

## COMPETITIVENESS ASSESMENT OF TONIK DRINKS LABELING

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**Abstract:** Labeling of alcoholic-free tonic beverages (AFTB) is an important element in the quality indicators system. Not all manufacturers, unfortunately, provide reliable information regarding the possible adverse effects of its use, or even hide data on low-quality products. There is a need for high-quality information AFTB support in the form of properly designed labeling, which facilitates the buyer

**Keywords:** label consumer; criterion; economic; product popularity.

**INTRODUCTION.**

Corward, as daily and excessive consumption can lead to undesirable effects such as tachycardia, elevated blood pressure, hyperglycemia, sleep disturbances, and more. To ensure that consumers are informed about all the components of the product and can anticipate negative consequences from uncontrolled consumption, labeling must contain all necessary information. In this case, the labeling of tonic beverages is a crucial element in the system of quality indicators.

There is also a pressing issue regarding the readability of tonic beverage labeling and the quality of its execution. Furthermore, not all beverage manufacturers provide accurate information about the potential adverse effects of excessive consumption, and some may obscure information about inadequate quality. This highlights the need for effective informational support for tonic beverages in the form of well-designed labeling. An accessible and easily readable label will significantly facilitate the buyer's choice, allowing them to understand not only the product's composition and expiration date but also the recommended consumption norms and contraindications.

The demands of modern consumers compel manufacturers to expand the product range of food items, including tonic beverages, which creates a high level of competition in this segment of the food market. One of the key criteria for competitiveness is product labeling, which must

also meet the requirements of the market as a whole and those of consumers in particular. In light of the above, an assessment of the competitiveness of the labeling of tonic beverages sold in the city of Kemerovo was conducted. The objective of the study is to evaluate the competitiveness of the labeling of tonic beverages available in the Kemerovo market.

**MATERIALS AND METHODES.** In the course of the study, the following methods were employed: visual inspection of product packaging, registration method, expert assessment method (for determining weighting coefficients), and calculation method. The object of the research is the labeling of samples of non-alcoholic tonic (energy) carbonated beverages (NBT). Several samples of NBT were selected for comparison (see Table 1). Results of the Research and Discussion. To assess the competitiveness of the labeling, an evaluation algorithm was developed at the initial stage (see Figure 1).

**Table 1. Comparison Base of the Non-Alcoholic Tonic Beverages**

Samples of NBT	Manufacturer	Manufacturer's Address
Drive	LLC "PepsiCo Holdings"	141580, Russia, Moscow Region, Solnechnogorsk District, Sherlison Free Economic Zone, Building 1
Tornado Energy Ice	LLC 'DAL'	442310, Russia, Penza Region, Gorodishchensky District, City of Gorodishche, Oleg Koshevogo St., 8
E-ON Citrus Punch	LLC 'DAL'	442310, Russia, Penza Region, Gorodishchensky District, City of Gorodishche, Oleg Koshevogo St., 8
Adrenaline Rush	Branch LLC "PepsiCo Holdings"	142000, Russia, Moscow Region, City of Domodedovo, Northern Microdistrict, Logistic St., 117
Gorilla	CJSC 'MPK'	141006, Moscow Region, City of Mytishchi, Volkovskoye Highway, VLD 12, Building 1
Flash up	LLC 'Baltika Brewery Company'	194292, Russia, Saint Petersburg, 6th Verkhny Lane, 3

Fig. 1. Competitiveness Assessment Algorithm of Labeling the Alcoholic-Free Tonic Beverages Samples

To establish the presence of mandatory (basic) information displayed on the packaging of energy drinks, GOST R 51074-2003 "Food Products. Information for the Consumer. General Requirements" and GOST R 52844-2007 "Non-Alcoholic Tonic Drinks. General Technical Conditions" were used. If the informational content of the labeling of energy drinks does not comply with the requirements of the regulatory documentation (RD), their labeling cannot participate in further assessment of the competitiveness of energy drinks, as such products should not be available for sale. The detailing of the score depends on the availability of additional information about the product's safety.

The following analysis results were obtained:

If you need further assistance or additional translations, feel free to ask!- **Drive** – fully complies with the requirements of the regulatory documentation regarding informational content (5 points);

- **Tornado Energy Ice** – fully complies (5 points);
- **E-ON Citrus Punch** – fully complies (5 points);
- **Adrenaline Rush** – fully complies (5 points);
- **Gorilla** – fully complies (5 points);
- **Flash Up** – fully complies (5 points).

The next analysis will focus on evaluating the labeling based on consumer criteria according to the scale of individual consumer criteria presented in Table 2

The Results of the Evaluation of NBT Labeling Based on Consumer Criteria Are Presented in Table 3.

