

**MINISTRY OF HEALTH OF UKRAINE
NATIONAL UNIVERSITY OF PHARMACY
faculty for foreign citizens' education
department of pharmaceutical management and marketing**

QUALIFICATION WORK

on the topic: **«Research of public relations tools in the activities of pharmaceutical companies»**

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Safae HANABI

Supervisor: assistant of department of pharmaceutical management and marketing, PhD,

associate professor Anna CHEHRYNETS

Reviewer: professor of higher education institution of department of organization and economy of pharmacy, DPharmSc, professor Victoria NAZARKINA

ANNOTATION

The qualification work is devoted to the study of public relations tools in the activities of pharmaceutical companies. The theoretical aspects of public relations and the peculiarities of their use by pharmaceutical companies are described, the PR technologies in the pharmaceutical market are analyzed, the directions of corporate social responsibility of the pharmaceutical company are studied.

The work is presented on 56 pages of printed text and consists of an introduction, three sections, conclusions, a list of references and appendices. The work is illustrated with 2 figures and 5 tables and contains 32 sources of scientific literature.

Key words: pharmaceutical marketing, public relations, corporate social responsibility, image.

АНОТАЦІЯ

Кваліфікаційна робота присвячена вивченню інструментів зв'язків з громадськістю у діяльності фармацевтичних компаній. Описані теоретичні аспекти зв'язків з громадськістю та особливості їх використання фармацевтичними компаніями, проаналізовані PR технології на фармацевтичному ринку, вивчені напрями корпоративної соціальної відповідальності фармацевтичної компанії.

Робота викладена на 56 сторінках друкованого тексту і складається зі вступу, трьох розділів, висновків, списку використаних джерел, додатків. Робота ілюстрована 2 рисунками і 5 таблицями, містить 32 джерела літератури.

Ключові слова: фармацевтичний маркетинг, зв'язки з громадськістю, корпоративна соціальна відповідальність, імідж.

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INTRODUCTION

In the dynamic landscape of the pharmaceutical industry, the significance of Public Relations (PR) cannot be overstated. PR serves as a vital bridge connecting pharmaceutical companies with various stakeholders, including healthcare professionals, patients, regulatory bodies, and the general public. It plays a pivotal role in shaping public perception, building trust, and fostering transparency within the industry. In an era where information is readily accessible and public scrutiny is heightened, effective PR strategies are indispensable for pharmaceutical firms to navigate through complex regulatory frameworks, communicate scientific advancements, and address public concerns with clarity and credibility.

Moreover, in an industry driven by innovation and competition, strategic PR initiatives are instrumental in differentiating brands, enhancing market visibility, and ultimately driving business success. As such, recognizing the importance of PR and investing in robust communication strategies is not just beneficial but imperative for pharmaceutical companies striving to thrive in today's highly competitive and scrutinized environment.

The purpose of the qualification work is to study the public relations tools in the activities of pharmaceutical companies.

To achieve this goal, the following tasks are defined:

- to study and generalize the data of scientific literature regarding the theoretical aspects of public relations as the basis of socially oriented marketing in pharmacy;
- to describe features of PR technologies in the activities of pharmaceutical enterprises;
- to study the main directions of PR activities of Ukrainian pharmaceutical manufacturers and pharmacy chains;
- to analyze the main directions of corporate social responsibility of the pharmaceutical company.

The object of the research is data from scientific and specialized professional

literature, reports of marketing research companies, websites of pharmaceutical manufacturers and pharmacy chains, accounts pages in social media.

The subject of the study is public relation tools in the activity of Ukrainian pharmaceutical company.

Research methods. The qualification work uses methods of desk marketing research (content analysis of the website and social media, descriptive and historical methods, comparison and generalization).

The practical significance of the results. The results of the qualification work are useful for specialists in public relations of manufacturing companies and pharmacy chains to build strategies in reputation management.

Approbation of research results and publication. The results of the qualification work were presented at the XI international scientific and practical distance conference with international participation «Management and marketing as part of modern economy, science, education, practice» (2024, March 21) [14].

Structure and volume of qualification work. The work is presented on 55 pages of printed text and consists of an introduction, three sections, conclusions, references, and appendices.

PART 1

THEORETICAL ASPECTS OF PUBLIC RELATIONS AS THE BASIS OF SOCIALLY ORIENTED MARKETING IN PHARMACY

In modern conditions of economic development, in order to achieve a stable financial condition, increase competitiveness and improve the image, each pharmaceutical enterprise, in addition to performing functions related to the receipt and distribution of profits, must perform a number of social tasks and actively participate in the life of society [1]. This is reflected in the category of social responsibility of business, which became widespread in the second half of the twentieth century. The concept of socially oriented marketing allows companies to achieve stable financial and economic development, build effective interaction with partners, state and local authorities, non-governmental public organizations, which, in turn, contributes to increased consumer loyalty and improved image [1].

1.1 Historical aspects of the development of public relations

The emergence of the sphere of activity in the field of influencing public opinion dates back to ancient times. PR principles have been implemented throughout human history. Since ancient times, public relations have been one of the elements of governance and religious belief.

The term «Public Relations» originated in the United States, and its author was Thomas Jefferson, the third American president, who used this phrase in 1807 in a draft of his “Seventh Address to Congress.” By intensifying public relations, Jefferson understood the increasing efforts of political institutions to create a climate of trust on a national scale [13].

As for the generalized interpretation of the term itself, already in the 30s of the 19th century the concept of “Public Relations” began to be used as a synonym for the phrase “relations for the general good” (“relationships for the sake of the general good”). The wide dissemination of the press caused the emergence of a new, unusual profession — press agents, who became the prototypes of future PR

managers and put into practice the first actions in the field of systematic and targeted work with the public.

The first decades of the 20th century are associated with the birth of professional PR specialization. Thus, one of the fathers of modern PR is called Ivy Lee, an American journalist who turned to PR practice in 1903. Four years later, Lee published a “Declaration of Principles,” a kind of first moral code of the profession. The author reduced the main task of the new type of activity to working with public relations advisers [13].

In the 20–40s of the XX century. There was an active development of “Public Relations” as a profession and scientific discipline. In 1923, a book dedicated to PR practice, “Crystallizing Public Opinion,” written by Edward L. Bernays, Z. Freud’s nephew, was published. In 1923 At New York University, Bernays taught the first course on the practice and ethics of PR at the newly opened Department of Public Relations. This course became the predecessor of many PR programs now offered by universities around the world.

By the early 1930s, PR had emerged in the United States as an independent management function. In large companies (AT&T, General Motors) positions of vice presidents of communications or “public relations” have appeared; the status of PR as a corporate function of managing public opinion was increasingly strengthened [13].

PR activities that developed in Europe were strongly influenced by American approaches, but after the World War II, their own scientific schools of “public relations” gradually began to form here. According to one of the pioneers of PR in Germany, L. Oekl, the main tasks of the public relations service were “to help individual subjects navigate society, obtain the right information and form their own opinions.”

Already in the 40-60s, the PR community was consolidating, international associations of specialists working in the field of public relations were created (1948 — PR Institute in the UK, PR Association in the USA; 1955 — International PR Association); codes of professional conduct are being developed.

Researchers associate the period of development of PR from the mid-60s to the present day with the emergence of a global information society, the characteristic features of which are the accelerated growth of high technologies, an increase in the number of communication channels, the gradual transformation of national economies into a single world economic system, which is characterized by global dependence and competition between its member economies. The demand for PR technologies in business, politics, and the social sphere is becoming permanent.

The new emphasis in PR activities is due to the advent of the “era of consumption” in developed countries, when the previously paramount task of organizing production was replaced by another priority — organizing sales. At the same time, a concept arose that subordinates PR to marketing. Thus, at the turn of the 80-90s, the famous marketer Philip Kotler said that to the traditional four “P” of the marketing complex “product”, “price”, “place”, “promotion” we should now add a fifth “P” — “public” relations”. Other experts, on the contrary, consider marketing as an integral part of PR. Still others talk about MPR (marketing public relations) as a special area of PR activity [30].

PR appeared on the Ukrainian market in the early 90s of the 20th century, when the first PR agencies appeared in the country.

1.2 The essence and advantages of public relations

Today, enterprises in the pharmaceutical sector of various sizes and areas of activity, from powerful factories to pharmacy chains, actively use PR technologies in their marketing strategies [6].

PR is one of the key aspects of any business. PR is the strategic practice of managing relationships between an organization and its key public to earn positive exposure, influence, and reputation. While marketing is focused on driving sales and doing so by promoting products, services, or ideas on channels like social

media, PR is more focused on the maintenance of a positive reputation of a company, brand, or person through the media [10].

There are a huge number of definitions and interpretations of PR in the scientific literature. The Institute of Public Relations (IPR), established in the UK in February 1948, adopted the still current definition of PR, namely: "Public Relations is a planned, long-term effort aimed at creating and maintaining goodwill relations. and mutual understanding between the organization and society as a whole".

Sam Black, in his book on PR, offers a more concise and comprehensive definition: "Public relations is the art and science of achieving harmony through mutual understanding based on truth and full information" [30].

Thus, the concept of "Public Relations" includes:

- a set of measures aimed at improving mutual understanding between the pharmaceutical company and the public;
- recommendations for creating the image ("public face") of the company;
- activities to shape the corporate image and culture of the organization;
- any actions aimed at identifying and eliminating rumors or other sources of misunderstanding;
- events designed to expand the organization's sphere of influence through appropriate propaganda, advertising, exhibitions, etc. [3, 7].

The International Public Relations Association (IPRA) has created a new definition of public relations. IPRA was established in 1955, it is the leading global network for PR professionals in their personal capacity. IPRA aims to advance trusted communication and the ethical practice of public relations.

«Public relations is a decision-making management practice tasked with building relationships and interests between organizations and their publics based on the delivery of information through trusted and ethical communication methods».

This definition seeks to explain the what, the why and the how. What is public relations? Why do companies do it? And how do companies do it?

What? Public relations is a decision-making management practice.

Why? tasked with building interests and relationships between organizations and their publics.

How? based on the delivery of information.

The field of public relations is constantly evolving, but at its core is about building and maintaining strong relationships. This can be done through media relations, thought leadership, brand building, and crisis management. While traditional methods like print and broadcast media are still important, digital channels such as social media and online news have become crucial for reaching key audiences. As a result, successful PR practitioners need to be proficient in both traditional and digital communication strategies [23].

Advantages of public relations are given on the fig. 1.1.

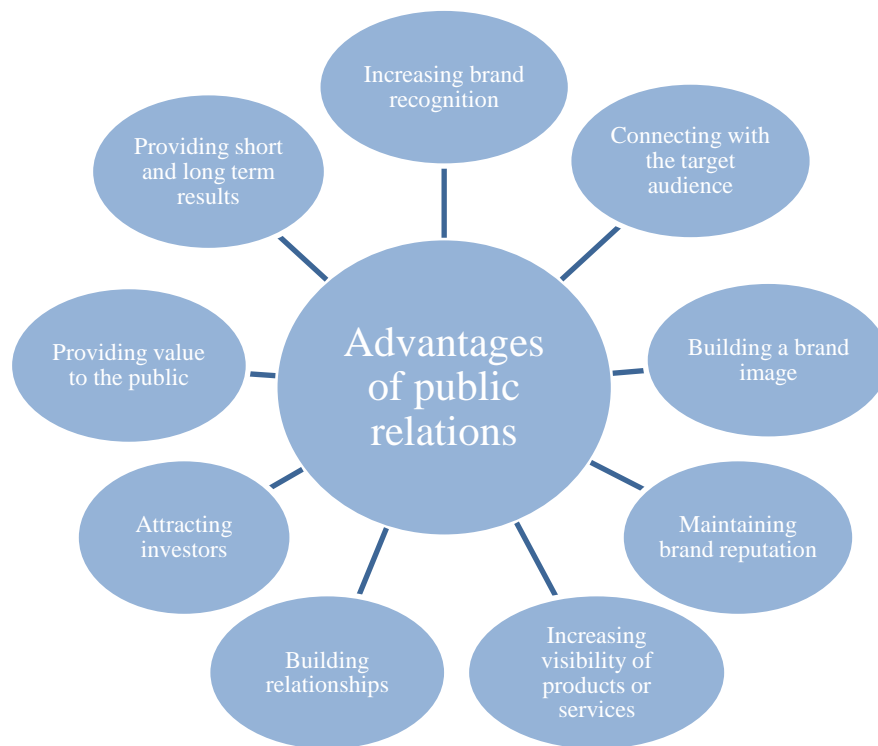


Fig. 1.1 Advantages of public relations for the company

1. Increasing brand recognition. PR helps companies achieve increasing brand recognition. It is more important than ever for businesses to stand out from the competition in today's crowded marketplace. Utilizing PR strategies can help businesses raise awareness of their brand and increase name recognition. This can

be accomplished in multiple ways, whether through articles published in traditional magazines and digital media outlets or by awareness campaigns built through social media. Another way businesses can garner interest is by distributing press releases, once put across an accredited release wire, the news is sent to a wide range of media outlets. By getting the company's news in front of a large number of people, recognition will increase, which can lead to more customers and increased sales [23].

