
Financial Justification for the Use of Innovative Digital Marketing Tools

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Abstract: This article presents a comprehensive study aimed at analysing the impact of innovative digital marketing tools on the promotion of dairy products. This study is relevant because of the rapid dynamics of the digital environment and the need for enterprises to adapt to new marketing trends. The article investigates the feasibility of using innovative digital marketing tools in accordance with the segments of the target audience on the basis of the definition of their values. The main problem is the lack of scientific justification for the choice of innovative digital marketing tools for potential audiences, as well as the analysis of the feasibility of digital marketing costs. The hypothesis of the study is that, on the basis of the analysis of the values of consumer groups, as well as the analysis of the feasibility of marketing costs, it is possible to select the most relevant innovative digital marketing tools. The main purpose of the study is to justify the use of innovative digital marketing tools on the basis of consumer values, as well as to justify the feasibility of digital marketing costs on the basis of the analysis of financial statements. The methodology included cluster analysis of the target audience and analysis of financial ratios. One of the key stages of the study was the cluster analysis of the target audience, which allowed us to identify different consumer segments with different needs and values. Three clusters of consumer audiences in the dairy industry were identified, the corresponding values of customers in the clusters were substantiated, and recommendations for identifying innovative digital marketing tools were proposed, taking into account the feasibility of the marketing costs of the enterprise. The key coefficients for making informed management decisions on the feasibility of digital marketing costs are allocated. By analysing these coefficients, an enterprise can assess its financial capabilities and make a decision on how to invest in innovative digital marketing tools. This allows enterprises to make informed decisions about investing in digital marketing, minimizing financial risk and increasing the chances of successful implementation of marketing strategies. This study significantly adds to the body of knowledge in the field of digital marketing by offering a scientifically based approach to the selection of innovative marketing tools on the basis of the analysis of consumer value and the financial feasibility of costs. The practical application of the research results lies in the ability of dairy enterprises to promote their products online on the basis of a thorough selection of innovative digital marketing tools, reducing financial risk. This creates a basis for further research in the field of digital marketing, particularly in the context of the integration of innovative digital marketing tools and their impact on consumer behaviour.

Keywords: financial justification of costs; digital marketing; dairy industry; cluster analysis; target audience; marketing of impressions; innovative digital marketing tools; financial analysis; costs.

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1. Introduction. According to a study by the All-Ukrainian Advertising Coalition, the volume of the digital marketing market in 2023 increased by up to 49% compared with that in 2022, which indicates rapid growth in the impact of digital technologies on the business environment (Report of the All-Ukrainian Advertising Coalition, 2023). This trend has also affected the dairy industry, where the effectiveness of digital marketing plays a crucial role in competitiveness. In today's dynamic digital environment, dairy businesses face the need to adapt their marketing strategies to new trends and technologies constantly. Digital marketing in the dairy industry has undergone significant changes in recent years, particularly due to the introduction of digital marketing. Traditional methods of promotion, such as television advertising and printed materials, are gradually giving way to digital tools that allow a wider audience to be reached and provide a more accurate and personalized approach. Businesses are actively implementing social media, content marketing, e-commerce, and influencer marketing to improve customer engagement.

For example, many brands create video content for the YouTube platform, which shows the process of dairy production, provides culinary recipes and tells stories about farmers, which helps to increase trust and brand loyalty. The latest trends in digital marketing include the growing popularity of virtual and augmented reality (VR and AR). These technologies allow the creation of interactive content that provides a unique experience for consumers. For example, AR can be used to show how a dairy product looks on a consumer's table or to take a virtual tour of a dairy farm. These tools not only attract attention but also create an emotional connection with the consumer. Innovative digital marketing tools play a key role in promoting products and maintaining competitiveness in the market. This study aims to analyse such tools and substantiate their compliance with the values of certain segments of the target audience. The hypothesis of the study is that, on the basis of the analysis of the values of consumer groups, as well as the analysis of the feasibility of marketing costs, it is possible to identify innovative digital marketing tools. The purpose of the study is to justify the use of innovative digital marketing tools on the basis of consumer values, as well as to justify the feasibility of digital marketing costs on the basis of the analysis of financial statements.

The main problem is the lack of scientific justification for the choice of innovative digital marketing tools for target audience segments, as well as the analysis of the feasibility of digital marketing costs. Most current research focuses on traditional digital marketing tools such as social media, contextual advertising, and email. Instead, innovative tools that can create new experiences for users remain underresearched. In addition, the problems include taking into account the values of customers of different groups, which affects the choice of innovative tools. A separate issue is the justification of the feasibility of marketing costs and the approaches on the basis of which this analysis will be carried out.

To provide a comprehensive exploration of this topic, the following sections of this article describe the introduction in Section 1. Section 2 – Literature review, which examines the evolution of the use of digital marketing tools in the dairy industry. The study of the historical development of digital marketing will help contextualize current achievements and methodologies. Section 3 – Methodology and research methods. This section explains the methods used to address the research problem. formulated to clarify the relationship between consumer behavior and the data collected in Section 4—Results and Discussion. This section presents the results and discussion, analyses the collected data and focuses on the segmentation of the target audience, and provides recommendations for the use of innovative digital marketing tools on the basis of the analysis of the values and budgets of the enterprise. The results of the study will allow the identification of innovative digital marketing tools for different segments of the target audience in the dairy industry. Finally, Section 5 presents conclusions and prospects. Through cluster analysis of the target audience and analysis of financial ratios, different segments of consumers are identified, and individualized recommendations for the use of innovative digital marketing tools for product promotion are developed. The main conclusions show that innovative tools contribute to the formation of new customer experiences, which potentially affects the increase in sales. This study is an important contribution to the development of research on digital marketing, which helps dairy enterprises compete successfully in the modern market.

