TÍTULO: Características específicas de la elección de las tecnologías modernas de comunicación en Marketing y Logística basadas en enfoques innovadores.

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RESUMEN: Este artículo aborda el tema de elegir las tecnologías modernas en marketing y logística bajo la influencia del entorno digital en rápido desarrollo. Se ha propuesto el algoritmo de elección de nuevos tipos de comunicaciones de marketing, que permite identificar herramientas de promoción adecuadas para las tecnologías logísticas utilizadas.

PALABRAS CLAVES: detalles de la elección de las tecnologías de marketing y logística, entorno digital, tecnologías innovadoras, ventaja competitiva, parámetros de selección.

TITLE: Specifics of choosing the modern communication technologies in Marketing and Logistics Based on innovative approaches.
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ABSTRACT: This article deals with the issue of choosing the modern technologies in marketing and logistics under the influence of the rapidly developing digital environment. The algorithm of choosing new types of marketing communications has been proposed, which allows identifying promotion tools suitable for the logistic technologies used.

KEY WORDS: specifics of choosing the marketing and logistics technologies, digital environment, innovative technologies, competitive advantage, selection parameters.

INTRODUCTION.
Companies currently operate within the rapidly developing digital environment, which is accompanied by the emergence of new types of communication technologies in marketing and logistics. This significantly complicates their choice. This is due to the fact that the choice is made in constantly changing market conditions (changing macroeconomic indicators, competitive environment, and typical consumption situations) and should be accordingly made with due consideration for the influence of these factors, on the one hand.
Numerous new technologies and hence various methods for evaluating their efficiency complicate the choice of marketing and logistics technologies that need to be implemented within the company's current market strategy, on the other hand.
Undoubtedly, the marketing and logistics technologies are chosen by specialists from different departments, who consider the existing functional strategies. However, the efficiency of interaction in these areas necessitates a combination of marketing and logistics technologies, which is implemented in achieving common tactical goals (support of supply chain and distribution and shaping the company image perception).

The above factors confirm that the problem of choosing the innovative marketing and logistics technologies is relevant for the companies' operation. The relevance of the study is determined by the need to choose the right marketing and logistics technologies in order to create a unique competitive advantage that would distinguish the company and its product from similar products of the competing companies.

DEVELOPMENT.

Literature review and methods.

The authors used systematic and structural functional methods in the study of the components the promotion set consists of (types of marketing communications), as well as the mechanism for its formation and the development of an algorithm for choosing marketing and logistics technologies.

The method of analyzing statistical data and results of theoretical applied research in the innovative marketing and logistics technologies (a survey conducted by the Between Exchange analytical agency, as well as research data from the Association of Communication Agencies of Russia) was used as an empirical method. The main criteria for the selection of marketing and logistics technologies and their benefits for companies have been determined based on these data.

Results and discussion.

Several tasks have been completed in the course of this study: the current situation with the modern communication technologies in marketing and logistics has been reviewed; the dynamics of using innovative technologies in marketing and logistics by companies have been analyzed; the specifics
of selecting the communication technologies related to the marketing and logistics content have been highlighted; and an algorithm for selecting new types of marketing communications has been developed, which allows identifying promotion tools suitable for the logistic technologies used.

The authors consider the data on the use of innovative technologies separately in marketing communications and logistics in order to identify the practical problems of selecting the modern marketing and logistics tools by companies, as well as their simultaneous use.

Following the results of the study conducted by AdIndex and the Between Exchange analytical agency, there was an upward trend in the share of innovative promotion tools in the overall budget for marketing communications in 2018; for example, 52 % of the respondents in a survey conducted a year earlier had noted an increase in the budget share for innovative technologies, and the share of such respondents increased to 65 % in the reporting year. It must be noted that marketing experts from 640 companies participated in the survey (General dynamics of digital budgets, n.d.).

The data related to the preferences of the surveyed specialists in choosing innovative technologies for solving marketing problems represent the highest practical and scientific interest in this study. In this case, digital technologies with the ability to relatively simply evaluate their performance were predominantly considered innovative (performance marketing tools, i.e., a set of tools with measurable results). The average share of various digital tools in the promotion budget for 2018 is demonstrated in the figure below (Figure 1).

Analysis of the data presented in figure 1 allows to conclude that the most significant average budget shares in the market are occupied by the lead generation (27 %), contextual advertising (31.5 %), and display advertising (24.7 %). At the same time, the remaining marketing technologies demonstrated a positive trend in 2018. The interest of advertisers to such innovative promotion types as SMM (17.7 %) and mobile apps (17.9 %) should also be noted. The dynamics of the share of tools in the digital budget from 2017 to 2018 are then considered (Figure 2).
Figure 1. Average share of tools in the digital budget in 2018, % (General dynamics of digital budgets, n.d.)