Of course, public relations is not a magic bullet; it takes consistency and relationship-building to see long-term results. But if the effort is applied, public relations can be a powerful tool for increasing brand recognition and driving business growth.

2. Connecting with the target audience. The goal of any marketing strategy is to help a business spread awareness and increase sales. However, this can only happen if a company is able to connect to its target audience. Public relations is one of the best ways to build these connections. Carefully placed content or media materials can help companies reach their intended audiences. For example, if a retail-tech company is trying to attract new business, the perfect way to go about this would be to place a story about the success of one of their current clients in a retail outlet that is read by retail executives. It is the PR team's job to know how to frame a story and where the best place for it is, in order to best connect with the audience a company wants to attract [23].

3. Building a brand image. A strong brand image is essential for any business that wants to compete in today's marketplace. Branding can be a complex and costly process, but public relations can be an effective tool for building a positive brand image, especially on a smaller budget. Digital marketing is typically less expensive than more traditional marketing. Brands use social media as a tool to build their brand image. They can also use their own website for content with blogs or articles, press releases, interviews, and more. Creating a positive brand image through multiple channels can help businesses shape how they are perceived by the public, influencers, and other companies [23, 25].

4. Maintaining brand reputation. Businesses rely on their reputation to maintain a loyal customer base and attract new business. As discussed, public relations can help businesses to protect and enhance their reputation, but it can also help maintain that reputation over time or recover quickly in the face of adversity. PR professionals can help businesses proactively manage their reputation and respond quickly to any negative publicity through strategic communications.

While many turn to PR firms and marketing after bad press or a crisis, it's advisable to use PR before the negative issues occur. This can help you build a plan and recover more quickly. By investing in PR, businesses can build a strong foundation for a positive brand image that will stand the test of time. And, by maintaining a positive brand reputation, businesses can create a competitive advantage, staying ahead of anything that comes their way [25].

5. Increasing visibility of products or services. When used effectively, PR can help businesses to increase visibility for their products or services. In the past there were only a few outlets available; radio, print, and television. But because of the overwhelming takeover of digital, opportunities are endless, with publications that were once solely print now having websites, the introduction of video hosting platforms, podcasts, social media and more. There is no limit to where businesses can promote information about their business. And while specific outlets may only reach a certain audience, with the rise of social media, businesses can now share articles with their own network, and from there the article can be shared even further, ensuring that a company's message reaches far and wide [26].

6. Building relationships. In the world of business, reputation can mean everything. A strong reputation will keep you in business, while a poor one can end it. That's why more and more companies are turning to public relations to help them build and maintain positive relationships with key stakeholders such as customers, employees, and investors, as well as with strategic partners, members of the media, and industry leaders. Properly engaging with each of these is essential to a business's overall health and growth. Through PR, businesses can

control the narrative around their brand and shape public perception. Public relations ensures businesses are always top-of-mind [27, 28].

7. Attracting investors. At some point in any business owner's career, they are faced with the task of attracting investors. While there are many approaches to take, public relations is often an effective way to gain the attention of potential investors. A well-executed PR campaign can help to raise awareness of your business and generate interest in your products or services. In addition, a strong PR strategy can help to build trust and confidence in your brand. This is essential when it comes time to ask potential investors for their support. By investing in a well-crafted PR campaign, you can give your business the best chance of success when it comes time to attract investors [3].

8. Providing value to the public. A healthy business is a valuable asset to the public. It provides jobs, solutions to problems, and helps the overall economy. Public relations can help a business relay this value. But, it can also help businesses discover even more value to provide. Through relationships, PR can help a business learn from its community and build programs, movements, or charitable opportunities that didn't exist before. This mutual benefit between a business and its community can be invaluable and further strengthen both.

9. Short- and long-term results. A strong PR campaign can provide both short-term and long-term results. In the short term, PR can help to generate media attention, build brand awareness, and create a positive reputation. These results can lead to increased sales, higher levels of customer satisfaction, and improved employee morale. In the long term, PR can help to establish a company as an industry leader, build relationships with key stakeholders, and create a loyal customer base. By taking a strategic approach to public relations, companies can enjoy many benefits quickly while also investing in their future [4, 23].

Thus, there are clear advantages that PR can bring to businesses. But in order to take benefit of the advantages of PR a company first have to focus on strategy.

1.3 The role of public relation department in the modern company

Most large and medium-sized organizations in any field of activity, including pharmaceutical enterprises, currently need a PR department. The PR department must interact primarily with journalists and the media and, with their help, create the reputation (image) of the enterprise. In addition to external relations with clients and other organizations, one of the responsibilities of public relations department includes regulating corporate policy. What color business cards should be, the uniform of employees, traditions and holidays - all this is the work of the PR service. In companies where there is no PR service, responsibilities for maintaining good relations between management and employees and organizing joint events are assigned to HR specialists and HR managers [6].

The PR department solves the tasks presented in fig. 1.2.

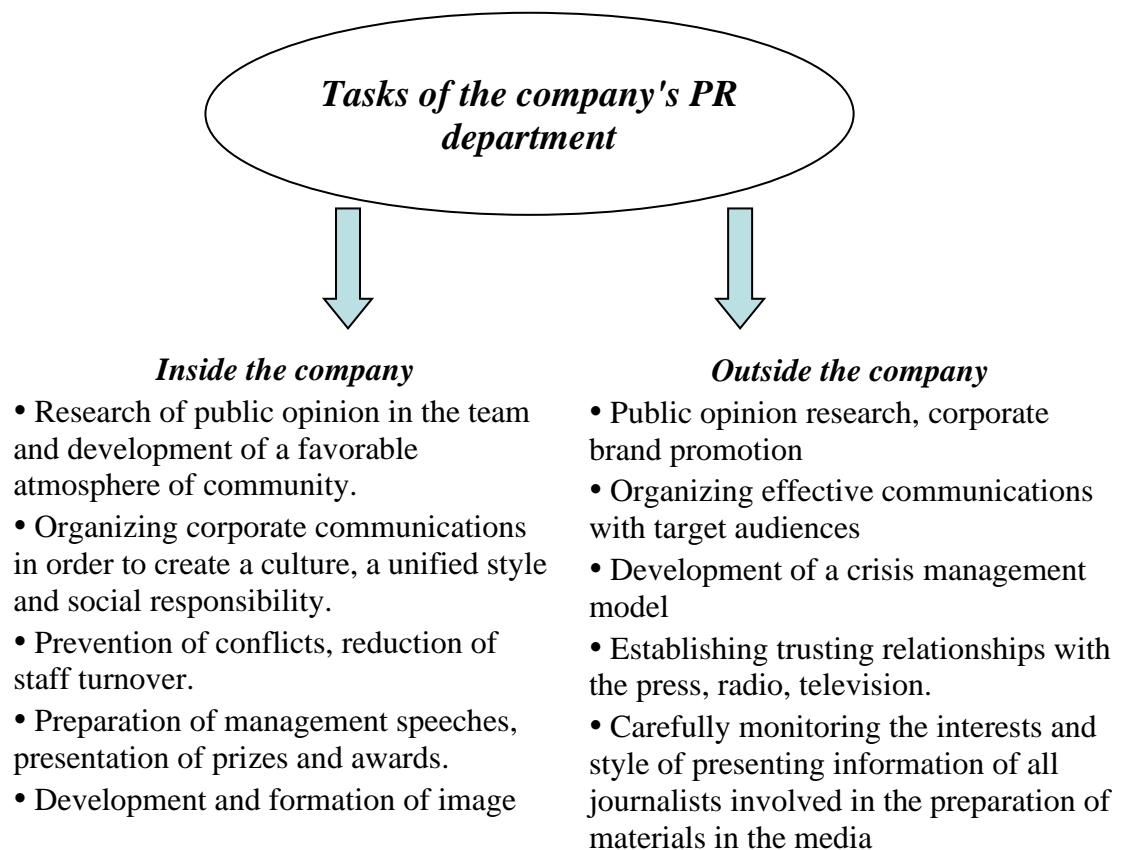


Fig. 1.2 The main tasks of the PR department in the company

Based on the above, the public relations system is designed to implement three main functions, namely:

- control over public opinion and behavior;
- responsiveness to the public (the organization strives to “serve” the public);
- achieving mutually beneficial relationships between the pharmaceutical company and the social audience [6, 14].

In this case, the PR system is guided by the following principles:

- openness of information;
- ensuring mutual benefit of the organization and the public;
- absolute honesty and truthfulness of those involved in this type of management activity [6].

Public relations specialists create and maintain a positive public image for the individuals, groups, or organizations they represent. Public relations specialists rank #4 in Best Creative and Media Jobs. Jobs are ranked according to their ability to offer an elusive mix of factors.

Public relations officers (also known as public relations account executives) plan and develop PR strategies for brands, individuals and organizations. As part of this, they will identify target audiences, then develop and share information that's tailored to audience preferences. Public relations officers manage the reputation and image of their clients, working to gain public understanding and support through planned publicity campaigns. A career in public relations involves using all forms of media and communication to build, maintain and manage the reputation of your clients.

A career in public relations is one of the highest-paying entry-level jobs for individuals with a communications degree.

Public relations specialists serve as key strategists in developing communication campaigns that influence public opinion, raise awareness, and drive engagement. Their work involves monitoring media coverage, assessing public sentiment, and adapting strategies as needed to maintain a positive image.

Common responsibilities of public relations specialists include:

1. Media relations. PR specialists develop and maintain relationships with journalists, editors, and media outlets. They pitch story ideas, draft press releases, and coordinate interviews to secure media coverage that highlights the positive aspects of the client or organization.
2. Content creation. PR specialists create compelling and engaging content for various communication channels, including press releases, articles, blog posts, social media updates, and multimedia materials.
3. Social media management. PR specialists develop social media strategies, create content calendars, and manage social media accounts to engage with audiences, share updates, and respond to comments or inquiries.
4. Crisis management. PR specialists prepare for and manage crises that could impact the reputation of the client or organization. They develop crisis communication plans, respond to negative situations promptly, and provide accurate information to mitigate potential damage.
5. Event planning. PR specialists organize and coordinate events such as press conferences, product launches, fundraisers, and promotional activities to generate media coverage and enhance public awareness.
6. Public speaking. PR specialists act as a spokesperson for the client or organization during media interviews, public speaking engagements, and presentations. They effectively convey key messages and manage questions from the media or the public.
7. Stakeholder communication. PR specialists develop communication strategies to engage with various stakeholders, including customers, employees, investors, and community members. They maintain open lines of communication to address concerns and share relevant updates.
8. Market research. PR specialists conduct research to understand public perception, industry trends, and competitors' activities. They use insights to inform communication strategies and identify opportunities for positive exposure.

9. Brand management. PR specialists contribute to shaping and maintaining a consistent brand identity that aligns with the organization's values and messaging across different communication channels.

10. Measurement and analytics. PR specialists track and analyze the effectiveness of public relations campaigns using metrics such as media coverage, social media engagement, website traffic, and sentiment analysis.

11. Collaboration. PR specialists work closely with marketing, advertising, and other departments to ensure consistent messaging and alignment of communication efforts.

12. Writing and editing. PR specialists craft clear and compelling content for press releases, speeches, articles, and other materials. They edit and proofread content to ensure accuracy and professionalism.

13. Relationship building. PR specialists build and nurture relationships with influencers, industry professionals, community leaders, and other key individuals who can positively impact the client's reputation.

14. Continuous learning. PR specialists stay updated on industry trends, communication technologies, and best practices in public relations to adapt strategies and techniques [6, 8].

Public relations specialists work across a wide range of industries and specialties to meet the unique communication needs of various clients and organizations. Here are some types of public relations specialists based on their areas of expertise:

1. Corporate communications specialist. These specialists focus on managing the overall communication strategies of corporations and large organizations. They handle internal and external communication, including media relations, crisis management, and employee communication.

2. Media relations specialist. These specialists build relationships with journalists, bloggers, and media outlets to secure positive coverage for their clients or organizations. They pitch story ideas, coordinate interviews, and manage media inquiries [17].

3. Social media specialist. With the rise of digital platforms, social media specialists manage and curate an organization's online presence. They develop social media strategies, create engaging content, and interact with audiences to build brand awareness and engagement.