2. Literature Review. Modern scientific research focuses on studying the most effective digital marketing tools. The effectiveness of these tools can be explained by their convenience and popularity, as well as their attractive content.

2.1. Analysis of research concerning modern digital marketing tools in the dairy industry

The presented studies consider both traditional and nontraditional digital marketing tools. In the studies by Jiang & Yukio (2024), Soares et al. (2021), Koryugina & Matveev (2024), Jing et al. (2021), and Avramidis et al. (2017), much attention has been given to the involvement of influencers in increasing brand awareness. Wellman et al. (2020) and Hugh et al. (2022) noted that the impact of influencers should be based on ethical

principles and be truthful. The presented studies consider both traditional and nontraditional digital marketing tools. In the studies by Jiang & Yukio (2024), Soares et al. (2021), and Koriuhin & Matveev (2024), much attention was given to the involvement of influencers in increasing brand awareness. Additionally, Koriuhin & Matveev (2024), Karetos et al. (2023), and Borsellino et al. (2023) suggest the use of websites, mobile marketing, social media, and SEO to promote dairy products. Notably, different tools may be appropriate for promoting products in a particular industry, and what is effective for one may be ineffective for another. Studies of the dairy industry are presented in (Soares et al., 2021; Chen & Liu, 2024; Parkhomenko et al., 2024), where a preference is given to influencer management, and Koriuhin & Matveev (2024) suggest the use of a combination of tools. In the research of Nastisin et al. (2024), the tourism industry prefers social media, particularly video posts, as opposed to text and links to other resources. Cao & Weerawardena (2023) and Sally et al. (2024) also pay attention to social media. Oklander et al. (2024) examine the most common digital marketing tools, including websites, SEO, PPC, email, and social media marketing, and investigate their effectiveness. For medium-sized businesses, the effectiveness of these tools is 70%, 60%, 65%, 50%, and 95%, respectively, and for small businesses, it is 65%, 50%, 45%, 45%, 100%. Interesting are studies of design in digital marketing, which affects the perception of content and sales. In studies by Capelli & Thomas 2021, the impact of ingredient images on implicit associations between taste and health was investigated. The Implicit Association Test (IAT) with 106 respondents shows the implicit intuition of tasty with health.

Therefore, we can conclude that businesses use a rather wide range of digital marketing tools. The more tools that are used, the greater the perception effect they can cause (Pan et al., 2022). The effect of omnichannels is also emphasized in studies by Jucevski et al. (2019) and Lee et al. (2019). Thus, we can conclude that enterprises use a wide range of digital marketing tools. Moreover, the more tools that are used, the greater the perception effect they can cause. In the article by Aktas & Akur (2022), the authors argued that engagement scores are closely related, indicating a synergistic effect rather than an isolated impact. This finding indicates that an integrated approach that considers these indicators as a single unit may be more useful in developing a Tataryntseva content strategy (2024), Tataryntseva et al. (2022), which implies that we should consider the selection of digital marketing tools in the aggregate and not single out one thing. Thus, a combination of traditional and nontraditional digital marketing tools is recommended.

2.2. *Analysis of research aimed at studying innovations in digital marketing*

In the research of Aktas & Akur (2022), the need to find new ways, ideas, and tools in digital marketing to avoid the “aging trap” is substantiated. As noted by Dwivedi & Poussey (2023) and Sanchez-Gutierrez (2019), marketing innovations represent a way to achieve legitimacy, viability, and growth for SMEs, which usually operate with limited resources in an uncertain and competitive environment. The research of a scientist from Ukraine, Babukh (2017), emphasized that, in Ukraine, there is a lack of innovation in the field of advertising, which is considered a component of innovative development and is dominant in the modern economy. Babukh (2017) introduces their own interpretation of the concept of “innovative marketing”, considering it not only as “activities aimed at developing and promoting market innovations—goods” but also as a similar activity in terms of marketing innovations—approaches. In other words, it is necessary to invent new ways and approaches to implement innovations in marketing activities. Therefore, we can conclude that it is necessary to use traditional digital marketing tools as basic tools and constantly experiment with new tools. The hypothesis of the study is that innovative digital marketing tools create greater emotional connections between the brand and customers, which increases the level of customer engagement and stimulates sales in the dairy industry.

It is also necessary to experiment with the search for and broadcast of values in advertising messages. Fanning (2021) emphasized the importance of building a brand or product reputation in the digital environment. This task is realized through the study of focus groups of the target audience to analyse which messages resonate and which values are more significant. Brand refreshment takes time and needs to be reviewed several times over the years to assess success.