- Contextual advertising / SEA: 31.5%
- Lead generation / CPA: 27.0%
- Direct Media Buying: 24.7%
- Programmatic Buying: 19.3%
- SMM/ Digital PR: 17.7%
- Digital Video Buying: 17.4%
- Search engine optimization / SEO: 16.9%
- Mobile Media Buying: 16.5%
- Promotion of offers / CPI: 15.9%
- Digital Production: 14.9%
- Creative and strategy: 14.5%
- Special projects: 11.8%
- Direct Marketing & CRM: 10.5%
- Non-standard Media: 9.0%
- Mobile Production: 6.4%

Figure 2. Dynamics of the share of tools in the digital budget from 2017 to 2018 (General dynamics of digital budgets, n.d.)

- Mobile Production: 52%
- Promotion of offers / CPI: 50%
- Mobile Media Buying: 47%
- Digital Video Buying: 42%
- Non-standard Media: 35%
- Programmatic Buying: 32%
- Special Projects: 28%
- SMM/ Digital PR: 25%
- Direct Marketing & CRM: 24%
- Creative and strategy: 21%
- Lead generation / CPA: 18%
- Digital Production: 16%
- Search engine optimization / SEO: 14%
- Contextual advertising / SEA: 10%
- Direct Media Buying: 7%
The most significant increase in the share in the total budget for marketing communications in 2018 was observed in the promotion of apps (52 %), video advertising (42 %), nonstandard media (35 %), and online purchasing of ads (32 %). This means that the companies and advertisers are interested in innovative tools, which allow obtaining more detailed information about users, and in online purchasing of ads with the purpose of displaying them to target consumers who are most loyal to the company's marketing proposals (are in a typical consumption situation) at a particular point in time.

Similar data for market segments in which logistics is of fundamental importance should be analyzed, because the most interesting marketing communication tools in terms of this study are those more suitable for logistics technologies in terms of achieving a common strategic goal – the creation of a sustainable competitive advantage for the company in the target market (Table 1).

**Table 1.** Share of tools in the digital budget for 2018 by different segments (based on General dynamics of digital budgets, n.d.).

<table>
<thead>
<tr>
<th>Marketing technologies</th>
<th>E-COMMERCE</th>
<th>FMCG</th>
<th>Transport</th>
<th>Industrial products</th>
</tr>
</thead>
<tbody>
<tr>
<td>Contextual advertising</td>
<td>39.7</td>
<td>8.8</td>
<td>5.2</td>
<td>–</td>
</tr>
<tr>
<td>SEO promotion</td>
<td>13.4</td>
<td>15.7</td>
<td>12.1</td>
<td>20.6</td>
</tr>
<tr>
<td>Lead generation</td>
<td>22.3</td>
<td>15.0</td>
<td>20.3</td>
<td>–</td>
</tr>
<tr>
<td>Programmatic</td>
<td>12.7</td>
<td>27.3</td>
<td>18.6</td>
<td>10.0</td>
</tr>
<tr>
<td>CRM</td>
<td>12.6</td>
<td>–</td>
<td>27.1</td>
<td>11.7</td>
</tr>
<tr>
<td>Mobile apps</td>
<td>14.8</td>
<td>30.8</td>
<td>24.5</td>
<td>–</td>
</tr>
</tbody>
</table>

The following conclusions can be drawn based on the data from the table. Firstly, such technologies as contextual advertising, SEO promotion, lead generation (landing pages), CRM, and mobile apps are used by the companies operating in market segments where logistics is a fundamental element in establishing the competitive advantage. Secondly, companies do not use such tools as contextual advertising, lead generation and mobile apps when promoting industrial products (B2B markets).
This is due to the fact that the consumer in the commodity markets is not a specific person but a procurement committee, which is often reflected in the mergers and acquisitions of various organizational structures (Berezovskiy et al., 2017). Due to this, marketing tools are selected taking into account the impact on the person who makes the procurement decisions. Thirdly, the CRM system is an important tool from the standpoint of interaction between the marketing and logistics technologies, because it can be used to process the information about users collected through various types of marketing communications and fulfill the generated demand on this basis.

The data from the survey by the Association of Communication Agencies of Russia (ACAR) also confirm the conclusion that the market for innovative marketing technologies, mainly related to online promotion, continues to observe a positive trend compared to traditional promotion tools in the current conditions of the rapidly developing digital environment (Table 2).