4. Event public relations specialist. Event PR specialists focus on promoting and managing events such as product launches, press conferences, trade shows, and fundraisers. They handle media invitations, press coverage, and ensure successful event execution.

1.4 Peculiarities of using public relations by pharmaceutical companies

There are several reasons why pharmaceutical companies often face reputation challenges [11]:

1. Product Safety Concerns. Safety issues related to pharmaceutical products, such as adverse reactions or recalls, can significantly damage a company's reputation. Instances of unexpected side effects or lack of efficacy may erode trust among healthcare professionals, patients, and the general public [19].

2. Ethical concerns. Allegations of unethical behavior, such as off-label marketing, price gouging, or conflicts of interest with healthcare providers, can tarnish a pharmaceutical company's reputation. Practices that prioritize profits over patient well-being or violate ethical standards can lead to public outrage and regulatory scrutiny [16].

3. Transparency issues. Lack of transparency in clinical trials, drug pricing, or relationships with healthcare professionals and policymakers can undermine trust in pharmaceutical companies. Stakeholders expect transparency regarding the safety, efficacy, and cost-effectiveness of medications, as well as the influences shaping healthcare decisions.

4. Litigation and legal issues. Pharmaceutical companies are often involved in litigation related to product liability, patent disputes, or allegations of fraudulent marketing practices. Legal battles and negative court rulings can fuel

negative perceptions and damage the company's reputation, even if the outcomes are ultimately in the company's favor.

5. Perception of profiteering. Public perception of pharmaceutical companies as profit-driven entities, prioritizing financial gain over public health interests, can contribute to reputation challenges. Pricing strategies perceived as exploitative or unjustifiable, especially for life-saving medications, can provoke public backlash and regulatory interventions.

6. Media scrutiny and misinformation. Pharmaceutical companies are subject to intense media scrutiny, which can amplify negative events and contribute to the spread of misinformation. Sensationalized reporting or inaccurate portrayals of pharmaceutical practices can fuel public distrust and misconceptions about the industry [22].

Addressing reputation challenges requires pharmaceutical companies to prioritize transparency, ethical conduct, and patient-centricity in their operations. Proactive communication, engagement with stakeholders, and adherence to high standards of integrity are essential for rebuilding trust and safeguarding reputation in the pharmaceutical industry [11, 24].

For pharmaceutical companies, leveraging public relations is particularly crucial for several reasons:

1. Building trust and credibility. Public relations initiatives help pharmaceutical companies establish and maintain trust and credibility among key stakeholders, including healthcare professionals, patients, regulators, and the general public. By effectively communicating transparently and authentically, companies can foster trust in their products, services, and overall mission.

2. Managing reputation. Pharmaceuticals operate in a highly regulated and scrutinized industry. Effective public relations strategies enable companies to proactively manage their reputation, address potential controversies or misinformation, and respond to crises swiftly and effectively. This proactive approach helps safeguard the company's image and maintain public trust even in challenging situations.

3. Educating stakeholders. Public relations efforts play a crucial role in educating various stakeholders about important healthcare issues, advancements in medical research, and the benefits and risks associated with pharmaceutical products. By providing accurate and accessible information, companies can empower healthcare professionals and patients to make informed decisions about treatment options and healthcare practices.

4. Navigating regulatory challenges. Pharmaceutical companies must navigate complex regulatory environments while ensuring compliance with laws and industry standards. Public relations professionals play a vital role in understanding and interpreting regulations, guiding communications strategies, and ensuring that all messaging adheres to legal and ethical guidelines.

5. Promoting corporate social responsibility. Public relations initiatives enable pharmaceutical companies to highlight their commitment to corporate social responsibility, sustainability, and ethical business practices. By engaging in philanthropic activities, supporting community initiatives, and advocating for public health causes, companies can enhance their reputation and demonstrate their positive impact beyond profits [18, 21, 31].

In essence, PR serves as a critical tool for pharmaceutical companies to effectively communicate with stakeholders, manage their reputation, navigate regulatory challenges, and demonstrate their commitment to improving healthcare outcomes and societal well-being.

Summary

1. Enterprises in the pharmaceutical sector actively use PR technologies to promote the company brand and pharmaceutical products. PR is the strategic practice of managing relationships between an organization and its key public to earn positive exposure, influence, and reputation.

2. According to IPRA, public relations is a decision-making management practice tasked with building relationships and interests between organizations and

their publics based on the delivery of information through trusted and ethical communication methods.

3. Advantages of public relations for the company include increasing brand recognition, connecting with the target audience, building a brand image, maintaining brand reputation, increasing visibility of products or services, building relationships, attracting investors, providing value to the public and short- and long-term results for the company.

4. Most large and medium-sized organizations in any field of activity, including pharmaceutical enterprises, currently need a PR department. PR system is designed to implement three main functions, as control over public opinion and behavior; responsiveness to the public and achieving mutually beneficial relationships between the pharmaceutical company and the social audience PR system is guided by the principles of openness of information, ensuring mutual benefit of the organization and the public and absolute honesty and truthfulness.

5. Common responsibilities of public relations specialists include media relations, content creation, social media management, crisis management, event planning, public speaking, stakeholder communication, market research, brand management, measurement and analytics and relationship building.

6. Addressing reputation challenges requires pharmaceutical companies to prioritize transparency, ethical conduct, and patient-centricity in their operations. Proactive communication, engagement with stakeholders, and adherence to high standards of integrity are essential for rebuilding trust and safeguarding reputation in the pharmaceutical industry.

7. PR serves as a critical tool for pharmaceutical companies to effectively communicate with stakeholders, manage their reputation, navigate regulatory challenges, and demonstrate their commitment to improving healthcare outcomes and societal well-being.

PART 2

ANALYSIS OF PUBLIC RELATIONS TECHNOLOGIES IN THE PHARMACEUTICAL MARKET

2.1 Features of PR technologies in the activities of pharmaceutical enterprises

In recent decades, PR technologies have played a significant role in the marketing communications system of both foreign and Ukrainian pharmaceutical enterprises [12]. PR tools have their own specifics in the communication policy of pharmaceutical companies, associated with special social significance, both for society and for the economy and the state as a whole. The target audience of PR measures can be the professional medical and pharmaceutical community, end consumers, organizations, shareholders, investors, government authorities, and therefore the PR tools vary significantly [12].

The results of the practical implementation of PR functions form the corresponding PR resource of a pharmaceutical enterprise — a set of assets in the field of public relations. The main components of a pharmaceutical company's PR resource are its reputation, publicity, image and corporate (organizational) culture. Each of the components has a direct impact on the efficiency of the enterprise and requires significant physical and material costs from management for their formation and support [4].

Data from foreign literature and monitoring of Ukrainian specialized literature indicate that representative offices of foreign pharmaceutical companies highly value their reputation, constantly work to support it and have many years of experience in relevant activities. For Ukrainian enterprises, building a reputation is a relatively new area of activity. Pioneers in this area are “Darnitsa” and “Borshchagivsky Chemical Plant”. Intensified response efforts are typical for “Zdorovja”, “Styrolfarm”, and “Chervona Zirka” [7].

The main activities and classic activities in the field of public relations for pharmaceutical companies are presented in table 2.1.

Publicity is an unpaid, non-commercial form of disseminating positive information about a pharmaceutical company and its products through the media or directly from the stage. The main measures of publicity include establishing and maintaining relations with the media, which can take different forms, in particular:

Table 2.1

PR activities of a pharmaceutical company

PR-activity	Content of the activity
Communication with the press, government and public organizations	Organization of presentations, anniversaries, press conferences, briefings, symposiums, colloquiums, distribution of press releases (brief information about the most interesting aspects of the company's activities)
Charity	Free financing of culture, sports, education, medicine and science
Sponsorship	The company's participation in various projects, if the money invested revolves around the form of special types of advertising (expensive time, place for placing an advertising banner, requests for prizes, etc.)
Publishing prestigious publications	A description of the history of the creation and prospects for the development of the company, in many cases the motto of the company is revealed, which reflects the philosophy of its business

- holding press conferences and briefings by a pharmaceutical company to discuss its achievements, problems and prospects;
- active involvement of scientific specialists of medicine and pharmacy in information support of the company's drugs;
- distribution of press releases (information messages) to the media;

- writing articles about a pharmaceutical company, its drugs, environmental protection activities, etc.;
- organizing interviews with the management of a pharmaceutical company in the media;
- publication of annual official reports on the company's activities;
- creation of film, video and television films, television and radio reports about the pharmaceutical enterprise;
- publication of a corporate newspaper or magazine of a pharmaceutical company [4, 24].

For example, the large research and production pharmaceutical company Glaxo Smith Klein implements a wide range of social programs in more than 100 countries around the world, the purpose of which is the prevention of HIV infection, malaria, intestinal infections, lymphatic filariasis, as well as helping seriously ill and homeless children. The KRKA company builds its pharmaceutical business according to the basic corporate principle of caring for people and the environment.

The second area of PR activity is sponsorship, which can be considered as a system of mutually beneficial contractual relations between the sponsor and the subsidized party. For example, the sponsor undertakes to provide the subsidized party with funds or medicines, services, raw materials, etc. For its part, the subsidized party undertakes to remember the sponsor in all its public speeches, publications in the media, promote its brand name, symbols, etc. [30].

The most popular areas of pharmaceutical company sponsorship include health and social issues [9]. Its main components:

- provision of humanitarian aid in the form of medicines to healthcare institutions, orphanages and low-income categories of the population;
- support for popular science television programs about health;
- financing the travel of medical and pharmaceutical specialists to conferences and congresses within the country and abroad;

- organizing subscriptions to specialized periodicals medical and pharmaceutical publications for specialists; financial support for publications;
- support for student youth;
- cooperation with educational institutions [7].

As an example, the Boehringer Ingelheim company undertakes to pay a monthly stipend to three winners of the All-Ukrainian competition of excellence among students of pharmaceutical schools (colleges, technical schools) when they receive higher pharmaceutical education [7].

Sponsorship by pharmaceutical companies in the entertainment and sports industries is very popular. For example, the Bayer company is the owner of the famous football club of the same name, and the GlaxoSmithKline company has entered into a sponsorship agreement with the BMW Williams F1 team, which participates in the Formula 1 racing [7].

Sponsorship in the field of culture is also becoming increasingly popular. For instance, the Boehringer Ingelheim company helps Ukrainian artists organize exhibitions of paintings abroad, and finances the publication of calendars with illustrations from these paintings. In turn, some national pharmaceutical manufacturers act as patrons of theatrical projects [20].

However, information and digital technologies are becoming an integral part of business tools, including PR, and the communication industry is diversifying into new areas, which contributes to the spread of advanced, more effective marketing measures. The activities of pharmaceutical companies in the Internet space allow to solve various marketing tasks more effectively [7].

Based on the results of the study of literary sources, an analysis of modern PR tools, which can be used by pharmaceutical companies today, was carried out, and a list of the specified technologies was formed, the characteristics of which are given in the table 2.2 [7].

It is worth noting that the emergence of new technologies and tools for influencing public opinion, which are implemented through the Internet, have opened new opportunities for companies of various formats and sizes. Leading

domestic pharmaceutical companies actively use digital PR. Events PR, educational programs for patients, educational projects and fundraising (funding of social projects) are gaining considerable popularity and popularity. Industry communities and analytical portals are very popular, the activity of representatives of the industry community on specialized forums, online clubs, and online conferences is increasing.

Table 2.2

Modern PR tools used by pharmaceutical manufacturers

PR-instrument	Characteristics
Disease awareness campaigns	conducting a broad information and educational campaign aimed at raising awareness of a disease or medical problem
Professional communications	assistance in organizing the interaction of companies with opinion-leaders in health care, heads of medical institutions and ordinary doctors
Government relations	interaction with state authorities (organization of meetings of business representatives and regulatory bodies, preparation of documents and joint projects)
Event marketing	Planning and conducting events dedicated to one or another event, coverage of socially important events
Comment program	comments of experts on current issues of the pharmaceutical market and business related to a certain disease and medicinal products
Regional screening programs	mass diagnostic programs to detect the prevalence of various diseases in a separate region
Medical educational programs	organization of conferences, seminars, congresses, forums, trainings and lectures
Intracompany PR	development of prospects and directions for further development of the company. Covers a set of measures:

	definition of the company's mission, analysis of the internal and external environment, determination of potential, identification of competitive advantages and disadvantages, etc.
Regional support of market access	supporting the activity of the company's regional managers aimed at expanding or gaining access to the market and government programs
Digital PR	use of digital communications (corporate website, social media posts, etc.)
Support of patient programs	communication with healthcare facilities, conducting educational programs and schools for patients
Product placement	incorporation of the company brand or drugs into books, films (for example, TV series about doctors), computer games, etc.
Fundraising (search for sponsors)	finding and attracting funds for charitable programs, financing social projects and supporting charitable funds

Pharmaceutical enterprises actively post information about their activities on pages in social networks, which contributes to a larger coverage of their activities and establishing contacts with target audiences [2]. Promotion of the organization in social networks as a tool of marketing communications appeared relatively recently, but there are already examples of its successful application by domestic pharmaceutical companies. Accordingly, competent use of this tool can have a positive effect on the image of the pharmaceutical organization. Of course, social networks do not have a direct impact on sales volumes, but their correct use increases audience loyalty and increases awareness of pharmaceutical products and services and companies in general [3].