The fact that the choice of tools should vary according to industry is reflected in the studies by Soares et al. (2021) and Koriuhin & Matveev (2024). Another significant factor in the choice of digital marketing tools is the differences in user preferences and values, which can be identified by segmenting and clustering the target audience. This approach is presented in the work of Oklander & Oklander (2017).

Many studies by Aljabari et al. (2024), AL-share et al. (2023), Paliwal & Chatradhi (2023), and Kumar et al. (2024) focus on the use of artificial intelligence (AI) in combination with digital marketing as an innovative tool. In addition, Aljabari et al. (2024) suggested that the use of AI allows not only the improvement of marketing strategies but also the innovation of the product itself. The use of AI in combination with chatbots

allows the provision of information support to customers and promotes new products in a more personalized way (Patel & Trivedi, 2020). The combined use of AI, IoT, and big data allows the personalization of digital content and increases customer loyalty (Rane, 2023; Peng & Chen, 2022). Much attention in the scientific literature is given to personalization in digital marketing. Interestingly, (Akter & Sultana, 2020; Ashraf et al., 2020) believe that digital marketing can become most useful not only for the seller but also for the buyer (Dey et al., 2019; Sanakuiev et al., 2023), who receives goods and services that best meet their needs. This is because innovative digital marketing tools allow the market to be analysed to identify the individual characteristics and desires of different target groups (Kuzyk et al., 2023). Shahid & Qureshi (2022) noted that with the increase in the amount of user-generated content available on the internet, power has been transferred from producers to consumers. Consumer empowerment is seen as a complex factor that contributes to the adoption of digital media, as it allows consumers to communicate and share opinions with others (Ida, 2020; Martínez-Domínguez & Mora-Rivera, 2020). Studies by (Rosid et al., 2019; Sun et al., 2023; Kopalle et al., 2022; Haleem et al., 2023) emphasized the importance of adapting to technological trends, highlighting the role of data analytics and the impact of artificial intelligence on marketing automation. Islam et al. (2024) noted that the use of AI allows us to achieve the creativity and uniqueness of the digital content necessary to stand out in a competitive market. On the other hand, studies by Kobets et al. (2024) and Polishchuk et al. (2024) advocate the idea of an inclusive audience for whom the use of innovations in digital marketing makes an even greater gap in their perception of reality.

It is also necessary to experiment with the search and broadcast of values in advertising messages. Fanning (2021) emphasized the importance of building a brand or product reputation in the digital environment. This task is realized through the study of focus groups of the target audience to analyse which messages resonate and which values are more significant. A brand refresh takes time and needs to be reviewed several times over the years to assess success. It is important to research not only values (Hurina et al., 2023) but also consumer emotions (Sheng et al. 2019). Modern digital marketing should be based on emotional intelligence (Martynenko et al. 2023).

The fact that the choice of tools should vary according to industry is reflected in the studies by Soares et al. (2021) and Koriuhin & Matveev (2024). Another significant factor in the choice of digital marketing tools is the differences in user preferences and values, which can be identified by segmenting and clustering the target audience. This approach is presented in Oklander & Oklander (2017).

2.3. Analysis of research on the cultural, economic and regulatory contexts of digital content reception

Different cultural, economic, and regulatory contexts have a significant effect on the effectiveness of digital marketing tools. For example, in countries with a high level of digital literacy and active use of social media, tools such as targeted advertising on Facebook or Instagram can be particularly effective. Moreover, in regions with limited internet access or low levels of trust in digital transactions, more traditional methods such as SMS marketing or advertising campaigns on local websites may be more important. Naglova et al. (2022) highlight how the impact of economic factors, such as the application of dairy quotas, has an overall negative impact on product promotion in the EU. Economic contexts, such as income levels, affect the types of products and services that can be successfully promoted through digital channels. Mishra & Shukla (2023) present a case study that reflects the economic context of content consumption. In 2019, the Indian government introduced measures to combat the COVID-19 pandemic, which created economic challenges for the dairy industry, which depends on the movement of people and vehicles to deliver products. Under quarantine, Gyan Dairy launched the Gyan Fresh app to integrate a home delivery business model, which has brought significant changes to the Indian dairy market and consumer behavior. The use of mobile marketing as an innovative tool was also discussed by Aslam et al. (2021) and Bhaiswar et al. (2021). Regulatory restrictions, such as data protection laws or restrictions on advertising certain categories of goods, also shape digital marketing strategies. Contextualizing research within the relevant theoretical framework allows us to understand why certain tools work better in some settings and worse in others and how they can be adapted to specific market conditions. This, in turn, helps to develop more effective and flexible approaches that consider the specifics of each individual market.

2.4. The aim of the article

To identify and analyse effective innovative digital marketing tools and to justify the feasibility of digital marketing costs on the basis of the analysis of financial statements. To achieve this goal, the following tasks are identified:

- to segment the target audience of dairy products;

- to develop recommendations on the use of innovative digital marketing tools on the basis of the analysis of the company's values and budget;
- to justify financial decisions concerning the possibility of using digital marketing tools.

3. Methodology and research methods. The study was based on the following scientific methods: deduction and induction, cluster analysis, and statistical analysis.

