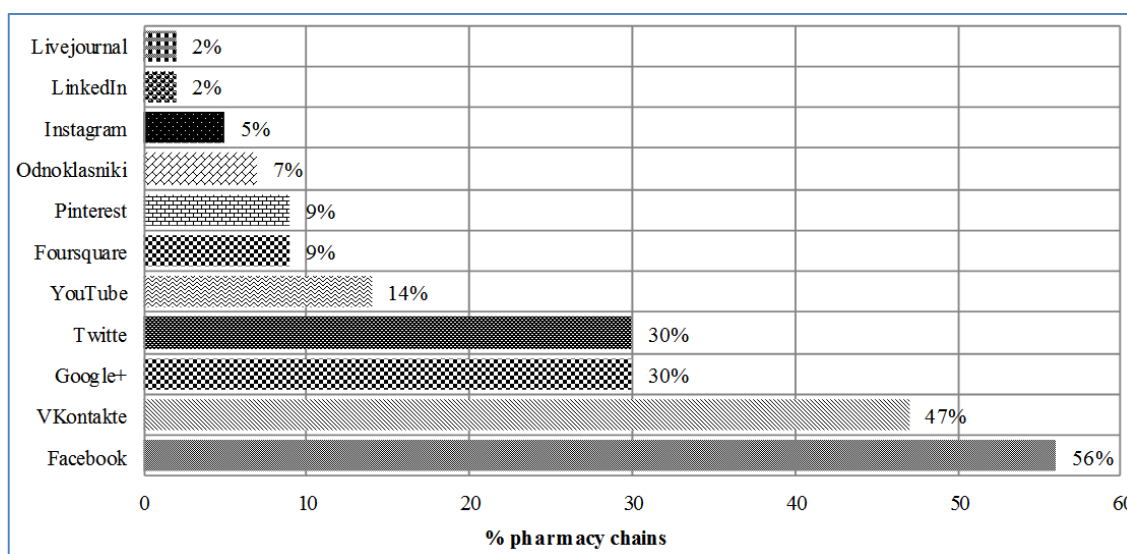


Fig 1: The level of popularity of social networks among pharmacy chains in Ukraine

Based on the results of the study, certain well-grounded recommendations for individual pharmacy chains as to the expediency of their presence on social networking platforms have been drawn up. It is advisable for pharmacy chains to focus their attention on communication with customers using this instrument since pharmaceutical experts consider the «Word-of-mouth-marketing» technology to be the main medicine sales generator in Ukraine in the OTC segment [11]. Under the restrained budget conditions, the above technology is easy to introduce through social networks. With social networks, customers can get involved in communication with pharmaceutical brands, which will further allow facilitating the purchase of these brands as well as sharing information about the brand among consumers. Ultimately, it will provide a high level of pharmaceutical brands identification and medicine sales increase.

In medicine promotion with *theme blogs and forums*, it is advisable to maintain communication links with society. For example, it is possible to introduce new medicines of pharmaceutical companies to the target doctor audience; to discuss peculiarities of the use of certain drugs with colleagues; to report the news in pharmacy and medicine; to maintain social contact with domestic and foreign colleagues; to influence public opinion formation; to establish a dialogue with customers

and partners, etc. In the given study Ukrainian blogs and forums that focus on medicine and public health and can be extremely beneficial for pharmaceutical market stakeholders in product promotion have been analyzed. The leading Ukrainian theme blogs are presented in Table. 1.

Table 1: Ukrainian theme blogs on medicine and health

Theme Blog Name	Internet Access Mode
«Healthy Blog»	http://www.zdorblog.com/
«Ukrainian Medical Blog»	http://doctor-help.org.ua
Blog «Dr. Komarovskiy»	http://www.komarovskiy.net/blog
Doctor blogs at the medical portal «Eurolab»	http://www.eurolab.ua/blog/
Blogs at the «All-Ukrainian Health Portal «	http://vitaport.com.ua/blog
Vertebrologist Alexander Halchenko’s blog «Stop Spinal Osteochondrosis or Spine Health»	http://stop-osteochondroz.blogspot.com/
Blog Directory of Ukrainian blogs, category «Health»	http://www.ukrainianblogs.com/

Source: compiled by the author based on the Internet service monitoring findings, 06.2016

For example, in the blog «Dr. Komarovskiy» a pediatrician shares his experience and ideas about certain problems and issues, gives advice to young mothers, etc. The above theme blog is expedient for pharmaceutical companies to present and promote baby food, children cosmetics, childcare and other pharmaceutical products for young parents and children. A fragment of search of Ukrainian theme forums devoted to medicine and health care is presented in Table. 2.