The Internet as an environment and means of communication has a huge potential for conducting PR events and provides pharmaceutical companies with a number of opportunities:

- focus the influence on a specific narrow-profile target audience in which the pharmaceutical organization is interested;
- distinguish subgroups in this audience to create more personalized PR messages;
- enter into a direct interactive dialogue with the audience;
- take into account the individual characteristics and characteristics of each consumer;
- fully inform consumers and partners of the company;
- receive feedback, adequately analyze the situation and respond in a timely manner if necessary;
- collect necessary marketing information;
- the electronic communicative space, unlike printed or broadcast, is practically unlimited [7].

It should be noted that the peculiarities of commercial activity in the pharmaceutical industry, due to the specifics of drugs as a product, as well as the current trend of self-medication among the population, make it urgent for Ukrainian pharmaceutical enterprises to form a positive reputation [15]. Creating a company reputation that will satisfy the needs of society for effective drugs and will bring financial profit to the enterprise is the main task of public relations activities in pharmacy. The formation of an enterprise's reputation is greatly facilitated by its publicity. Publicity is impossible without widespread media involvement. The image is characterized by a smaller audience of the popularity of the enterprise and does not imply large-scale use of the media.

The public relations system also plays a key role in maintaining the company's image when serious adverse reactions of original drugs are discovered. Thus, since the withdrawal of the drug Vioxx from the markets of all countries by Merck (with losses of about 2.5 billion US dollars) due to the identified risk of

cardiovascular pathology, incl. myocardial infarction, the question of the safety of all other coxitis has become relevant.

Pharmacies and pharmacy chains engaged in the retail sale of medicines provide a number of benefits for different categories of the patients, organize special telephone lines to work with doctors and patients, cooperate with toxicology centers and clinical pharmacy centers to provide qualified advice, and also interact with regional and district sanitary and health authorities. epidemiological stations. Particular attention to this type of activity is due to the desire to maximize the service of an organization and gain a good reputation.

2.2 The main directions of PR activities of Ukrainian pharmaceutical manufacturers

In order to study the peculiarities of the activity of Ukrainian pharmaceutical enterprises in the sphere of social responsibility and to evaluate the effectiveness of their PR services, the Internet sites of the TOP 5 successful companies in Ukraine were analyzed. Information about the leading companies posted on these sites was systematized and presented in the table 2.3.

Table 2.3

Characteristics of the leading Ukrainian pharmaceutical manufacturers in the field of social responsibility

A company	Mission	Values	Direction of social responsibility
Farmak	«We make treatment with modern effective medicines available, helping people to be healthy and happy!"	Quality Innovativeness Involvement Professionalism Growth	Ecology Healthy lifestyle Corporate volunteering
Arterium	"We create, produce and market high-quality and effective	Responsibility Care Trust	Business ethics Patients Employees

	medicines to ensure a healthy, long and more productive life"	Ethics of relationships Focused on the consumer	Ecology Society and charity
Darnytsia	"We support doctors and patients in crisis situations"	Property Ambitious leadership Responsibility A heightened sense of ownership	The fight against COVID-19 Progressive education Helping patients Responsible consumption and production
Yuria-Pharm	"Life is the main earthly value! We are called to preserve and improve it!"	Entrepreneurship Achievement Growth Partnership Understandable, enforceable, mandatory	Preservation of the environment Employee welfare Support for religion Volunteer projects Support of science and education
Zdorovja	"Providing the population with high-quality, affordable and effective medicines"	Caring for people Leadership in the pharmaceutical market Innovations Trust	Religion, spiritual life Sports support Social initiatives for children Development of science and education Assistance to disadvantaged sections of the population

It should be noted that the leaders of the Ukrainian pharmaceutical market actively use the concept of social and ethical marketing and successfully implement public relations technologies in various directions. The websites of all considered companies present information on PR events in such areas of activity as

environmental protection, charity and volunteering, support of educational projects and assistance to young specialists. However, it is worth noting that "Zdorovja" and Corporation "Yuria-Pharm" pay more attention to religious issues, while "Farmak", "Darnitsa" and "Arterium" allocate more funds to support sports.

During the coronavirus pandemic, "Darnitsa", "Zdorovia", "Farmak" and Corporation "Arterium" actively participated in the fight against COVID-19 in Ukraine. Based on the results of the analysis of the websites of domestic drug manufacturers, it was found that they took an active part in overcoming the consequences of the COVID-19 pandemic in Ukraine. Starting from March 2020, companies allocated a significant part of their profits to finance various needs of the health care industry and the population [5, 7].

In 2021, the pharmaceutical company "Darnytsia" allocated a separate section "Fighting COVID-19" on its website to highlight social responsibility in this direction and even changed its mission.

The pharmaceutical corporation "Yuriya-Pharm" conducted the educational project "Preventive measures against the coronavirus" and the charity marathon "Stop Coronavirus" on the Facebook social network, within the framework of which the company reported on helping doctors in the fight against the pandemic.

It is worth noting that in the context of the COVID-19 pandemic, Ukrainian pharmaceutical manufacturers have intensified their activities in the field of innovation, the search for effective antiviral drugs, and clinical trials.

Farmak received a request from the Ministry of Health and scientists regarding the possibility of involving the company in clinical studies of the Ukrainian vaccine against COVID-19. The state also asked for the possibility of industrial production of the vaccine (if its safety and effectiveness are proven).

Yuriya-Pharm considered the possibilities of synthesizing substances for the production of drugs included in the protocols for the treatment of COVID-19 on the basis of its workshop for the production of active pharmaceutical ingredients. "Yuriya-Pharm" was the first among Ukrainian manufacturers to develop and submit for registration dexmedetomidine hydrochloride, one of the most modern

sedative drugs. This drug is used for sedation of patients who are in intensive care units and connected to ventilators.

The "Zdorovya" group of companies produces Arbivir-Zdorovya forte — an antiviral drug for systemic use, containing the active substance umifenavir hydrochloride, which was included in the Local protocol for providing medical care to patients with COVID-19 of the Kharkiv Regional Clinical Infectious Disease Hospital.

It should be noted that on the websites of all the above-mentioned enterprises there is the "Pharmacovigilance" section related to the quality and safety of drugs. In accordance with international requirements and current regulatory documents of Ukraine, the pharmaceutical manufacturer must carry out objective and proper monitoring of the safety of the medicinal products of its production. In connection with this, the pharmacovigilance system functions at the enterprises, which includes the collection of information from all subjects of drug circulation (patients, pharmacists, doctors, etc.) in the conditions of real clinical practice. On the websites of the companies there are cards that can be filled out by patients or specialists in case of side effects of drugs.

Thus, in the modern conditions of the development of information technologies, Internet resources are becoming one of the most promising tools for creating an image and implementing PR technologies of pharmaceutical enterprises. The company's activity in the Internet space allows to solve various business tasks more efficiently and with lower costs, including full information of the company's consumers and partners; conducting advertising events; market monitoring; collection of necessary advertising information; attraction of new customers and partners; increasing brand recognition and loyalty to it, etc.

The optimal use of PR tools makes it possible to interact with the target audience most effectively, especially in the conditions of the COVID-19 pandemic. Powerful pharmaceutical companies understand that a positive reputation is one of the most valuable assets [5]. A favorable attitude of consumers towards a

pharmaceutical company is a huge advantage, because an informed and positive society is the key to survival in crisis situations.

2.3 The main directions of PR activities of Ukrainian pharmacy chains

We conducted a content analysis of the corporate websites of the leading pharmacy chains in the pharmaceutical market of Ukraine. It was revealed that retail companies provide information about pharmaceutical products, assortment and prices, promotions and discounts. Users can also place an order for products through the website. Information about social support and various social projects of the company is also posted on the websites of national pharmacy networks [2].

In the table 2.4 the main directions of social responsibility of the leading pharmacy chains in the pharmaceutical market of Ukraine as part of the implementation of the concept of relations with the public are given. The social policy of pharmaceutical and pharmacy companies appears to be especially relevant during the COVID-19 pandemic and martial law in Ukraine. For example, in the "Podorozhnyk" pharmacy chain, from each purchase in the chain's pharmacies, 1 hryvnia is transferred to the purchase of ambulances for the Armed Forces of Ukraine and the civilian population in areas of active hostilities.

It should be noted that all major pharmacy chains take part in social partnership programs to support chronic patients:

1. Available medicines.
2. Patient support program "Therapy Plus" (AstraZeneca).
3. Medical card "Value for Health" (Boehringer Ingelheim).
4. Social program "Together" (Abbott).
5. Social program "Protect the blood vessels — save the heart" from KRKA.
6. Social program "For Life" (Pfizer).
7. Medical card "Key to Life" (Arterium).
8. Medical card "The key to renewal" (Arterium).

Table 2.4

Characteristics of leading pharmacy chains on the pharmaceutical market of Ukraine in the field of social responsibility

Pharmacy chain	Mission and positioning	Examples of social responsibility
ANC	Solving problems big and small!	<ol style="list-style-type: none"> 1. Social programs to support chronic patients. 2. Guaranteed quality of medicines. 3. Safe delivery of drugs. 4. Robotic and automated pharmacies.
Podorozhnyk	Improving the quality of life of Ukrainians by providing customers with original medicines in combination with professional pharmaceutical care!	<ol style="list-style-type: none"> 1. Volunteering. 2. Helping vulnerable groups of the population. 3. Social support for pharmacists. 4. “Pharmhelp Podorozhnyk” — an initiative group for pharmaceutical care of patients. 5. Memorandum on the provision of medical and pharmaceutical support to Ukrainian researchers of the National Antarctic Science Center. 6. Project “Pharmheroes”.
Apteka 9-1-1	To be the most reliable source of information about medicines and products in Ukraine	<ol style="list-style-type: none"> 1. Social programs to support chronic patients. 2. Remote consultation service with a family doctor. 3. Product quality guarantee. 4. Blogging on the site with useful information about the treatment of diseases. 5. Project “Pharm Heroes”. 6. Personnel training and corporate responsibility.
Bazhajemo zdorovja	Help every person maintain health and well-being by providing qualified pharmaceutical services!	<ol style="list-style-type: none"> 1. Social programs to support chronic patients. 2. Charity (helping sick children). 3. Social package for pharmacists. 4. Triple quality control of drugs.
Med Service	Medical service — pharmacies you trust! Affordable medications for the whole family!	<ol style="list-style-type: none"> 1. Social programs to support chronic patients. 2. Consulting Call Centers. 3. Guarantee of product quality and high service. 4. Specialized news forum on the treatment of diseases.

Thus, large pharmacy chains carry out targeted activities in the field of social responsibility and public relations. The use of the PR concept by pharmacy chains is the key to strengthening competitive positions by creating a positive image, meeting consumer needs for high-quality and affordable products and improving the healthcare situation of the population of Ukraine.

Conclusions to the part 2

1. The specifics of PR technologies of pharmaceutical companies, the main activities and tools of enterprises in the field of public relations are described. Examples of PR areas that are used by domestic and foreign pharmaceutical companies to achieve economic stability and create a positive image among consumers are described.

2. The activities of pharmaceutical companies in the Internet space make it possible to solve business problems more efficiently and at lower costs, including the implementation of PR technologies, including through more complete information to the public about innovations, activities, events and news of the pharmaceutical company, participation in social projects, etc.

3. An analysis of the main directions of PR activities of leading Ukrainian drug manufacturers (Farmak, Arterium Corporation, Darnitsa, Yuria-Pharm and Zdorovya) and pharmacy chains (ANC, Podorozhnyk, Pharmacy 9-1-1, Bazhaemo zdorovya and Med-service) based on the study of corporate websites.

4. It was revealed that leading Ukrainian drug manufacturers and pharmacy chains take an active public position and constantly implement multi-vector social programs aimed at maintaining the well-being of society. The information content of the websites of the enterprises under study fully reflects the activities of companies in the field of public relations on the principles of openness, relevance, reliability and social responsibility.