3.1. Target audience segmentation method

The segmentation of the target audience of dairy products was carried out via quantitative analysis, particularly cluster analysis. The cluster analysis was conducted via a hierarchy method to determine the optimal number of clusters, and the k-means method was used to more accurately distribute consumers between clusters, which ensured the formation of more homogeneous groups for further analysis. The main indicators used for clustering were the income level and age of the consumers. These indicators were chosen because they play important roles in consumer behavior and attitudes toward advertising campaigns.

The data were collected by interviewing 90 consumers, which allowed us to obtain a representative sample for further analysis. A two-stage clustering procedure was used. First, a hierarchical method was used to determine the optimal number of clusters on the basis of the analysis of dendrograms. This approach provides flexibility in determining the number of clusters and takes into account the hierarchical data structure. After the optimal number of clusters was determined, the k-means method was applied, which allows us to refine the centers of clusters and distribute consumers among them on the basis of minimizing intracluster variability. The use of both methods ensured a more accurate and reliable grouping of consumers, which allowed us to create personalized marketing strategies for each segment.

3.2. Methods of analysing user values

The analysis of the values of each consumer segment was based on a qualitative approach, which included the use of point-of-sale surveys and online questionnaires. The key preferences, values and motivations of consumers in each cluster were studied. The collected data were analysed via descriptive statistics and comparison methods, which allowed us to identify the specific needs of each segment.

To analyse the values of users in each identified cluster, a survey was conducted among 90 people who are consumers of dairy products. The sample was formed on the basis of an analysis of the opinions of consumers who regularly buy the products of the company under study. A random sampling method was used to ensure the representativeness of the data obtained. To collect the data, a questionnaire was developed to investigate possible customer values. The questionnaire included a number of questions that assessed various aspects of customer value, such as the importance of price, quality, brand, convenience, etc. Participants' responses were measured on a Likert scale, which allowed us to quantify each value. After the data were collected, the results were analysed via the statistical methods described in Statistica.13 This allowed us to identify which values are most important for each consumer segment and, accordingly, to develop more targeted recommendations for choosing innovative digital marketing tools for each segment. This analysis provided the basis for further development of recommendations for the use of innovative digital marketing tools adapted to the budgets and needs of each segment.

4. Results.

4.1. Segmentation of the target audience through cluster analysis

The study defines digital marketing as the entire range of marketing activities in the modern world on the basis of the transfer of digital content from the developer to the user Tataryntseva (2023). On the basis of the concept of impression marketing by Pine & Gilmore (1999), it is necessary to develop the direction of digital content, as well as to use new digital marketing tools that can cause impressions. This does not mean that standard tools such as websites and social networks should not be used. Instead, it is suggested that companies experiment with innovative tools together with traditional tools. It is considered reasonable to divide the target audience into segments and to justify innovative digital marketing tools for each. It is proposed to use cluster analysis to divide the audience. The article studies the audience of consumers of dairy products and determines their income and age through a survey. The cluster analysis was carried out in the program Statistica.13. First, we determined the number of clusters via the hierarchy method, which allowed us to identify 3 segments, and then, we used the k-means method (Fig. 1); the calculations are presented in Table 1.

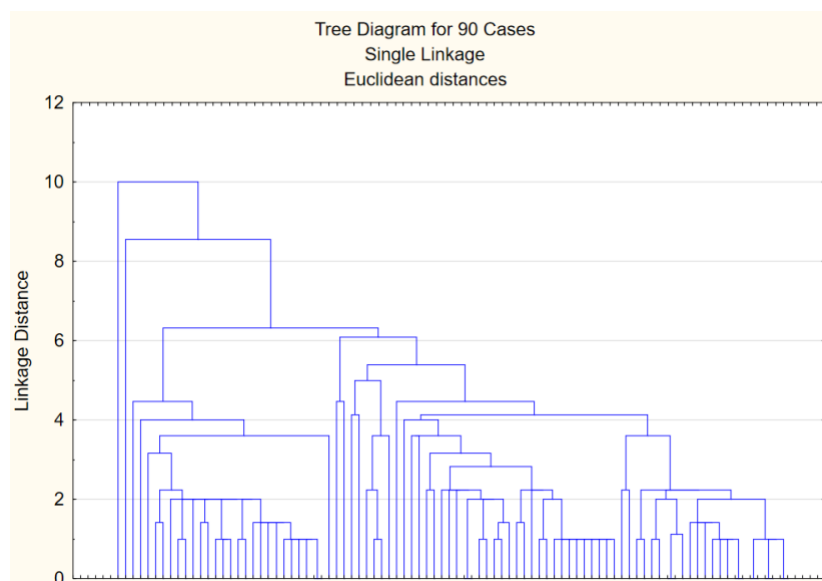


Figure 1. Cluster analysis of the consumer audience of “Molzavod No. 1” LLC
Sources: developed by the authors.

The results of the cluster analysis of the consumer audience of “Molzavod No. 1” LLC are presented in Table 1. According to the results of the analysis, 3 clusters were identified: students and young people (18–24 years old, income 5.000–8.000); family people (35–44 years old, income 15.000–20.000); and older consumers (45–85 years old, and older income 8.000–12.000).

Table 1. The results of the cluster analysis of the consumer audience of Molzavod No. 1 LLC

Parameter	Cluster1	Cluster 2	Cluster 3
Income	5.50	16.40	12.95
Age	67.12	39.96	22.78

Sources: developed by the authors.