As can be seen from Table 2, the Internet observes the largest growth among the types of marketing communications (+22%). Negative dynamics are observed in the Press segment. Outdoor advertising is also not very popular among companies and advertisers, which is due to the decline in the general consumer interest in traditional types of communications. At the same time, there are positive dynamics in the TV segment (+12%) facilitated by the emergence of new technologies for evaluating the efficiency of TV advertising, as well as the ability to synchronize with online communications.

It is advisable to review the specifics of choosing the logistics technologies in the current market conditions as the next step. Four key factors for the logistics technology development are presented in the table, based on the results of the survey conducted by DHL (Table 3).
### Table 2. Advertising volumes in the means of its distribution in January – September 2018 (The ACAR data on the volume of advertising..., 2018).

<table>
<thead>
<tr>
<th>Segment</th>
<th>January – September 2018, bln rub.</th>
<th>Growth, %</th>
</tr>
</thead>
<tbody>
<tr>
<td>TV</td>
<td>130.0 – 131.0</td>
<td>12</td>
</tr>
<tr>
<td>of which Main channels</td>
<td>125.0 – 126.0</td>
<td>11</td>
</tr>
<tr>
<td>Niche channels</td>
<td>5.0</td>
<td>44</td>
</tr>
<tr>
<td>Radio</td>
<td>11.5 – 11.7</td>
<td>1</td>
</tr>
<tr>
<td>Press</td>
<td>12.8 – 13.0</td>
<td>-10</td>
</tr>
<tr>
<td>of which Newspapers</td>
<td>5.3 – 5.4</td>
<td>-12</td>
</tr>
<tr>
<td>Magazines</td>
<td>7.4 – 7.5</td>
<td>-8</td>
</tr>
<tr>
<td>Out of Home</td>
<td>31.0 – 31.2</td>
<td>0</td>
</tr>
<tr>
<td>of which Outdoor advertising</td>
<td>25.2 – 25.4</td>
<td>3</td>
</tr>
<tr>
<td>Internet</td>
<td>140.5 – 141.5</td>
<td>22</td>
</tr>
<tr>
<td>TOTAL</td>
<td>326.0 – 328.0</td>
<td>13</td>
</tr>
</tbody>
</table>

### Table 3. Key factors for the logistics technology development (based on DHL logistics innovation investment report, 2018).

<table>
<thead>
<tr>
<th>Key factors for the logistics technology development</th>
<th>Examples of using logistics technologies</th>
</tr>
</thead>
<tbody>
<tr>
<td>Focus on customer</td>
<td>Implementation of this principle is most successful in the e-commerce segment, where companies need to seek for omnichannel logistics solutions. For example, Amazon has launched a new project called The Hub – a large-scale installation of automated parcel terminals in residential blocks.</td>
</tr>
<tr>
<td>Environmental sustainability</td>
<td>DHL and Nord Stream AG, which have introduced a service for accounting for CO2 emissions during the transportation of all goods, can be cited as examples.</td>
</tr>
<tr>
<td>Innovations in technology</td>
<td>Using the AI systems, namely the distribution of wireless networks (blockchain). For example, Alibaba Group will track the supply chain using the blockchain and QR codes.</td>
</tr>
<tr>
<td>Robotization</td>
<td>A large retailer JD.com has completed the transition to a fully robotic delivery service. The experts from Mail.ru estimated that four employees were enough for the operation of a 100 thousand square feet hub.</td>
</tr>
</tbody>
</table>
The authors believe that all the logistics technologies presented in Table 3 contribute to the achievement of both logistics and marketing goals. For example, such factors of the logistics technology development as focus on customer and environmental sustainability directly influence the achievement of the company's marketing goals. The example of Amazon confirms the conclusion that omnichannel is the most efficient model of interaction between the marketing and logistics technologies in the companies' operation. Environmental sustainability allows shaping a favorable image of the company both in the business environment and in the minds of target consumers.

Robotization also indirectly contributes to achieving the marketing goal. Minimizing costs and lowering the product price are competitive advantages, especially in target markets where consumers are price sensitive. Using AI systems and innovations in technology secures the reliability of product delivery to the final consumer, regardless of the number of intermediaries in the supply chain, without losing quality.

![Figure 3. Results of the experts' survey about the volume of investment in logistics innovations](Transporeon Group logistics innovation investment report, 2018).
Let us consider the findings of the study conducted by Transporeon Group, a leading provider of IT solutions for transport logistics automation, for a deeper understanding of which marketing technologies should be chosen in the short term for the most efficient interaction with logistics technologies (Figure 3).