PART 3

ANALYSIS OF DIRECTIONS OF CORPORATE SOCIAL RESPONSIBILITY OF THE PHARMACEUTICAL COMPANY

3.1 Brief description, mission, values and directions of sustainable development of the pharmaceutical company

Established in 1925, Farmak, an international pharmaceutical enterprise, is primarily engaged in the spheres of research and development, manufacturing, as well as global distribution and promotion of generic medications. Through its manufacturing plants and research facilities situated in Ukraine and Spain, Farmak has successfully established a robust global footprint.

With a strategic presence spanning across 10 commercial offices worldwide, including key locations such as Ukraine, Poland, the Czech Republic, Slovakia, Central Asia, the Asia Pacific region, the Middle East, and Western Europe, Farmak demonstrates a steadfast dedication to advancing the accessibility of high-quality pharmaceuticals on a global scale. On March 27, 2024, Farmak AG concluded the acquisition of Symphar Sp. z o.o., thereby assuming full ownership of the Polish pharmaceutical entity via a cash transaction.

In Ukraine, Farmak operates two manufacturing facilities located in Kyiv and Shostka, Sumy region. The company boasts a total of 25 production sites, encompassing a comprehensive production cycle ranging from the synthesis of both classical and biotechnological active pharmaceutical ingredients to the production of diverse finished dosage forms. Farmak's production facilities, laboratory, and technical infrastructure adhere to internationally recognized standards and hold certifications that attest to their compliance with stringent European Good Manufacturing Practice (GMP) standards.

Farmak prioritizes cultivating a favorable international reputation. In March 2024, the company showcased contrast agents utilized in magnetic resonance imaging at the European Congress of Radiology (ECR) held in Vienna, Austria. ECR stands as one of Europe's premier medical gatherings and ranks as the second-largest radiology conference globally. Each year, ECR attracts over 25,000

radiologists from upwards of 130 countries, offering them an opportunity to explore cutting-edge products and services from over 300 exhibitors.

In 2024, Farmak participated in the ECR Congress for the second consecutive time, showcasing its own products. Throughout the four-day exhibition, the company's booth welcomed visitors from 33 countries, including Austria, Australia, Dubai, England, France, Germany, Greece, Hong Kong, and Japan.

Over the preceding five years, Farmak has effectively undergone 90 national and international inspections, encompassing assessments conducted by partner firms from the United Kingdom, Switzerland, Germany, Poland, Slovakia, the Czech Republic, Latvia, Lithuania, Israel, and Georgia.

Farmak's unwavering commitment to product quality and innovation has propelled it to the forefront of the Ukrainian pharmaceutical landscape, establishing the company as the premier leader in the domestic market since 2010. Moreover, Farmak has emerged as the foremost exporter of medicinal products, further solidifying its position as a prominent player in the global pharmaceutical arena.

Presently, Farmak is engaged in the development of approximately a hundred intricate pharmaceutical formulations, with up to 20 novel drugs introduced to the market annually. The company's research and development infrastructure comprises 12 laboratories and 1 pilot facility, including:

- Laboratory for the synthesis of active pharmaceutical ingredients.
- Laboratory for the synthesis of biotechnological active ingredients.
- Laboratory for the development of molecular and cellular biotechnologies for personalized medicine.
- Four versatile analytical laboratories.
- Five technological laboratories specializing in various developmental domains.

Farmak demonstrates a robust commitment to innovation by reinvesting up to 90% of its income into development endeavors. Annually, the company

allocates approximately \$15 million USD towards research and development initiatives. Moreover, Farmak's dedication to business expansion within Ukraine over the past two decades (2002-2022) is evidenced by investments totaling \$400 million USD.

Farmak upholds rigorous quality control measures at each stage of pharmaceutical production in alignment with international standards of Good Manufacturing Practice (GMP). This comprehensive oversight extends from the inspection of incoming raw materials and packaging components to the final inspection of finished products. Prior to reaching the consumer, medications undergo a meticulous process of at least five stages of quality control to ensure adherence to stringent standards and the delivery of safe and efficacious products.

The Quality Control Department at Farmak is outfitted with state-of-the-art, high-precision laboratory equipment and staffed by a team of highly qualified professionals. Its organizational framework comprises five specialized laboratories, along with dedicated sectors for stability studies, control organization, specification and method transfer, as well as a department overseeing laboratory equipment. This comprehensive setup ensures meticulous scrutiny and adherence to exacting standards throughout the quality control process.

The laboratories within Farmak's Quality Control Department hold certifications enabling them to conduct 135 test methods outlined in the State Pharmacopoeia of Ukraine, aligning with those detailed in the world-renowned pharmacopoeias such as the European Pharmacopoeia, British Pharmacopoeia, and US Pharmacopeia. On average, the unit undergoes approximately 10 foreign inspections annually, underscoring its adherence to international standards and commitment to quality assurance.

Farmak exclusively utilizes cutting-edge production equipment sourced from renowned European brands such as Bosch, Siemens, FETTE Compacting, Marchesini Group, Glatt, Techinox Group, Malvern, and Industria Macchine Automatiche S.p.A. These state-of-the-art systems enable the company to automate and digitalize its processes to the fullest extent possible.

Moreover, the laboratories are furnished with advanced equipment from esteemed global manufacturers including Glatt, SBM, Urlinski, Belimed, De Dietrich, Gea, Sartorius, and Malvern Instruments, among others.

Key characteristics of Farmak include:

- its extensive global reach, with products exported to over 50 countries, demonstrating the company's strong international presence;
- Farmak launches over 20 new medicines each year, underscoring its commitment to innovation and product development;
- the company boasts a diverse product portfolio comprising 400 medicines, catering to various healthcare needs;
- Farmak's workforce comprises more than 2,800 dedicated employees, contributing to the company's success and growth.

Farmak garners recognition:

- as one of the most innovative companies in Ukraine, securing a position in the top five according to Epravda portal;
- a distinguished status as one of the top 100 taxpayers in Ukraine, a feat particularly noteworthy as the sole pharmaceutical manufacturer to be included in the list in 2018;
- as the premier employer within the pharmaceutical sector in Ukraine, as acknowledged by Forbes in 2023.

Notably, over 70% of managerial roles are filled by internal candidates, reflecting Farmak's commitment to nurturing talent from within its own ranks.

The mission of the company is defined as “providing easy access to effective, high-quality medicines to contribute to the health of society”.

The purpose of the company is “to become a strong global partner in the specialty care sector while maintaining high standards of quality, innovation, and social responsibility”.

The company values in 2024 include: quality, partnership, innovation, expansion and sustainability. The content of the values of the pharmaceutical company is given in the table 3.1.

Table 3.1

The content of the values of the pharmaceutical company

Company's values	The content of the values
Quality	Our commitment to quality is unwavering. We prioritize compliance with the highest standards and requirements, not only for our products but also in the way we work as individuals and as a team. By upholding these rigorous standards, we ensure that our pharmaceutical products meet the utmost quality, safety, and efficacy benchmarks, while fostering a culture of excellence and integrity within our organization.
Partnership	We believe in collaborating with our stakeholders, customers, and partners to make a meaningful difference in global healthcare. By working together, we can drive innovation, enhance access to quality medications, and improve the well-being of patients worldwide. Partnering with company means joining a network of like-minded individuals and organizations united in the mission to improve lives through high-quality pharmaceutical products.
Innovation	Innovation is ingrained in everything we do. We strive to achieve excellence through the application of the best manufacturing and management practices. Embracing a forward-thinking approach, we constantly seek innovative solutions to challenges, driving progress and advancement in the pharmaceutical industry.
Expansion	We continuously extend our market presence in both well-regulated and emerging markets through the development and production of high-quality pharmaceutical products. Our robust business reputation precedes us, as we aim to provide reliable and effective medications to meet the needs of patients worldwide.
Sustainability	We are committed to building a sustainable future for generations to come. By integrating environmental, social, and economic considerations into our business practices, we strive to minimize our ecological footprint while maximizing positive social impact.

The principles of sustainable development serve as the cornerstone of Farmak's operations, permeating all facets of the company's activities and underpinning its social initiatives. Farmak's projects in sustainable development are geared towards enhancing the quality of life, advocating for healthy lifestyles, fostering environmental consciousness, promoting safe work practices, and fostering social engagement and volunteerism among its employees. Through these endeavors, Farmak demonstrates its commitment to making meaningful contributions to society while upholding ethical and responsible business practices.

Farmak is dedicated to advancing societal progress through the creation and execution of impactful social projects designed to yield lasting benefits. By instigating initiatives aimed at fostering positive change, shaping values, and nurturing a collective consciousness, Farmak aspires to lay the groundwork for a resilient and self-sufficient Ukraine. Through its commitment to social responsibility, Farmak endeavors to catalyze the development of a more prosperous and equitable society, thereby contributing to the nation's enduring strength and independence.

The leadership at Farmak firmly believes that by fostering collaboration among businesses, government entities, and society, they can bring to fruition vital and essential projects for the benefit of Ukrainians. They are steadfast in their conviction that meaningful change commences at the individual level, rooted in shifts in consciousness and attitudes toward the environment, society, and self. As a responsible corporate citizen, Farmak sets an example by demonstrating that change is both possible and imperative. Over the years, Farmak has evolved from a single factory into a thriving innovative enterprise, emerging as a market leader and the foremost exporter in the pharmaceutical industry. Not content with past achievements, Farmak remains committed to continuous advancement, consistently striving to innovate and make a positive impact on society and the nation as a whole. Consequently, the projects undertaken by Farmak are crafted with the primary objective of fostering improvement, creation, and enhancement — ultimately aiming to catalyze positive transformation for a better world.

It was found that the key directions of Farmak's projects in the field of sustainable development include ecology; health, education and science and charity.

3.2 Study the pharmaceutical company's social initiatives in the direction of ecology

Farmak demonstrates its commitment to environmental stewardship and sustainability. Over the course of the last five years, Farmak has allocated over €2.5 million towards environmental initiatives. This comprehensive investment encompasses various activities such as the upkeep and operational maintenance of purification facilities, funding for environmental projects, conducting environmental monitoring and laboratory research, post-project monitoring efforts, support for the environmental protection department, engagement of ecological consulting services, and obtaining environmental permits.

Even amid challenging times such as war, Farmak remains steadfast in its commitment to sustainability and environmental responsibility. A testament to this dedication is the company's investment of UAH 50 million into a state-of-the-art wastewater treatment system at its Kyiv plant, which commenced operations in 2023. Over the span of two years, Farmak has undertaken the reconstruction of sewer networks and the construction of a modern wastewater treatment facility, employing a Slovak technological project. In order to ensure the uninterrupted production of critical medications, Farmak's specialists conducted the laying of new networks alongside existing ones and executed a seamless transition to the new system while operations continued.

The newly installed treatment facilities operate in a fully automated mode, ensuring the efficient treatment of industrial wastewater in strict accordance with established standards. Prior to discharge into the city sewer system, the treated industrial wastewater undergoes rigorous analysis to confirm compliance with specified numerical parameters. Additionally, the ventilation system within the

treatment facilities is equipped with multi-stage cleaning mechanisms to purify the air.

Annually, Farmak devises and ratifies an environmental program aimed at optimizing the company's utilization of natural resources. Furthermore, Farmak has implemented an international Environmental Management System, aligning with the standards outlined in ISO 14001, "Environmental Management Systems: Requirements and Guidelines for Use," as well as ISO 50001, "Energy Management Systems: Requirements and Guidelines for Use".

Farmak fosters an eco-conscious culture among its employees, empowering them through ongoing education and engagement initiatives to actively champion ecological sustainability. As part of its "Green Office" initiative, the company has facilitated the collection and safe disposal of over 150 kg of batteries, along with the recycling of approximately 4 tons of paper. By encouraging staff involvement in environmentally responsible practices, Farmak demonstrates its commitment to reducing its ecological footprint and promoting sustainable behaviors within the workplace.

3.3 Study the pharmaceutical company's initiatives in the direction of health

We found, that Farmak realizes social projects that improve people's lives.

1. "Mobile Doctors" project. In its commitment to the well-being of Ukrainians affected by occupation, Farmak extends support to the Mobile Doctors project. Through Farmak's sponsorship, the Mobile Doctors initiative has facilitated medical examinations and provided medications to individuals from territories impacted by occupation. Medical professionals visited villages in the Kyiv and Chernihiv regions, which have borne the brunt of Russian aggression, ensuring access to essential healthcare services for those in need.

The villages and towns that endured occupation faced harrowing circumstances, including torture, hunger, shelling, and constant fear, which took a severe toll on the health of their residents. Basic necessities like water and hygiene

products were scarce, exacerbating the challenges faced by the local population. Many elderly individuals, lacking support networks, found it particularly difficult to recover from these traumas without external assistance.