The identified clusters are important for selecting appropriate innovative digital marketing tools. Cluster 1 – Youths oriented toward novelty and technology. This cluster consists mainly of young people aged 18–30 years who actively use digital technologies and tend to try new products. They value innovative and interactive approaches to marketing, such as virtual reality and gamification. Cluster 2 – Families with children. This cluster includes families that are looking for healthy and high-quality dairy products for their children. They are focused on long-term loyalty to brands that offer personalized marketing solutions that consider their family's needs and values. Cluster 3 – Older consumers. This cluster includes consumers aged 45–85 years and older who value consistent product quality and brand reliability. They are inclined to traditional marketing approaches but are open to innovations that emphasize a healthy lifestyle and the usability of products. These clusters are statistically significant, with a p value of less than 0.05, which confirms the reliability of the segmentation.

The results of the cluster analysis confirm the hypothesis about the importance of target audience segmentation and the use of innovative digital marketing tools. This is because each group has specific values and ways of responding to the use of innovative digital marketing tools. These results indicate the need to adapt innovative digital marketing tools in accordance with the values of different segments, which will allow dairy enterprises to remain competitive and increase sales.

4.2. Recommendations concerning the use of innovative digital marketing tools on the basis of an analysis of a company's values and budget

Let us consider a more detailed description of innovative tools. For the segment of family people aged 35–44 with an income of 15,000–20,000 hryvnias, the main emphasis is on innovative tools that promote a healthy lifestyle and ensure comfortable information consumption. Content from professional bloggers, podcasts with experts and expert video recipes provides useful information on cooking and healthy eating. Interactive culinary workshops involve family couples in active participation, which makes the learning

process interesting and exciting. Chatbots provide instant support, whereas virtual tours and 3D models allow you to familiarize yourself with the products before you buy them. Local farmer markets support local producers, and interactive online health courses help families better understand the benefits of dairy products. Cooperation with the organizers of fitness events demonstrates the importance of dairy products in a healthy lifestyle.

Older consumers aged 45--85 with an income of 8,000--12,000 hryvnias value access to expert information and ease of use. Podcasts with doctors and nutritionists, e-books with recipes for elderly people and video tutorials for older users provide them with the information they need in a convenient way. Chatbots and the Internet of Things (IoT) are helping older people monitor their diet and dairy consumption. Online platforms for sharing experiences create a sense of support and allow you to share advice. The organization of online webinars with nutritionists provides access to expert advice, and thematic events for retirees promote socialization and exchange of information among older people. Interactive surveys and quizzes help determine consumer preferences and provide them with an interactive experience.

Students and young people aged 18--24 with incomes of 5,000--8,000 hryvnias are active users of social networks and digital technologies. They are actively involved in creating content and sharing information. Consumer-generated content, the use of memes in advertising, and interactive ad filters on social media capture their attention and help spread brand awareness. Thematic online games and interactive videos provide an immersive experience, whereas streaming video content services allows a youth audience to be reached through popular platforms. Special events for students and contests in messengers stimulate them to actively interact and buy products. AR filters on social networks make interactions with brands interesting and modern, helping attract a young audience. On the basis of personal interviews with representatives of the target audience, recommendations were developed for the selection of innovative digital marketing tools, taking into account the values of the target audience segment (Table 2). Older consumers, although less active in the digital environment, respond positively to personalized marketing solutions.

Table 2. Recommendations for choosing innovative digital marketing tools, taking into account the values of target audience segments

Values:	Characteristics and selection of relevant innovative digital marketing tools
Segment 1: Family people (35-44 years old)	
Health and well-being	Healthy lifestyle and quality food. Podcasts with experts, expert video recipes, and interactive cooking workshops provide useful information about healthy eating and the use of dairy products in everyday life.
Comfort and convenience	Interactive tools such as virtual tours and 3D models, chatbots, and marketplaces for local farmers make the process of choosing and buying dairy products more convenient.
Support of local producers	Marketplaces for local farmers allow you to buy products from local producers, which is important for those who value supporting the local economy.
Active lifestyle	Cooperation with the organizers of fitness events helps to demonstrate the importance of dairy products in a healthy lifestyle.
Segment 2: Older users (45-60 years old)	
Health and well-being	Podcasts with doctors and nutritionists, webinars with nutritionists, and e-books with recipes provide useful and proven information.
Simplicity and convenience	Simple tools like video tutorials, chatbots, and the Internet of Things (IoT) that help track product consumption and get useful information.
Socialization and support	Online sharing platforms create a sense of community where older consumers can share recipes and advice. Thematic events for pensioners promote socialization.
Knowledge and education	Interactive surveys and quizzes help consumers better understand their preferences and make informed choices.
Segment 3: Students and young people (18-24 years old)	
Modern technologies and interactivity	Interactive tools such as AR filters on social networks, interactive videos, and themed online games meet their expectations for modern and interesting ways to interact with the brand.
Social recognition and participation	Young consumers appreciate being part of a community and creating their own content. Consumer-generated content, the use of memes in advertising, and contests in messengers contribute to their engagement
Availability and economy	Young people often have limited budgets, so special events for students and streaming video content services allow them to receive information and benefits without significant costs.
Fun and excitement	Interactive advertising filters, themed online games, and video content streaming services provide young people with entertaining and exciting ways to interact with the brand.