As can be seen in the figure, the majority of the surveyed experts consider the introduction of IT technologies, power efficiency, geolocation technologies for collecting user data, and the development of services for the "last mile" delivery to be the most promising areas of investment in logistics, which is directly reflected in (Krolli, 2009). At the same time, some respondents consider investing in robotization of logistics processes profitable. It must be noted that the investment planning period was 3 – 5 years. According to the survey, investments in innovative logistics technologies must be made despite the growth in tariffs expected in the planning period.

This is due to several factors:

Firstly, the active penetration of innovative marketing technologies prevents companies from using traditional promotion tools. At the same time, a company that incorporates digital marketing communications tools into its promotion package cannot fulfill the demand generated by traditional logistics technologies. Since there has been a trend in close customer interaction with the company recently (increase in the number of contact points), the applied communication marketing and logistics tools should be on the same technological level.

Secondly, most experts realize that digitalization will allow both minimizing logistics costs, which will further reduce the final product price, and increasing the general level of competitiveness of the company. In other words, in spite of fluctuations in the macroeconomic situation and changing volume of demand, investments in automation of logistics processes are a key factor in creating a sustainable competitive advantage.

In this case, the sustainable competitive advantage will be based on the development of a differentiation strategy based on distribution channels, which is aimed at improving the interaction between logistics and marketing at the enterprise. To select distribution channels, the marketing
The company should conduct a market research – in particular, to determine its characteristics that are important for logistics: market capacity, structure, and dynamics. Sales speed, channel length and width, and cost of sales per unit are other major parameters of distribution channels that are of considerable interest for the logistics department.

In other words, all the above factors of the logistics technology development are compared with the existing marketing technologies. This means that the companies seeking to conquer stable positions in the target markets need to coordinate the choice of marketing technologies with logistics technologies in the current market conditions. Indeed, despite the fact that technologies are chosen by specialists from different departments, they should take common strategic goals into account.

The key concept of interaction between the marketing and logistics technologies remains unchanged: the company creates demand for a product through marketing communications and other elements of the marketing mix, and the generated demand is fulfilled by logistics tools and technologies, i.e., the main goal of the marketing activities is achieved – the maximum fulfillment of the target consumers' requests. However, the selected logistics technologies should always be accounted for when choosing the marketing communication technologies. This is due to the fact that a simple interaction between these functional areas of the company is insufficient in today's market conditions.

The authors believe that the following specifics of choosing the modern marketing and logistics technologies can be identified on the basis of the reviewed data and taken into account by companies (Figure 4).

Specifics of choosing the marketing and logistics technologies are summarized in the figure. Let us review each of them in more detail, along with the advantages the company gets when choosing the technologies if these parameters are met (Table 4).
Figure 4. Specifics of choosing the marketing and logistics technologies (proposed by the authors).

Table 4. Criteria for choosing the marketing and logistics technologies and advantages the company gets if they are met (proposed by the authors).

<table>
<thead>
<tr>
<th>Criteria for choosing the marketing and logistics technologies</th>
<th>Advantages the company gets if these criteria are met.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Correspondence with new trends and prospects</td>
<td>The technologies should be chosen with due regard for their prospects. This means that the company will be able to constantly maintain a high competitive and operational position only if it is ready to change the applied technologies in a timely manner.</td>
</tr>
<tr>
<td>Possibility of formats unification to estimate the technology performance</td>
<td>Possibility to bring the applied technologies to a uniform format. This is primarily the ability to reduce specialized indicators like CAC and CTR to common indicators: ROI, ROMI, and KPI. The formats unification will also simplify the procedure for interpreting the data collected about users.</td>
</tr>
<tr>
<td>Collection of the user information as an accompanying goal when applying the technology</td>
<td>The technology should be chosen not only in view of achieving a marketing or logistical goal, but also in view of collecting as much additional information about the user as possible for further processing.</td>
</tr>
<tr>
<td>AI-based action</td>
<td>Capability of the system of intellectual Internet promotion (SIIP) to self-learn and forecast user queries (The ACAR data on the volume of advertising by the sources of its distribution in 2018, 2018).</td>
</tr>
<tr>
<td>Convergence of the technology</td>
<td>– intensive interaction between marketing and logistics; – synergistic effect; and – qualitative growth of marketing and logistics processes.</td>
</tr>
</tbody>
</table>

Given the selected specifics of choosing the logistics and marketing technologies, according to the summarized opinion of the authors of studies (Kaifedzhan and Kizim, 2017; Kizim, 2018; Manners-Bell and Cullen, 2014; Christopher and Peck, 2012; Kotler, 2015; Kotler et al., 2016), the company
is able to collect additional data about the user. At the moment, the efficient use of AI systems is only possible in the presence of large amounts of data on the company's customers.