The “Mobile Doctors” project played a crucial role in providing aid to these communities. Residents underwent comprehensive medical examinations, enabling them to initiate necessary treatments. The project's vehicle is equipped with essential facilities, including an ultrasound room, a laboratory for conducting tests such as general blood tests and thyroid-stimulating hormone tests, as well as a psychotherapist's office. This holistic approach to healthcare delivery addresses both physical and mental health needs, offering vital support to residents as they strive to recover from the hardships endured during occupation.

2. Vitamin donation for children. Farmak exemplifies its commitment to social responsibility by donating vitamin complexes to over 20,000 children facing challenging circumstances. These beneficiaries include orphans, children from internally displaced families, and others in need. The total value of this assistance exceeds UAH 4.5 million.

The repercussions of war, including sleep disturbances, loss of appetite, and persistent stress and anxiety, extend beyond adults to affect children as well. Nutritional deficiencies during childhood can have lasting health implications, disrupting metabolism, predisposing individuals to chronic diseases, and potentially impeding mental development.

In the wake of the full-scale invasion, Farmak has demonstrated unwavering support for the Ukrainian population and Armed Forces, providing charitable assistance exceeding UAH 90 million. Through these philanthropic endeavors, Farmak aims to alleviate the hardships faced by vulnerable groups and contribute to the well-being of communities affected by conflict.

3. Participation in Kyiv Unbroken Half Marathon. The Farmak team demonstrated solidarity and compassion by participating in the Kyiv Unbroken Half Marathon. Collectively, the team covered 220 kilometers during the event. Additionally, Farmak's participation resulted in a charitable donation of 28,000

hryvnias, furthering the company's commitment to giving back to the community. Through this initiative, Farmak not only promoted physical activity and team spirit but also contributed to charitable causes, exemplifying its dedication to social responsibility and community engagement.

4. Awards for the best social projects. In April 2024, CSR Ukraine (Center for the Development of Corporate Social Responsibility), with the backing of EY in Ukraine and Global Giving, hosted its annual national award ceremony honoring projects dedicated to advancing the Sustainable Development Goals (SDGs). Two corporate social initiatives spearheaded by Farmak garnered recognition at the event.

The company was lauded for its commendable efforts in ensuring the uninterrupted supply of medicines during times of conflict, as well as for the impactful “Mobile Doctors” project, which provided vital healthcare services to communities in need.

Farmak social initiatives in 2023 included:

- assistance to the Armed Forces, internally displaced persons (IDPs) and victims of hostilities;
- restoration of facilities and institutions affected by hostilities;
- raising standards of work in the pharmaceutical industry;
- community development;
- solving environmental problems;
- supporting employees, etc.

From the first days of the war, Farmak donated to charity all medicines that were available at the plant. In the first month of aggression, the invaders destroyed the central warehouse of the company, located near the village of Makariv, Kyiv region with all medicines and packaging materials stored there. Company's losses amounted 1.5 billion UAH.

Following the warehouse's destruction to prevent the loss of critically important medicines within the country, Farmak sought assistance from its international partners. They requested the delivery of medicines and medical

supplies to Ukraine as humanitarian aid. Some were provided at no cost, while the Zhebrivski Family Charitable Foundation covered part of the expenses. Through this initiative, humanitarian medicines valued at approximately 1.8 million euros were delivered [23].

5. Rehabilitation program for the military. Farmak and “The Zhebrivski Family Charitable Foundation” have initiated a rehabilitation program for military personnel. Each day, wounded fighters requiring urgent and high-quality medical care are transported from the front lines to hospitals. These brave individuals have valiantly defended Ukraine, and now they require protection and attention themselves. Regrettably, many cases are complex and necessitate long-term rehabilitation.

The Zhebrivski Family Charitable Foundation has partnered with the Oberig Universal Clinic Medical Center to aid wounded servicemen. Within this collaboration, a contract was signed to implement an individual medical rehabilitation program called "Rehabilitation of Patients with Severe Disabilities." Twelve servicemen participated in the program, with eight still undergoing recovery. Among them, the youngest is 20 years old.

6. “World Down Syndrome Day” campaign. Farmak employees participated in the campaign commemorating World Down Syndrome Day, successfully raising 45,000 UAH. The funds were generated through the sale of vibrant socks, aligning with an international initiative to show solidarity on this occasion. Participating is as easy as donning mismatched socks, symbolizing an extra chromosome. Beyond a supportive gesture, it offers a glimpse into the experience of being different. Addressing the societal stigma against individuals with Down syndrome remains a significant challenge. All proceeds will support families raising children with this syndrome.

7. A charity run “United by Courage: Save a Life”. The charity run "United by Courage: Save a Life" aimed to raise funds for ambulances. Members of the Farmak team participated in the event, running from various locations across the country for a noble cause. Participants chose distances ranging from 1 to 21

kilometers, contributing collectively to cover over 300 kilometers and raise 29,000 hryvnias for Ukrainian medical workers' vehicles. The event was organized by Run Ukraine, known for orchestrating a series of runs with the ambitious objective of raising \$1,000,000 for charitable causes.

8. Exhibition “100th Anniversary of Insulin Discovery”. Farmak collaborated with the Kyiv Metro to unveil an exhibition commemorating the 100th anniversary of the discovery of insulin. The exhibition, titled "100th Anniversary of Insulin Discovery," debuted on October 13 at the Teatralna metro station in Kyiv.

According to WHO data from 2020, diabetes mellitus affected approximately one in every ten individuals globally, earning its place among the Top 10 Causes of Death for that year. The worldwide count of people living with diabetes stood at around 463 million. In Ukraine, there are officially 1.3 million confirmed cases of diabetes, a number that unfortunately continues to rise annually. Alarmingly, only one-third of the actual number of patients are believed to have been diagnosed. Several Ukrainian celebrities, either living with diabetes themselves or having family members affected by the condition, have joined the initiative. Among them are People’s Artist of Ukraine Nazar Zadniproviskyi, renowned Ukrainian violinist Vasyl Popadiuk, singer Vlad Sytnik, psychologist Nataliia Kholodenko, and People’s Artist of Ukraine Bohdan Beniuk.

In addition to manufacturing high-quality medicinal products, Farmak employs various strategies to combat diabetes mellitus. The company actively educates the public about the risks associated with the disease and promotes a culture of responsible health management and regular diagnostics. Farmak introduced its first insulins to the market 18 years ago, marking a significant milestone in its product portfolio. Through a technology transfer agreement with an American insulin producer signed in 2001, Farmak enhanced the quality standards of locally produced insulins, thus ensuring accessibility to effective treatment for Ukrainian patients.

The social project "100th Anniversary of Insulin Discovery" is designed to raise awareness among Ukrainians about diabetes mellitus, its symptoms, prevention, and management. It aims to encourage individuals to adopt a proactive approach to their health by regularly checking their blood sugar levels. Through this initiative, Farmak seeks to empower people with knowledge and promote a culture of health consciousness and preventive care.

9. Blood donation. The Farmak social project "Corporate Volunteering" has brought together employees who embrace an active life philosophy and seek to contribute to positive societal changes within their communities and country. By engaging in volunteer activities, these employees aim to make a difference, inspire others, and demonstrate the value of active involvement for both personal well-being and societal benefit. This initiative has seamlessly integrated into the fabric of the company's corporate culture, reflecting Farmak's commitment to social responsibility and community engagement.

Farmak's commitment to fulfilling its socially significant role of mutual aid drives its continued participation in the global blood donation movement. For over a decade, Farmak has upheld the tradition of donating blood, with more than 70 employees contributing 20 liters to the Kyiv Regional Blood Center this year alone. Among these donors are individuals who give blood regularly, either once a year or multiple times annually. This initiative has become a cherished tradition for Farmak volunteers and will persist in its growth, reflecting the company's dedication to the greater good and the significance of its mission.

10. Intercompany sport competition for kids of pharmacists "We are Champions!" Farmak extends its promotion of a healthy lifestyle beyond its employees to include their children. With the company's support, FarmakKids participated in the "We Are the Champions" competitions, a tradition upheld with enthusiasm. Farmak entered 10 teams into the competition, joining a total of 43 registered teams from various companies such as Alfa-Bank, Dominos Pizza, Allo, Lifecell, FUIB, and Ukrtransgas.

Participation in the inter-corporate children's sports competition "We Are Champions" aligns perfectly with Farmak's values, as it encourages the involvement of employees' children in the pursuit of a healthy lifestyle alongside their parents. The project organizes competitions biannually for children aged 6 to 13, with over 25 Ukrainian companies already participating. The program primarily features sports relay races, designed to showcase participants' speed, accuracy, and agility. These relay races are curated by Olympic and professional sports players and encompass seven types of competitions, each incorporating elements from popular sports such as football, basketball, tennis, hockey, golf, rugby, and target practice.

3.4 Study the pharmaceutical company's social initiatives in the direction of education and science

We analyzed the company's social projects in the direction of education and science. With a scientific team comprising 150 researchers, including 42 candidates of sciences and 5 Doctors of Sciences, Farmak boasts a formidable scientific potential. This wealth of expertise, combined with its innovative research and development complex, enables Farmak to maintain a high level of academic excellence in its pursuits.

1. The "Eco-School" project. Farmak, in collaboration with the NGO "Ukrainian Ecological Club Green Wave," has launched the "Eco-School" project. This initiative offers a free online learning platform tailored for students in grades 6 through 11. The curriculum encompasses lectures, practical assignments, and opportunities for students to develop and defend their own environmental projects. The primary objective of the Eco-School is to foster environmental awareness among young people and highlight the importance of environmental protection.

In 2018, Farmak successfully piloted the Eco-School project in Shostka, where the API Manufacturing Department of JSC Farmak is situated. Nine municipal schools enthusiastically joined the initiative. Over an eight-month

period, students in grades 8 through 11 underwent training on global environmental issues and learned to apply their knowledge practically. The project culminated in students developing solutions to environmental challenges within their schools. Outstanding projects received mini-grants from JSC Farmak to support their implementation.

The triumph of the pilot Eco-School project paved the way for its expansion across Ukraine, drawing in advocates of environmental education, socially responsible businesses, and, crucially, the nation's forward-thinking youth. By 2018, the Eco-School project had earned recognition as one of Ukraine's top 20 social initiatives, underscoring its impact and significance.

In 2019, Farmak extended the reach of the Eco-School project by engaging 10 schools in Kyiv. A comprehensive manual addressing the most pressing global issues was developed specifically for students. This manual, titled "Eco-School," received approval from the Ministry of Education and Science of Ukraine. Subsequently, the Eco-School initiative evolved into a national project, expanding its scope to encompass the entirety of Ukraine and launching an online platform to facilitate broader access and participation.

During the last academic year at the Eco-School, students delved into topics such as energy conservation, climate change, biodiversity, and acquired fundamental project management skills. Those who completed the entire course were tasked with developing their own projects tailored to their schools' needs. As a tradition, Farmak, the initiator of the project, recognizes and rewards graduates by providing mini grants to bring the best ideas to life. This year, five outstanding projects from various regions of Ukraine will receive support for implementation, furthering the Eco-School's impact across the country.

The project "A Schoolyard as a Mirror of My Neighborhood," devised by students from Polonne in the Khmelnytskyi region, clinched the top spot. Their visionary plan entails the creation of a solar tree within the gymnasium premises. Crafted from eco-friendly materials and adorned with solar panels, this innovative tree will provide shade and seating with benches underneath its branches.

Moreover, it will feature outlets for charging electronic devices. The project also incorporates the installation of an informational board showcasing Red Listed animals and plants native to the Khmelnytskyi region. In recognition of their outstanding proposal, the team has been awarded UAH 25,000 to materialize their vision, accompanied by mentorship from experts throughout the implementation process.

The students from Dubrynychy village in the Zakarpattia region secured the second position with their project titled "EcoLab for All." This initiative seeks to establish a dedicated space for environmental research within their school.

Taking the third spot is the team from Ladyzhyn in the Vinnytsia region with their project "Recuperation. Energy Saving." Their proposal involves the installation of heat recuperators in school classrooms to enhance energy efficiency.

Additionally, the projects "GreenSchool Eco-Lab" from Zaporizhzhia and "Non-contact Drinking Fountain with Dispensing Module into a Bottle" from Shostka were recognized with additional grants for their innovative and impactful ideas.

2. The "Light for life" project. Farmak has undertaken a social initiative aimed at enhancing the safety of young pedestrians on the roads. Through the "Light for Life" project, the company distributed reflective elements to all students within the Shostka City Territorial Municipality, totaling over 7,000 bracelets for schoolchildren. Additionally, as part of this initiative, students were shown an educational video that elucidates practical measures to mitigate the risks faced by pedestrians, especially at night. The project received support from the Shostka City Council, underscoring the collaborative effort to prioritize pedestrian safety among the youth.