Sources: developed by the authors.

The recommendations in Table 2 allow you to choose innovative marketing tools that consider the values of the audience.

For the presented segments of the target audience, it is considered appropriate to distribute the presented tools of innovative digital marketing, taking into account the available budget. To do this, they are divided according to their characteristics: cheap, medium, expensive tools of innovative marketing (Table 3).

Table 3. Digital marketing formats for “Molzavod No. 1” LLC

Segment	Cheap tools	Medium tools	Expensive tools
Family people (35-44 years old, income 15.000 – 20.000)	Content from professional bloggers, Podcasts with experts, Expert video recipes, Surveys and quizzes, Chatbots.	Interactive videos, Interactive culinary workshops, Personalized recommendations, Interactive infographics.	Marketplaces for local farmers, Interactive online courses on healthy eating, Cooperation with organizers of fitness events, Virtual tours and 3D models.
Older users (45-60 years old, income 8.000 – 12.000)	Podcasts with doctors and nutritionists, eBooks with recipes for seniors, Chatbots, Surveys and quizzes	Interactive infographics, Video tutorials for senior users, Personalized recommendations, Virtual tours and 3D models.	Online platforms for sharing experiences, Internet of Things (IoT) in everyday life, Organization of online webinars with nutritionists, Organization of thematic events for pensioners, Product designers.
Students and young people (18-24 years old, income 5.000 – 8.000)	Consumer-generated content, Use of memes in advertising, Surveys and quizzes, Chatbots	Games, Interactive advertising filters in social networks, Thematic online games, Streaming services of video content, Interactive videos.	AR-filters in social networks, Special events for students, Contests and promotions in messengers, Virtual tours and 3D models.

Sources: developed by the authors.

4.3. Justification of financial decisions regarding the possibility of using digital marketing tools

The next question that managers face when choosing digital marketing tools is cost effectiveness. It is proposed to justify financial decisions regarding the possibility of using digital marketing tools on the basis of the analysis of financial statements via the following ratios. This approach allows the objective assessment of the financial condition of the enterprise, its ability to cover current obligations, the level of financial stability and the efficiency of resource use. Using such indicators will help make more informed and effective decisions about investing in digital marketing, reduce financial risk and increase the chances of successful implementation of marketing strategies.

We highlight the key factors that we consider necessary to analyse to make informed management decisions regarding the feasibility of spending on digital marketing, particularly the use of innovative tools. The main coefficients for analysis are as follows:

1) liquidity ratios (the current liquidity ratio allows one to determine whether the company has enough current assets to cover its current liabilities; the quick liquidity ratio assesses the company's ability to meet short-term obligations without considering reserves). An analysis of liquidity ratios allows one to understand whether a company has enough current assets to cover its short-term obligations. This is important for determining the possibility of making additional investments in digital marketing without the risk of solvency loss.

2) coefficients of financial stability (the coefficient of autonomy represents the share of equity capital in total assets, which indicates the financial independence of the enterprise; the coefficient of financial dependence represents the level of dependence of the enterprise on external sources of financing). The coefficients of autonomy and financial dependence help to assess the level of financial stability of the enterprise and its dependence on external sources of financing. A financially stable enterprise has more opportunities to invest, particularly in digital marketing;

3) profitability ratios (return on assets (ROA) – measures the efficiency of using assets to generate profit; return on equity (ROE) – evaluates the profitability of the enterprise's equity capital. Profitability ratios (ROA and ROE) show the efficiency of using assets and equity capital. An enterprise with high profitability has better opportunities for investment because it generates enough profit.

4) Other financial indicators (net working capital—the difference between current assets and current liabilities, which reflects the availability of funds for operational activities; interest coverage ratio (if applicable)—evaluate the ability of the enterprise to cover interest expenses at the expense of operating profit. Net working capital and the interest coverage ratio (if applicable) provide additional information about the ability of the enterprise to support its operation activity and cover costs at the expense of its profits.

By analysing these ratios, a company can assess its financial capabilities and make decisions concerning investing in innovative digital marketing tools. This helps increase competitiveness, attract new customers

and increase profits while maintaining financial stability and minimizing risks. The initial data for calculating financial ratios are presented in Table 4. Financial ratios were analysed on the basis of the company's financial statements for 2023, which are publicly available.

Table 4. Initial data for calculating financial ratios for “Molzavod No. 1” LLC for 2023

Indicator	Value at the end of the period, thousand UAH
Current assets	73 853.00
Current liabilities	77 101.60
Reserves	15 799.30
Equity	21 174.40
Total assets	106 083.30
General obligations	84 908.90
Net profit	9 591.70

Sources: developed by the authors.

The results of the financial justification of the feasibility of using innovative tools of “Molzavod No. 1” (Kryvyi Rih) are presented in Table 4. In Table 5, the financial indicators of “Molzavod No. 1” LLC for 2023 were calculated.