The stages of the technology selection process are defined after the specifics of choosing the marketing and logistics technology and the advantages derived by the company. From the standpoint of the management process, the logic of choosing the marketing and logistics technologies based on the defined criteria can be presented as follows (Figure 5).

Figure 5. Algorithm of choosing the marketing and logistics technologies (proposed by the authors).
The above steps are logically aligned, and their progressive passage ensures the efficient marketing and logistics interaction. Each of these steps are analyzed below.

The first step is the development of the functional marketing and logistics strategies within the company's most common strategic goals. The strategy can be presented in a detailed or declarative form. It should reflect the goals of the company and the vision of the business concept for a strategic perspective.

A characteristic feature of this stage is to recognize and understand the projected development trajectory of the company by all personnel (top managers and core personnel). Despite the fact that the marketing and logistics strategies exist in the long term as a corporate-wide strategy, they can be adjusted if necessary.

The second step is the definition (adjustment) of the marketing and logistics objectives. After this, the company defines the goals to be achieved with the implementation of the logistics and marketing technologies. They will depend on the industry the company operates in, the level of competition in the market, and the target audience.

The existing goals may be adjusted in case of the low efficiency of business processes defined on the basis of indicators (sales, ROI, CLV, and others), and a conclusion is made accordingly: which of the goals should be excluded and which should be achieved further.

The third step is described by the study of the marketing and logistics capabilities of the company. Various types of the strategic analysis are used at this step (SWOT analysis, PEST analysis, BCG matrix, and others). This step is important because it allows assessing the current position of the company and its actual position in the market. Once the current position is defined, the company selects (adjusts) the desired future position. In this case, it is necessary to specify the desired position and indicators the company seeks to achieve.

The fourth step is the most serious from the standpoint of the company's awareness and formation of its strategic advantages, as well as the choice of the logistics and marketing technologies based on innovative approaches.
This step is also quite labor-intensive, as a marketing research can be conducted to obtain better and more objective information. The data collected in the research will underlie the further selection of the most appropriate and compatible marketing and logistics technologies.

The last two steps are directly related to the implementation of the selected innovative technologies and evaluation of their efficiency. The strategies are implemented using various means of the marketing communications (MC), which belong to the same communication strategy and have a comprehensive effect on the environment of the organization due to the synergistic effect with the logistics technologies.

Evaluating the efficiency of the applied technologies is a complex process in terms of obtaining the objective and high-quality information. The above steps represent a sequential process of choosing the promising marketing and logistics technologies in order to create a sustainable competitive advantage.

In practice, the lack of a clear trajectory of choosing and implementing various innovative MC types does not allow the company adequately fulfilling its potential in the market environment and winning the attention of consumers. The scattered use of the MC tools and logistics technologies results in the decline in the company's competitiveness, which is noted in works (Kizim et al., 2018; Kizim et al., 2017; Kizim and Kaifedzhan, 2017; Krolli et al., 2009; Mason and Evans, 2017; Sekerin et al., 2019; Dudin et al., 2017).

As such, the selected specifics of choosing the marketing and logistics technologies are related to the content of the functional areas under consideration. At the same time, companies should base their choice of technology not only on achieving a marketing or logistics goal, but also aiming at collecting additional information about the user for its further processing in the current market conditions.

CONCLUSIONS.

The following conclusions can be drawn up summarizing the above. The article identifies the specifics of choosing the modern communication technologies in marketing and logistics.
The algorithm for choosing logistics and marketing tools in the rapidly developing digital environment is proposed on their basis in order to simplify the process of finding suitable technologies in terms of their convergence and compliance with new trends.

It must also be noted that the issue of choosing the modern marketing and logistics technologies is most relevant in the conditions of the rapidly developing digital environment. The following specifics should be taken into account when choosing the communication technologies:

- Correspondence with new trends and prospects.
- Possibility of formats unification to estimate the technology performance.
- Collection of the user information as an accompanying goal when applying the technology.
- AI-based action.
- Convergence of the technology.

The algorithm of choosing the marketing and logistics technologies has been developed on the basis of the above criteria, which allows to structure the process of choosing the technologies and simplify the procedure of detecting a step at which an error was made in case of deviations. The proposed criteria and algorithm have allowed to identify the promotion tools suitable for the logistics technologies used.

Further research.

The proposed approaches to the formation of a practice-oriented educational paradigm based on the competence approach are viewed as the basis for the increase of general intellectual, cultural, professional and technological level of students.

Further work in this direction aims to optimize and bring to agreement the interests of three interacting parties: employers, employees (students) and systems of general, secondary, higher and additional education.
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