Indeed, the constant threat of shelling and power outages in areas affected by conflict can lead to dim or even non-existent street lighting, posing an additional hazard to pedestrians, especially during early mornings or late evenings when visibility is already compromised. Children walking to school or returning from activities are particularly vulnerable in such conditions. With reduced visibility,

drivers may fail to notice pedestrians on the road in time, increasing the risk of accidents.

This project aims to raise awareness among pedestrians about the heightened dangers on the road, exacerbated by the ongoing conflict. According to the Patrol Police of Ukraine, pedestrian collisions are the most prevalent traffic incidents. Furthermore, in certain regions of Ukraine, the number of accidents surged by up to 60% in 2023 compared to the previous year. These statistics underscore the urgent need for increased vigilance and precautionary measures, such as wearing reflectors, to mitigate the risks faced by pedestrians, particularly in areas affected by conflict where road safety conditions may be compromised.

3. Strategic partnership with Kyiv School of Economics. To improve education in Ukraine, the company allocated funds (500,000 UAH) for support Kyiv School of Economics.

The pharmaceutical company Farmak has pledged financial support to the Kyiv School of Economics to facilitate the outfitting of training rooms and areas within the new campus. Additionally, the funding will be allocated towards the development of existing academic programs and the launch of new majors, particularly within the bachelor's degree program. This partnership underscores Farmak's commitment to fostering education and empowering future generations by investing in academic infrastructure and curriculum development at the Kyiv School of Economics.

In addition to Kyiv School of Economics, Farmak supports other higher educational institutions (Junior Academy of Sciences) and educational initiatives (publication of the book about Ukrainian scientists “Bude tobi nauka: ukrainski vcheni, yaki zminiuiut svit” (That’s science for you: Ukrainian scientists changing the world), etc.

4. “The World's Largest Lesson” Project. Farmak joined the “World's Largest Lesson Project”. The initiative was aimed at spreading information about the Sustainable Development Goals among young people and increasing their

interest in solving the global challenges of humanity. In 2024, participants from 100 countries joined the project.

3,000 students and schoolchildren participated in the learning activities. The project was aimed on encouraging young people to be active, to take responsibility and to develop leadership skills.

Farmak representatives joined “The World's Largest Lesson” to tell the audience about the principles of sustainable development, implementation of the Global Goals in the activities of the company, reducing the company’s environmental impact, supporting Ukrainian science and discoveries, as well as Farmak advantages as an employer, its corporate culture and social lives of its employees.

Farmak offers Ukrainian students such opportunities:

- participation in educational projects such as “Farmak Lab”,
- participation in the “School of Young Scientists”,
- participation in “Farmak Science Start hackathon”,
- internship at the company,
- employment of graduates at the company.

Conclusion to the part 3

1. Farmak is a leading pharmaceutical company at the Ukrainian market. It has been the largest Ukrainian exporter of medicines since 2010. The company focuses on research and development, manufacturing, global sales and marketing of generics. The company cares about the formation of a positive image at the national and international levels. Farmak is ranked in TOP-5 most innovative Ukrainians companies; in TOP-100 taxpayers of Ukraine; as the best employer in the pharmaceutical industry in Ukraine.

2. The mission of the company is “providing easy access to effective, high-quality medicines to contribute to the health of society”. The purpose of the company is “become a strong global partner in the specialty care sector while maintaining high standards of quality, innovation, and social responsibility”. The

company values in 2024 include quality, partnership, innovation, expansion and sustainability.

3. The key directions of Farmak's projects in the field of sustainable development include ecology, health, education and science and charity. In April 2024 the company was awarded for the best social projects (for the uninterrupted supply of medicines during the war and the "Mobile Doctors" project).

4. Over the past five years, Farmak invested more than €2.5 million in environmental initiatives. This includes the maintenance and operational servicing of purification facilities, investments in environmental initiatives, environmental monitoring and laboratory research, post-project monitoring, supporting the environmental protection department, acquiring ecological consulting services, and processing environmental permits.

5. Farmak initiatives in the direction of health include "Mobile Doctors" project, vitamin donation for children, participation in Kyiv Unbroken Half Marathon, rehabilitation program for the military, "World Down Syndrome Day" campaign, a charity run "United by Courage: Save a Life", exhibition "100th Anniversary of Insulin Discovery", blood donation, intercompany sport competition for kids of pharmacists "We are Champions!", etc.

6. The company's social projects in the direction of education and science include the "Eco-School" project, a free online learning platform, designed for pupils of 6-11 grades with lectures, practical assignments and writing and defending the projects. Farmak that has launched the project awards the graduates and gives mini grants to implement the best ideas. "Light for life" project is aimed to improve safety of young pedestrians on the road. In a strategic partnership with Kyiv School of Economics Farmak tries to improve education in Ukraine.

7. As part of public relations initiatives, Farmak offers a lot of opportunities for Ukrainian students: participation in educational projects such as "Farmak Lab" and the "School of Young Scientists"; "Farmak Science Start" hackathon; internship at the company and employment of graduates.

CONCLUSIONS

1. Enterprises in the pharmaceutical sector actively use PR technologies to promote the company brand and reputation. According IPRA, PR is a decision-making management practice tasked with building relationships and interests between organizations and their publics based on the delivery of information through trusted and ethical communication methods.

2. Advantages of PR for the company include increasing brand recognition, connecting with the target audience, building a brand image, maintaining brand reputation, increasing visibility of products or services, building relationships, attracting investors, providing value to the public and short- and long-term results for the company.

3. PR system is designed to control over public opinion and behavior; respond to the public and achieve mutually beneficial relationships between the pharmaceutical company and the social audience. Addressing reputation challenges requires pharmaceutical companies to prioritize transparency, ethical conduct, and patient-centricity in their operations. Proactive communication, engagement with stakeholders, and adherence to high standards of integrity are essential for rebuilding trust and safeguarding reputation in the pharmaceutical industry.

4. The activities of pharmaceutical companies in the Internet space make it possible to solve business problems more efficiently and at lower costs, including the implementation of PR technologies, including through more complete information to the public about innovations, activities, events and news of the pharmaceutical company, participation in social projects, etc.

5. It was revealed that leading Ukrainian drug manufacturers and pharmacy chains take an active public position and constantly implement multi-vector social programs aimed at maintaining the well-being of society. The information content of the websites of the enterprises under study fully reflects the activities of companies in the field of public relations on the principles of openness, relevance, reliability and social responsibility.

6. We studied the directions of corporate social responsibility of Farmak, an international pharmaceutical company, that is a leader of the Ukrainian pharmaceutical market. The company focuses on research and development, manufacturing, and global sales and marketing of generics. Farmak cares about the formation of a positive image at the national and international levels. Farmak is ranked in TOP-5 most innovative Ukrainians companies; in TOP-100 taxpayers of Ukraine; as the best employer in the pharmaceutical industry in Ukraine in 2023.

7. The mission of the company is “providing easy access to effective, high-quality medicines to contribute to the health of society”. The company values in 2024 include quality, partnership, innovation, expansion and sustainability. Key directions of Farmak’s projects in the field of sustainable development include ecology; health, education and science and charity. In April 2024 the company was awarded for the best social projects. Over the past five years, Farmak invested more than €2.5 million in environmental initiatives.

8. Farmak initiatives in the direction of health include “Mobile Doctors” project, vitamin donation for children, participation in Kyiv Unbroken Half Marathon, rehabilitation program for the military, “World Down Syndrome Day” campaign, a charity run “United by Courage: Save a Life”, exhibition “100th Anniversary of Insulin Discovery”, blood donation, intercompany sport competition for kids of pharmacists “We are Champions!”, etc.

9. The company's social projects in the direction of education and science include the “Eco-School” project with mini-grants to implement the best ideas, “Light for life” project and strategic partnership with Kyiv School of Economics. Farmak offers a lot of opportunities for Ukrainian students: participation in educational projects such as Farmak Lab and the School of Young Scientists; Farmak Science Start hackathon; internship at the company and employment of graduates.

REFERENCES

1. Котвіцька А. А., Кубарєва І. В., Сурікова І. О. Вивчення основних етапів становлення та розвитку соціальної фармації у світі та в Україні. *Фармацевтичний часопис*. 2017. № 3. С. 70–76.
2. Мкртічян Д. А. Дослідження особливостей формування зовнішнього іміджу аптечної мережі. *Youth Pharmacy Science* : матеріали IV Всеукр. наук.-практ. конф. з міжнар. участю, м. Харків, 6-7 груд. 2023 р. Харків : НФаУ, 2023. С. 511–512.
3. Мнушко З. М., Ольховська А. Б. Соціальне інвестування фармацевтичних підприємств як складова їх PR-стратегії. *Актуальні питання економіки, менеджменту, маркетингу* : матеріали VII Міжнар. наук.-практ. конф., м. Львів, 10-11 лют. 2012 р. Львів : Львівська економічна фундація, 2012. Ч. I. С. 117–118.
4. Ольховська А. Б. Соціально-відповідальні аспекти маркетингової діяльності у складі PR-стратегії фармацевтичних підприємств. *Соціальна фармація: стан, проблеми та перспективи* : матеріали Міжнар. наук.-практ. інтернет-конф., м. Харків, 17-20 берез. 2014 р. Харків : НФаУ, 2014. С. 428–430.
5. Пандемія COVID-19: аспекти впливу на економіку, систему охорони здоров'я та фармринок. *Щотижневик «Аптека»*. 2020. № 35 (1256). URL: <https://www.apteka.ua/article/563524> (дата звернення: 15.04.2024).
6. Панченко О. В. PR у системі ефективних маркетингових комунікацій. *Ефективна економіка*. 2014. № 12. С. 68–73.
7. Пестун І. В., Бабічева Г. С., Жадько С. В. Аналіз використання вітчизняними фармацевтичними підприємствами PR-технологій на шляху реалізації соціально-орієнтованого маркетингу в умовах світової пандемії COVID-19. *Вісник фармації*. 2022. № 1 (103). С. 92-100.
8. Посилкіна О. В., Братішко Г. В., Кубасова Ю. С. Формування системи оцінки соціальної відповідальності фармацевтичного бізнесу. *Клінічна фармація*. 2015. Т. 19, № 2. С. 4–8.

9. Толочко В. М., Зарічкова М. В. Посилення соціальної відповідальності в діяльності аптечних закладів України. *Соціальна фармація: стан, проблеми та перспективи* : матеріали Міжнар. наук.-практ. інтернет-конф., м. Харків, 17–20 берез. 2014 р. Харків : НФаУ, 2014. С. 128–132.
10. Фармацевтична енциклопедія / Гол. ред. ради та автор передмови В.П. Черних. 3-ге вид., перероб. і доп. Київ : «Моріон», 2015. 1952 с.
11. Bogaert S., Declercq J., Bracke P. In the land of pharma: A qualitative analysis of the reputational discourse of the pharmaceutical industry. *Public Relations Review*. 2018. Vol. 7, Issue 2. P. 286-292.
12. Bratishko Yu. S. Assessment of social responsibility of pharmaceutical business. *Problems of social and economic development of business* : collection of scientific articles. Montreal : Publish.house «BREEZE», 2014. Vol. 1. P. 205–209.
13. Carroll A. B. Corporate Social Responsibility: Evolution of Definitional Construct. *Business and Society*. 1999. Vol. 38, № 3. P. 268–295.
14. Chehrynets A. A., Zhadko S. V., Hanabi Safae. The role and features of public relations in the pharmaceutical industry. *Менеджмент та маркетинг у складі сучасної економіки, науки, освіти, практики* : матеріали XI міжнар. наук.-практ. дистанційної конф., м. Харків, 21 берез. 2024 р. Харків : НФаУ, 2024. С. 379–381.
15. Davis K. The case for and against business assumption of social responsibilities. *Academy of Management Journal*. 1973. Vol. 16, Iss. 2. P. 312–322.
16. de Andrade M. Public relations and Aca-Media: Autoethnography, ethics and engagement in the pharmaceutical industry. *Public Relations Inquiry*. 2014. Vol. 3(1). P. 113-136.
17. de Dobbelaer R., van Leuven S., Raeymaeckers K. Dirty dancing: Health journalists and the pharmaceutical industry a multi-method study on the

impact of pharma PR on magazine health news. *Public Relations Review*. 2017. Vol. 43, Issue 2. P. 267–460.

18. Droppert H., Bennett S. Corporate social responsibility in global health: an exploratory study of multinational pharmaceutical firms. *Globalization and Health*. 2015. Vol. 11, Issue 15. P. 15–23.