Next, the labeling was assessed according to group consumer criteria, taking into account the weighting coefficients determined through expert assessments via ranking in previous studies, specifically for the criterion "Product Awareness" (see Table 4). According to the results of the evaluation of labeling based on group consumer criteria, the highest score (19.5 points) was awarded to the labeling of the NBT Drive, while the lowest score (16.8 points) was given to Flash Up (see Table 5). For further evaluation, the reference sample was determined to be the labeling of the Drive beverage, as it received the maximum number of points.

The individual consumer criteria for the beverage  $g_i$  were calculated as the ratio of the value of the  $i$ -th indicator of the analyzed NBT to the value of the  $i$ -th indicator of the reference

sample labeling. The results of the calculation of the individual consumer criteria are presented in Table 2

Criteria	Образцы НБТ						
	DriveEnergy	Citrus	Gorilla	IcePunch	Tornado	E-ON	
					Adrenaline	Flash	
							Rushup
1. Properties of Designation							
The availability of information includes:							
- Basic Information: In accordance with regulatory requirements.	5,0	5,0	5,0	5,0	5,0	5,0	
- Safety Information: Details regarding the safety of the product.							
Duplicating	4,0	2,0	4,0	3,0	4,0	4,0	
Additional	4,0	2,0	4,0	3,0	4,0	5,0	
Informational Unambiguity	5,0	5,0	5,0	5,0	5,0	5,0	
Average Score by Group	4,5	3,5	4,5	4,0	4,5	4,8	
2. Properties of Reliability							
Labeling Retention	5,0	5,0	5,0	5,0	5,0	4,0	
Average Score for the Group	5,0	5,0	5,0	5,0	5,0	4,0	
3. Ergonomic Properties							
Accessibility of Labeling Location	5,0	5,0	5,0	5,0	5,0	5,0	
Perception of Labeling (Background Color, Font) [12]	5,0	5,0	4,0	5,0	5,0	5,0	
Font Size [2]	5,0	4,0	3,0	4,0	4,0	2,0	
Average Score for the Group	5,0	4,7	4,0	4,7	4,7	4,0	

**Table 3. Labeling Assessment Results of the Alcoholic-Free Tonic Beverages According to the Consumer Criteria, Score**

The analysis of the results showed that all samples of energy drinks regarding labeling are non-competitive according to consumer criteria compared to the reference sample, as the values of the comprehensive consumer criterion are below the reference sample and, consequently, below 1.000. This indicates certain features in the design of the labeling that make them popular and recognizable. The highest score was awarded to the labeling of the Gorilla sample (0.977 points), while the lowest was for the Tornado Energy Ice labeling (0.889 points). The criterion of "product recognition" based on group consumer criteria was calculated as the ratio of the analyzed energy drink in terms of its labeling to the sample accepted as a reference. The results are presented in. As shown in the data presented in Table 8, the samples of energy drinks Tornado Energy Ice and Flash Up are competitive based on the "product recognition" indicator, as their evaluation results exceed that of the reference sample, thus being greater than 1.000. The Gorilla energy drink sample received the lowest score of 0.750 points, classifying it as a non-competitive product in terms of "product recognition."

The weighting coefficients were established using an expert method through ranking the results of previous studies. Calculations of individual and comprehensive economic criteria were conducted considering the proposed weighting coefficients. For evaluating this indicator, an inverse relationship is used (compared to the assessment of product competitiveness). Thus, the sample that scores the maximum points will be considered the best. The obtained value of the reference product is divided by the score of the product being evaluated. A labeling is deemed competitive based on the economic indicator if it receives a score greater than 1.000, i.e., surpassing the result of the reference sample. Based on the results obtained, the following labeling samples are established as non-competitive according to the economic indicator: Adrenaline Rush (1.048 points), E-ON Citrus Punch (1.167 points), and Flash Up (1.670 points); their results are above that of the reference sample (indicating poorer performance according to this assessment). The scores for the remaining samples are 1.000, meaning they are equal to the result of the reference sample. The labeling samples of the non-alcoholic energy drinks Tornado Energy Ice and Adrenaline Rush were assigned a 1st class of competitiveness. These samples received average results when assessed against consumer criteria, primarily due to low scores in the following areas:

- a) Availability of duplicating and additional information (in both samples);
- b) Quality of design (in Adrenaline Rush).

Nonetheless, the labeling of these samples exhibits a high level of competitiveness within the compared base. It satisfies all informational requests and consumer requirements, characterizing the energy drink samples as competitive according to the labeling criterion.