Table 5. Analysis of financial ratios of “Molzavod No. 1” LLC for 2023

Indicator	Formula	Norm	Value at End of Period, '000 UAH
Current Ratio	Current Assets/Current Liabilities	≥ 1.0	73853.00/77101.60=0.96
Quick Ratio	(Current Assets–Inventories)/ Current Liabilities	≥ 1.0	(73853.00–15799.30)/77101.60=0.75
Equity Ratio	Equity/Total Assets	≥ 0.5	21174.40/106083.30=0.20
Debt to Equity Ratio	Total Liabilities/Equity	≤ 1.0	84908.90/21174.40=4.01
Return on Assets (ROA)	Net Profit/Total Assets	$\geq 5\%$	9591.70/106083.30=0.09, 9%
Return on Equity (ROE)	Net Profit/Equity	$\geq 10\%$	9591.70/21174.40=0.45, 45%
Net Working Capital	Current Assets–Current Liabilities	-	73853.00–77101.60=–3248.60

Sources: developed by the authors.

Let us consider conclusions regarding the feasibility of spending on digital marketing. Current liquidity ratio (0.96). The enterprise does not have enough current assets to cover its current liabilities since the optimal value is considered to be a ratio equal to or greater than 1.0. This finding indicates that spending on digital marketing may not be worthwhile unless there is a clear strategy that can quickly increase current assets.

- Quick liquidity ratio (0.75). Even when inventories are excluded, enterprises do not have enough liquid assets to cover their current liabilities. This indicates potential problems with short-term liquidity. Spending on digital marketing can be worthwhile if it can generate additional revenue quickly by improving this indicator.

- Coefficient of autonomy (0.20). Only 20% of assets are financed by equity, which indicates a high dependence on external sources of financing. Given this indicator, spending on digital marketing can be worthwhile if it helps to increase profitability and reduce reliance on external funding sources.

- Coefficient of financial dependence (4.01). For each unit of equity, there are 4.01 units of liabilities, which indicates a high level of financial risk. In such a situation, spending on digital marketing may not be advisable without a detailed analysis of the potential return on investment, as it may further increase financial risk.

- Return on assets (9%). The company generates a 9% return on each unit of assets, which indicates the efficiency of the use of assets. Spending on digital marketing can be worthwhile because it can improve return on assets through increased revenue.

- Return on equity (45%). A high return on equity indicates the effective use of equity to generate profit. Investing in digital marketing can be worthwhile as it can increase this figure, providing an even higher return on investment.

- Net working capital (-3 248.60 thousand UAH). A negative value of net working capital indicates that current liabilities exceed current assets, which may indicate possible liquidity difficulties. Spending on digital marketing may not be worthwhile unless it can quickly improve a company's liquidity.

Considering the above indicators, the enterprise is in a difficult financial situation from the point of view of liquidity and financial independence. However, high returns on assets and equity indicate potential for growth. Spending on digital marketing can be worthwhile with careful planning and forecasting of results that will help quickly increase profits and improve financial indicators.

5. Discussion of research results. This study revealed that the use of innovative digital marketing tools can significantly increase customer engagement and drive sales in the dairy industry. The cluster analysis identified three main consumer segments, namely, young technocrats, family shoppers, and older consumers, each of which has its own unique values and marketing requirements. Financial analysis has shown that investments in digital marketing can be cost effective, especially with the right combination of traditional and innovative tools. The results of our study confirm the conclusions of previous works that digital marketing is an effective tool for attracting customers and increasing sales in the dairy industry. Jiang & Yukio (2024) and Soares et al. (2021) emphasize the importance of using influencers and social media in product promotion, which correlates with our findings on the effectiveness of innovative tools for creating an emotional connection with customers. However, our study places a new emphasis on the importance of innovation in digital marketing, which can enhance the effectiveness of even traditional tools. This corresponds to Babukh (2017) and Aktas & Akur (2022), who emphasize the need to avoid the “obsolescence trap” by using new approaches in marketing strategies.

In addition, the results of our cluster analysis, which identified three consumer segments, are consistent with the segmentation and clustering approaches developed by Oklander & Oklander (2017). The unexpected discovery about the positive response of older consumers to personalized solutions indicates that innovative tools can be effectively adapted to different demographic groups, which confirms the importance of a flexible approach, as noted in Chen & Liu (2024) and Pan et al. (2022).

In general, our study confirms the importance of integrating traditional and innovative digital marketing tools, which is supported by Koriuhin & Matveev (2024) and Aljabari et al. (2024). It is important to consider the specifics of the industry and target audience to achieve the maximum effect, as reflected in numerous studies of digital marketing.

Unexpectedly, it was found that older consumers, although less active in the digital environment, respond positively to personalized marketing solutions. This finding indicates that even traditional marketing segments can be engaged with innovative approaches if they are adapted to specific consumer needs. This finding has important meaning for digital marketing strategies, as it demonstrates the need for a flexible approach to different demographic groups.

The main conclusions of this study highlight that innovative digital marketing tools are key for improving the competitiveness of the dairy industry. The use of innovative digital marketing tools allows one to create emotional connections with customers, which contributes to the growth of sales. The results show that even traditional consumer segments can respond positively to innovative approaches if they are adapted to their needs. This research has important implications for the development of marketing strategies in the dairy industry and can be used to improve digital marketing practices in other industries.