19. Edelman Trust Barometer-2017. Trust in healthcare: Making progress. URL: <https://www.edelman.com/post/trust-healthcare-making-progress> (Date of access: 14.12.2023).

20. Grougiou V., Dedoulis E., Leventis S. Corporate social responsibility reporting and organizational stigma. *Journal of Business Research*. 2016. Vol. 69(2). P. 905–914.

21. Hillenbrand C., Money K., Ghobadian A. Unpacking the mechanism by which corporate responsibility impacts stakeholder relationships. *British Journal of Management*. 2013. Vol. 24(1). P. 127–146.

22. Kessel M. Restoring the pharmaceutical industry's reputation. *Nature Biotechnology*. 2014. Vol. 32(10). P. 983–990.

23. Kieran P. 9 Advantages of PR. URL: <https://channelvmedia.com/blog/advantages-of-pr/> (Date of access: 14.04.2024).

24. Miller J. E. From bad pharma to good pharma. *The Journal of Law, Medicine & Ethics*. 2013. Vol. 41(3). P. 601–610.

25. Pereira P., Ardigó C., Limberger P. Brand reputation and relationship with customer loyalty in the retail pharmacy sector: a case study. *Revista Brasileira de Gestão de Negócios*. 2021. Vol. 23, № 3. P. 1–14.

26. Porter M. E., Kramer M. R. Strategy and Society: The Link Between Competitive Advantage and Corporate Social Responsibility. Harvard, 2006. P. 78–92.

27. Powell K. 9 Advantages of PR. URL: <https://channelvmedia.com/blog/advantages-of-pr/> (Date of access: 14.12.2023).

28. Schmeltz L. Getting CSR communication fit: A study of strategically fitting cause, consumers and company in corporate CSR communication. *Public Relations Inquiry*. 2017. Vol. 6 (1). P. 47–72.
29. The limits of corporate social responsibility / G. Fooks et al. *Journal of Business Ethics*. 2013. Vol. 112(2). P. 283–299.
30. Watson T. The evolution of public relations measurement and evaluation. *Public Relations Review*. 2012. № 38 (3). P. 390–398.
31. Zhadko S. V., Affane Faycal, Babicheva G. S. Study of directions of corporate social responsibility of pharmaceutical companies. *Актуальні проблеми розвитку галузевої економіки, менеджменту та логістики* : матеріали X наук.-практ. конф. з міжнар. участю, м. Харків, 10 листоп. 2022 р. Харків : НФаУ, 2022. С. 293–294.
32. Zhadko S. V., Nwachukwu Chukwuebuka Collins. Unbranded pharmaceutical campaigns as a promising tool in pharmaceutical marketing. *Безперервний професійний розвиток фармацевтичних працівників: сучасний стан, проблеми та перспективи* : матеріали наук.-практ. конф. з міжнар. участю, присвяч. 30-річчю заснування ІПКСФ НФаУ., м. Харків, 1–2 листоп. 2023 р. Харків : Вид-во НФаУ, 2023. С. 181–182.

APPENDICES



Міністерство охорони здоров'я України
Національний фармацевтичний університет
Кафедра фармацевтичного менеджменту та маркетингу



**XI Міжнародна науково-практична дистанційна конференція
«МЕНЕДЖМЕНТ ТА МАРКЕТИНГ У СКЛАДІ СУЧАСНОЇ ЕКОНОМІКИ,
НАУКИ, ОСВІТИ, ПРАКТИКИ»**

СЕРТИФІКАТ УЧАСНИКА № 39

Safae HANABI

21 березня 2024 р. брав(ла) участь у круглому столі

«ПРАКТИЧНІ АСПЕКТИ ЗАСТОСУВАННЯ МЕНЕДЖМЕНТУ ТА МАРКЕТИНГУ У ФАРМАЦІЇ»
за програмою обсягом 6 годин (0,2 кредиту ЕКТС)

Досягнуті результати навчання:

інтегрувати у професійну діяльність сучасні тренди менеджменту та маркетингу;
адапування отриманих знань до специфіки фармацевтичного ринку.

В.о. ректора Національного фармацевтичного університету,
доктор фармацевтичних наук, професор,
заслужений діяч науки і техніки України



Alina Kotvitska Алла КОТВИЦЬКА

Проректор закладу вищої освіти з науково-педагогічної
роботи Національного фармацевтичного університету,
доктор фармацевтичних наук, професор

Inna Vladimirova Інна ВЛАДИМИРОВА

Завідувач кафедри фармацевтичного менеджменту
та маркетингу Національного фармацевтичного
університету, доктор фармацевтичних наук,
професор, заслужений працівник фармації України

Vladimir Maliy Володимир МАЛИЙ

**МІНІСТЕРСТВО ОХОРОНИ ЗДОРОВ'Я УКРАЇНИ
НАЦІОНАЛЬНИЙ ФАРМАЦЕВТИЧНИЙ УНІВЕРСИТЕТ
КАФЕДРА ФАРМАЦЕВТИЧНОГО МЕНЕДЖМЕНТУ ТА
МАРКЕТИНГУ
УКРАЇНСЬКА АСОЦІАЦІЯ МАРКЕТИНГУ**



**МАТЕРІАЛИ
ХІ МІЖНАРОДНОЇ НАУКОВО-ПРАКТИЧНОЇ
ДИСТАНЦІЙНОЇ КОНФЕРЕНЦІЇ
(м. Харків, 21 березня 2024 р.)**

**МЕНЕДЖМЕНТ ТА МАРКЕТИНГ У СКЛАДІ
СУЧАСНОЇ ЕКОНОМІКИ, НАУКИ, ОСВІТИ, ПРАКТИКИ**

**MANAGEMENT AND MARKETING IN THE MODERN ECONOMY,
SCIENCE, EDUCATION AND PRACTICE**

Харків 2024

**МІНІСТЕРСТВО ОХОРОНИ ЗДОРОВ'Я УКРАЇНИ
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МАТЕРІАЛИ

***XI Міжнародної науково-практичної дистанційної конференції
(м. Харків, 21 березня 2024 р.)***

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Збірник наукових робіт містить матеріали XI Міжнародної науково-практичної конференції науковців та практиків, що здійснюють діяльність в цілому в сфері менеджменту й маркетингу та в галузі фармації зокрема з різних країн світу.

Розглянуто досягнення та використання менеджменту й маркетингу у сучасній економіці; форми та методи викладання дисциплін організаційно-економічного й управлінського спрямування на основі теорії менеджменту та маркетингу; практичні аспекти управління виробництвом, контролем якості; маркетингові дослідження ринків; проблеми реалізації та споживання лікарських засобів, підвищення якості фармацевтичної допомоги; результати фармакоекономічних досліджень лікарських засобів. Для широкого кола наукових, науково-педагогічних і практичних працівників, що займаються питаннями менеджменту й маркетингу та лікознавством.

Матеріали відредаговані членами редакційної колегії у відповідності до вимог, що представлені в Інформаційному листі. За достовірність матеріалів відповідальність несуть автори. Будь-яке відтворення тексту без згоди авторів забороняється.

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XI МІЖНАРОДНА НАУКОВО-ПРАКТИЧНА ДИСТАНЦІЙНА КОНФЕРЕНЦІЯ
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THE ROLE AND FEATURES OF PUBLIC RELATIONS IN THE PHARMACEUTICAL INDUSTRY

Chehrynets A. A., Zhadko S. V., Hanabi Safae

National University of Pharmacy, Ukraine, Morocco

svzhadkopharm@gmail.com

With the evolving healthcare landscape and heightened public scrutiny, pharmaceutical manufacturers are realizing the growing significance of maintaining strong public relations (PR) to foster trust and transparency. The burgeoning demand for transparency, coupled with the need to navigate complex regulatory environments, underscores the rising importance of effective PR strategies for pharmaceutical manufacturers in building positive relationships with stakeholders and promoting their products responsibly.

The aim of this work is to analyze the specific reasons, tools and planning a public relations campaign for a pharmaceutical company.

PR is the strategic communication process employed by organizations to cultivate and maintain favorable relationships with various stakeholders, including the public, customers, employees, investors, media outlets, and government entities. It involves managing the dissemination of information, shaping perceptions, and influencing attitudes to enhance the organization's reputation, credibility, and overall image. The goal of public relations is to build mutual understanding, trust, and support for the organization's objectives and endeavors.

Pharmaceutical companies often face reputation challenges due to product safety concerns, ethical concerns, transparency issues, litigation and legal issues, perception of profiteering, media scrutiny and misinformation. Addressing reputation challenges requires pharmaceutical companies to prioritize transparency, ethical conduct, and patient-centricity in their operations. Proactive communication, engagement with stakeholders, and adherence to high standards of integrity are essential for rebuilding trust and safeguarding reputation in the pharmaceutical industry.

Pharmaceutical companies utilize a variety of public relations tools to effectively communicate with stakeholders and manage their reputation:

- engaging with journalists and media outlets to disseminate press releases, respond to inquiries, and secure media coverage for corporate announcements, product launches, and educational initiatives;
- positioning key executives, scientists, or experts as thought leaders by contributing articles, white papers, or opinion pieces to industry publications, conferences, and online platforms;

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- leveraging digital platforms such as websites, blogs, social networking sites, and online forums to share information, interact with stakeholders, and address concerns in real-time;
- participating in community events, health fairs, and educational programs to raise awareness about health issues, support local initiatives, and foster goodwill among community members;
- collaborating with patient advocacy groups, healthcare organizations, and professional associations to advance shared goals, advocate for policy changes, and address public health challenges;
- developing proactive strategies and protocols to effectively manage and respond to crises, including product recalls, safety concerns, regulatory issues, or negative media coverage;
- implementing corporate social responsibility initiatives that align with the company's values and contribute to social, environmental, and health-related causes, enhancing reputation and building trust with stakeholders;
- building relationships with influential healthcare professionals, researchers, and opinion leaders who can advocate for the company's products, provide insights, and contribute to educational efforts;
- keeping employees informed and engaged through internal communications channels, town hall meetings, and training programs, fostering a culture of transparency, collaboration, and accountability;
- communicating with investors, analysts, and financial stakeholders through earnings calls, investor presentations, annual reports, and shareholder meetings to provide updates on financial performance, business strategy, and industry trends.

Planning a public relations campaign for a pharmaceutical company involves several key stages:

1. **Research and analysis.** A company should understand the target audience, market trends, regulatory landscape, and competitors. Analyze past campaigns, media coverage, and stakeholder perceptions to identify strengths, weaknesses, opportunities, and threats.
2. **Objective setting.** The goals and objectives of the PR campaign may include enhancing brand awareness, addressing misconceptions, launching a new product, or managing a crisis.
3. **Audience identification.** The target audience may include healthcare professionals, patients, caregivers, regulatory authorities, advocacy groups, media outlets, and the general public.
4. **Message development.** Compelling and consistent messaging should aligns with the company's values, mission, and objectives and emphasize key benefits,

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differentiation factors, and evidence-based information about pharmaceutical products or initiatives. The messages should be accurate, transparent, and compliant with regulatory requirements.

5. Strategy formulation. A strategic PR plan outlines the overall approach, tactics, channels, and timelines for achieving campaign objectives. A company should determine the mix of media relations, thought leadership, digital communications, events, advocacy partnerships, and employee engagement initiatives to maximize reach and impact.

6. Tactical execution. Implementation of the PR plan by executing specific tactics and activities outlined in the strategy. This may include drafting press releases, organizing media briefings, conducting spokesperson training, creating multimedia content, leveraging social media platforms, and coordinating events or sponsorships.

7. Monitoring and evaluation. A company must continuously monitor the progress and performance of the PR campaign using key performance indicators aligned with campaign objectives. It is necessary to track media coverage, social media engagement, website traffic, audience sentiment, and other relevant metrics to assess effectiveness and make data-driven adjustments as needed.

8. Adaptation and optimization. A company should remain agile and responsive to emerging opportunities, challenges, and feedback throughout the campaign. It is necessary to adjust strategies, messaging, or tactics based on real-time insights and stakeholder feedback to optimize results and ensure alignment with evolving business goals.

In conclusion, prioritizing transparent communication and ethical conduct is vital for pharmaceutical companies to navigate challenges and build trust. By employing strategic public relations tactics, they can effectively engage stakeholders, enhance their reputation, and achieve their business goals while contributing to public health and well-being.

Наукове електронне видання

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Відповідальний за випуск:

Малий В. В.

Комп'ютерна верстка:

Ткачова О. В.

**Національний фармацевтичний університет
вул. Григорія Сковороди (вул. Пушкінська), 53, м. Харків, 61002**