Table 2: Ukrainian theme forums on medicine and health care

Theme Blog Name	Internet Access Mode
Medical forums	http://www.i.ua/
Forum «Medicine / Health» at meta.ua	http://forum.meta.ua
Kharkiv Forum – Health	https://www.kharkovforum.com/f58-zdorove
Kharkiv Forum	http://kharkovforum.com.ua/
Kyiv forum, section «Medicine – Health»	http://forumkiev.com/medicina-zdorove/
Forum Kharkiv – Health	http://www.infmed.kharkov.ua/forum/index.php
Forum «Aibolit»	http://ajbolit.at.ua/forum/
Forum «Personal Health Service Center»	http://www.centrdorovja.com.ua/forum/

Source: compiled by the author based on the Internet service monitoring findings, 06.2016

Ukraine has a large number of *Internet communities* that are reasonable to use for medicine and pharmaceutical brand promotion. For example, to promote pharmaceutical products for young mothers and childcare products it is advisable to use the following Internet communities:

- young mothers community «Svitmam» («The World of Mothers») (<http://svitmam.ua/>);
- Mykolayiv parents community (<http://www.mama.mk.ua/>);
- "School of Young Mothers «Kroha» («Babe»)" Community (<http://kroha.od.ua/>).

Online educational resources for patients are a variety of online communities, where issues related to a certain disease, its prevention and treatment are discussed. For example, Novo Nordisk Company, a global leader in developing innovative drugs for diabetes mellitus treatment, has created an educational online resource for patients within the framework of a social project (<http://www.diabet.org.ua>). The above educational online resource is not only useful for patients with diabetes and healthcare professionals, but also contributes to a positive image and promotion of this pharmaceutical brand to the Ukrainian market.

The issue of evaluating the efficiency of brands and promotion of pharmaceutical medicines through Social Media channels is currently acquiring great importance. The efficiency of the pharmaceutical brand promotion in social media is important to determine the choice of specific marketing communication instruments to be used; to adjust advertising and PR-campaigns; to evaluate the refund of investments in marketing communication innovative instruments in comparison with those traditional ones. Monitoring data, online communities and blogs statistics, web analytics data, etc. can be the source of information. The number of quantitative and qualitative indicators to evaluate the efficiency of brand promotion in social media is chosen independently by each pharmaceutical market stakeholder taking into account their goals and objectives.

The next step was a marketing assessment of the efficiency of the pharmaceutical brand promotion undertaken by market stakeholders in social media as exemplified by Ukraine pharmacy chains. To this end, a model of social network marketing analysis suggested by O.S. Sukharev and N.V. Kurmanov has been processed and adapted [20].

The marketing assessment of the efficiency of the pharmaceutical brands promotion undertaken by pharmaceutical market stakeholders in social media has been made on the example of pharmacy chains with the help of the commercial activity of Internet community audience coefficient calculated by the following formula:

$$K_{k.a.} = \frac{q_2}{q_1} \quad (1),$$

where: $K_{k.a.}$ – the coefficient of commercial activity of pharmacy network Internet community audience;

q_1 – the total number of Internet users who visited the pharmacy network page in social media;

q_2 – the number of Internet users who followed a link to the pharmacy network site from social media and ordered pharmaceutical products online.

The commercial activity coefficient, whose value can range from 0 to 1 ($0 \leq K_{k.a.} \leq 1$), directly reflects the commercial result and shows the efficiency of social media as a marketing communication instrument for promoting pharmacy chains brands and selling pharmaceutical products.