6. Conclusions. The conducted research made it possible to achieve significant results in three main directions. First, the segmentation of the target audience for dairy products revealed key segments that have distinct values according to audience age and income level. The use of cluster analysis made it possible to identify three main groups of consumers: youth, middle-aged and older consumers. By using cluster analysis, we identified three main consumer groups: young, middle-aged and older. According to the survey, 25% of the respondents were young people under the age of 30, 45% were middle-aged people (31–50 years old), and 30% were older consumers (51+ years old). This segmentation allows dairy companies to better adapt their choice of innovative digital marketing tools to the specific characteristics and values of each group.

Second, the analysis of the enterprise's values and budget emphasizes the need to use innovative digital marketing tools to increase the effectiveness of dairy product promotion. Appropriate innovative digital marketing tools for each segment were substantiated. For example, for a young audience with an average income, the use of interactive content on social networks is recommended, whereas for families with a high income, personalized marketing solutions and virtual tours are recommended. A classification of innovative digital marketing tools was carried out according to the cost of their use, which allows enterprises to choose the most effective tools according to their budget. This allows companies not only to increase brand recognition but also to respond effectively to the individual needs of different audience segments.

Third, the financial analysis confirmed that digital marketing costs can be justified, but their feasibility depends on implementation conditions and specific business strategies. Importantly, investments in innovative

tools should correspond to the size and budget of the enterprise and be consistent with the overall development strategy. For example, according to estimates, enterprises that have invested in integrated marketing campaigns, particularly traditional and innovative tools, have received a 15–25% increase in sales compared with those that have been limited only to traditional methods.

Recommendations for companies include the implementation of integrated marketing campaigns that combine traditional and innovative tools and constant monitoring of cost effectiveness to adjust strategies in real time. Policy consequences and limitations of the study. The results of the study highlight the importance of adapting digital marketing to local conditions and cultural characteristics. Limitations may be related to the availability and effectiveness of new technologies in different regions. Further research can focus on a deeper analysis of the influence of cultural and economic factors on the effectiveness of marketing strategies and on the development of practical recommendations for different regional contexts.

Further directions of research. Research in the direction of a deeper analysis of the impact of innovative tools on different segments of the target audience and their economic results is recommended. Research in the field of the effectiveness of investments in digital marketing, taking into account the cultural and economic characteristics of different regions, is also important

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Фінансове обґрунтування застосування інноваційних інструментів цифрового маркетингу вражень в молочній галузі**Юлія Татаринцева**, Національний технічний університет «Харківський політехнічний інститут», Україна**Олександр Манойленко**, Національний технічний університет «Харківський політехнічний інститут», Україна**Наталія Шматько**, Національний технічний університет «Харківський політехнічний інститут», Україна

У науковій статті представлено комплексне дослідження, спрямоване на аналіз впливу інноваційних інструментів цифрового маркетингу на просування продукції молочної галузі. Актуальність роботи обумовлена постійною динамікою цифрового середовища та необхідністю підприємств пристосовуватися до нових тенденцій розвитку маркетингу. Отримані в ході дослідження результати можуть стати важливим інструментом для розвитку маркетингових стратегій підприємств молочної галузі та сприяти їх успішному конкуруванню на ринку. Основною метою дослідження є виявлення та аналіз ефективних інноваційних інструментів цифрового маркетингу, а також обґрунтування доцільності витрат на цифровий маркетинг на основі аналізу фінансової звітності. Об'єктом дослідження є цифровий маркетинг підприємств молочної галузі. Методологія дослідження базується на використанні різноманітних аналітичних і методологічних підходів, зокрема, проведенні кластерного аналізу цільової аудиторії, а також аналізу фінансових коефіцієнтів. Одним з ключових етапів дослідження було проведення кластерного аналізу цільової аудиторії, що дозволило ідентифікувати різні сегменти споживачів з різними потребами, цінностями та способами сприйняття рекламної інформації. На основі отриманих результатів були згруповані індивідуалізовані інструменти інноваційного цифрового маркетингу для кожного з цих сегментів, спрямовані на максимальне задоволення їх цінностей. Крім того, у статті розглядаються інноваційні інструменти цифрового маркетингу, які можуть бути успішно використані в молочній галузі з метою підвищення обсягів продажів та покращення сприйняття бренду споживачами. Серед таких інструментів варто відзначити використання віртуальної реальності для створення імерсійних рекламних кампаній, персоналізовані маркетингові рішення на основі аналізу даних, а також інтерактивні контентуальні формати для залучення уваги споживачів. Використання інноваційних інструментів цифрового маркетингу є одним зі шляхів впровадження концепції маркетингу вражень, який ставить на меті створення глибокого емоційного зв'язку між брендом та споживачем. Застосування таких інструментів дозволяє забезпечити споживачам не просто покупку товару, а цілий комплекс позитивних емоцій та вражень, що, в свою чергу, підвищує лояльність до бренду та сприяє його поширенню. У роботі зроблено фінансове обґрунтування доцільності витрат на цифровий маркетинг на основі аналізу фінансової звітності підприємства та формування системи фінансових коефіцієнтів для прийняття управлінських рішень.

Ключові слова: онлайн просування продукту, кластерний аналіз, інноваційні інструменти цифрового маркетингу, цільова аудиторія, аналіз витрат, управління.