In order to segment pharmacy chains according to the quantitative index «online community audience commercial activity» the following scale has been proposed:

- Segment 1: $0,76 \leq K_{k.a.} \leq 1$ – high commercial activity of the online community;
- Segment 2: $0,51 \leq K_{k.a.} \leq 0,75$ – sufficient commercial activity of the online community;
- Segment 3: $0,25 \leq K_{k.a.} \leq 0,50$ – average commercial activity of the online community;
- Segment 4: $0 \leq K_{k.a.} \leq 0,24$ – low commercial activity of the online community.

It has been established that only 14% of the pharmacy chains involved in the study have sufficient online community commercial activity, 50% of the pharmacy chains have average online community commercial activity, 36% of them have low commercial activity. No pharmacy network with high online community commercial activity has been recorded in the study period. The achieved results show that pharmacy chains in Ukraine are still not active enough in involving social media as a marketing communication instrument for promoting their brands and increasing pharmaceutical product sales. Each segment of pharmacy chains should develop its own optimization program of presence in social media taking into account its goals and objectives.

In order to form a pharmacy brand network extension strategy and to strengthen its market position as well as to acquire customers and promote sales of certain goods some information about the promotional product was posted on its own page at Facebook. Subject to the conditions of the offer, placed for one month by the pharmacies of the Ukrainian pharmacy chain involved in the study, any customer who simultaneously purchased 2 items of LIBREDERM products received an item of facial cosmetics as a present.

It has been proposed to use a correlation analysis method as a criterion for evaluating marketing communication activities at

Facebook of the pharmacy network involved in the study. This method allows determining the degree of statistical correlation ratio between the two metric variables. To this end, Pearson pair correlation coefficient (r) was chosen. It is calculated using the following formula:

$$r = \frac{\sum_{i=1}^n (X_i - \bar{X})(Y_i - \bar{Y})}{\sqrt{\sum_{i=1}^n (X_i - \bar{X})^2 \sum_{i=1}^n (Y_i - \bar{Y})^2}} \quad (2)$$

where: n – number of observations;
 X_i, Y_i – variables;
 \bar{X}, \bar{Y} – average values of variables [8].

The degree of correlation ratio between the two variables was carried out on the scale that is presented in Table. 3.

Table 3: Correlation Coefficient Interpretation

Correlation	Negative	Positive
No / absent	-0,09 to 0,00	0,00 to 0,09
Low	-0,30 to -0,10	0,10 to 0,30
Medium	-0,50 to -0,30	0,30 to 0,50
High	-1,00 to -0,50	0,50 to 1,00

To calculate the correlation coefficient the following figures were used: the number of Internet users who followed a link to the pharmacy network site from social media and ordered promotional products online and the volume of the promotional goods purchased by Internet users (Table. 4).

Table 4: Data for the correlation coefficient calculation

Observation period	The number of Internet users who followed a link to the pharmacy network site from social media and ordered promotional products online, persons, X_i	The volume of the promotional goods sales during the offer period, UAH, Y_i
01.06.16 - 07.06.16	7	2 995,44
08.06.16 - 14.06.16	11	4 707,12
15.06.16 - 21.06.16	18	7 702,56
22.06.16 - 28.06.16	24	10 270,08
29.06.16 - 05.07.16	19	8 130,48
Total:	79	33 805,68

The achieved result of the Pearson correlation coefficient is $r = 1$. This shows that the sales volume depends on the number of Internet users who followed a link to the pharmacy network site from social media and ordered promotional products online. In addition, a positive value of r indicates direct (directly-proportional) relationship between features X and Y : the higher the activity of Internet users in social media, the larger the volume of sales and vice versa. Thus, it can be assumed that posting information about a marketing campaign at Facebook has proved expedient and profitable for the pharmacy network involved in the study.

Marketing assessment of the activity and efficiency of the Social Media Marketing (SMM) strategy of pharmaceutical market stakeholders can be also made using certain online services, including: Buffer (<https://bufferapp.com>), Facebook Insights (<https://www.facebook.com>), Feed Spy (<https://feedspy.net/>), Google Alerts (<https://www.google.com/alerts>), Hootsuite (<https://hootsuite.com/>), Infini Graph (<http://www.infinigraph.com/>), Klout (<http://klout.com>), Marketing Grader (<https://website.grader.com/>), etc.

By means of the online service «Shared Count» (<http://www.sharedcount.com>) the activity of the Ukrainian pharmaceutical market stakeholders in social networks has been analyzed according to the «Uniform Resource Locator» indicator. Since preliminary research has showed that Facebook is the most popular social network among Ukrainian pharmacy chains, further marketing assessment of their activity on the social network Facebook has been made. As the research shows, the pharmacy chains most frequently mentioned in the social network Facebook are: «Apteka nizkih cen» (Low Prices Pharmacy), (<http://aptekanizkihcen.ua/>) – 11,8%, «Kosmo» (<http://kosmo.ua/>) – 10,7%, «Apteka dobrogo dnya» (Good Day Pharmacy), (<https://www.add.ua/>) – 10,3%, «Bila Romashka» (White Daisy), (<http://www.bilaromashka.com.ua/>) – 8,3%, «Apteka 9-1-1» (Pharmacy 9-1-1), (<http://apteka911.com.ua>) – 6,6%. The next step was making a similar social media activity rating of wholesale and intermediary pharmaceutical enterprises

of Ukraine. It has been established that only 57% of such enterprises are active on Facebook. This is probably due to the fact that the activities of wholesale and intermediary pharmaceutical companies do not directly depend on the behavior of end consumers. The high activity level in the social network is typical of those companies that embrace both wholesale and retail segments (with their own pharmacy chains) and /or promote herbal medicines, medical products, Ayurvedic products, etc., which advertisement is not restricted in the country by law. According to the study, the pharmaceutical enterprises most frequently mentioned in the social network Facebook are: «Shiv-Medfarm» (<http://www.shivmed.com>) – 33,4%, «Greenwood» (<http://greenwood-ua.com.ua/>) – 33,2%, «Yuria-Farm» (<http://www.uf.ua/>) – 10,6%. The high ranking of pharmaceutical market stakeholders «Shiv-Medfarm» and «Greenwood» in social media is due to, above all, the type of the marketed goods – herbal medicines, nutritionals and Ayurvedic products. Advertising of such goods in Ukraine is not legally restricted, so companies have an opportunity to inform end consumers about their products involving social networks.

Since the importance of social networks in health care has increased significantly in recent years, the companies under study can be encouraged to consider their presence in social media and particularly professional ones. For example, Internet users can be informed about new OTC-drugs and promo offers by manufacturers of pharmaceutical products, whose exclusive distributors are wholesale intermediary enterprises. This will contribute to their branding strategy and a reliable supplier image formation, provide a reasonable market positioning that is eventually to contribute to their financial results.

4. Conclusions

Research and practical usage of innovative marketing communications and digital technology instruments in promoting medicines and pharmaceutical brands has been substantiated.

According to the results of the undertaken study the advantages of introduction of innovative marketing communication instruments by pharmaceutical market stakeholders in promoting their brands – target audience accumulation, the opportunity to establish effective feedback from customers as well as to analyze the popularity of certain posts, low price of the contact, etc. – have been determined.

As exemplified by certain brands of Ukrainian pharmaceutical market stakeholders, the marketing assessment of the efficiency of promotion in social media in terms of online community commercial activity has been made. Based on the achieved results, four segments of pharmacy chains have been formed.

The scientific and practical application of the correlation analysis method as an evaluation criterion of marketing communication activity of pharmacy network on the social network Facebook has been substantiated.

Activity ratings of Ukrainian pharmacy chains and wholesale and intermediary pharmaceutical enterprises according to the «Uniform Resource Locator» indicator on the social network Facebook have been determined.

The proposed study will provide means for developing reasonable strategies of marketing medicines taking into consideration the present-day realia of informational-communicational environment development in Ukraine.

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