Labeling of this level can be utilized in further assessments of the product's competitiveness if it serves as an evaluation criterion. In this case, the maximum score for this criterion should be established based on the relevant scale.

2. The sample of the drink Drive was assigned a 2nd class of competitiveness. In this study, this sample served as the reference sample based on the evaluation of consumer criteria. However, in further assessments, the results of the two previous samples exceeded 1.00. The labeling can also be used in evaluating the competitiveness of the product itself if it serves as an evaluation criterion. Based on the relevant scale for this criterion, a score equal to 75% of the maximum possible should be established.

a) The labeling samples of the drinks E-ON Citrus Punch, Gorilla, and Flash Up were assigned a 4th class of competitiveness. The labeling of products in this class demonstrates a low level of competitiveness, primarily due to significant deficiencies in its execution, namely:

- b) Presence of duplicating information (in all samples);
- c) Presence of additional information (advertising) (in the E-ON Citrus Punch and Gorilla samples);
- d) Poor labeling retention (in the Flash Up sample);
- e) Unreadable font size (in all samples, with the lowest score in the Flash Up sample);
- f) Insufficient quality of design (in all samples, with the lowest score in the E-ON Citrus Punch sample).

According to the economic criterion, these samples received minimal scores, characterizing them as non-competitive in this parameter. The labeling in this class can be considered non-competitive within the compared base, as its execution is of poor quality and does not provide consumers with the necessary information about the product; furthermore, it fails to meet the requirements of regulatory documentation regarding readability.

If the labeling of these samples is intended to be used as a criterion for assessing the competitiveness of the drinks, it should be evaluated only within the framework of 25% of the maximum possible score according to the scale. However, a rational recommendation would be to address the identified deficiencies and conduct a re-evaluation according to this methodology or to develop a new template that takes the shortcomings into account.

At the final stage, the following recommendations can be formulated:

1) *for the sample Tornado Energy Ice:*

- Reduce the amount of duplicating information and the frequency of its repetition in the labeling;
- Decrease the area of the labeling occupied by additional information;

2) *for the sample Adrenaline Rush:*

- Reduce the amount of duplicating information and the frequency of its repetition in the labeling.
- Decrease the area of the labeling occupied by additional information.
- Improve the quality of the labeling by using illustrations or graphic elements, along with an original combination of colors to create product distinction.

3) *for the sample E-ON Citrus Punch u Gorilla:*

- Reduce the amount of duplicating information and the frequency of its repetition in the labeling.
- Decrease the area of the labeling occupied by additional information.
- Increase the font size to 1.5 mm to ensure the readability of the labeling.
- Improve the quality of the labeling by using illustrations, graphic elements, and an original combination of colors to create product distinction.

4) *for the sample Flash up:*

- Reduce the amount of duplicating information and the frequency of its repetition in the labeling.
- Decrease the area of the labeling occupied by additional information.
- Increase the font size to 1.5 mm to ensure the readability of the labeling.
- Improve the quality of the labeling by using illustrations, graphic elements, and an original combination of colors to create product distinction.
- Consider the possibility of using a different labeling medium with greater durability, as well as a more effective method for affixing the label.

### Conclusion

The conducted assessment of the competitiveness of the labeling for non-alcoholic energy drinks has identified deficiencies in its execution and their underlying causes. The class of competitiveness for the labeling has been established, which allows for a comprehensive

evaluation of the product's competitiveness by considering all aspects of labeling quality—from the completeness of informational content to the quality of execution in terms of readability and accessibility. The conditions for converting the class of competitiveness into points enable an objective assessment of the labeling's competitiveness when it serves as a criterion for evaluating the product.

### References

1. Котова Т.В., Петрик Н.А., Позняковский В.М. Анализ состояния и перспективы развития рынка энергетических напитков // Хранение и переработка сельхозсырья. 2014. № 9. С. 5–9.
2. Донскова Л.А., Беляев Н.М. Актуальные вопросы современной юриспруденции в области обеспечения качества и безопасности продовольственных товаров // Экономика, право и образование в условиях риска и неопределенности: тенденции и перспективы развития: материалы Междунар. науч.-практ. конф. (Нижний Тагил, 26 февраля 2016 г.) / Урал. гос. экон. ун-т. Екатеринбург, 2016. С. 61–67.
3. Голуб О.В., Тиндетникова Н.Н. Производственная маркировка соусов овощных // Вестник Сибирского университета потребительской кооперации. 2018. № 2 (24). С. 96–103.
4. Зверкова Т.В. Роль товарной информации в обеспечении качества и безопасности товаров // Инновации в пищевой биотехнологии: сборник тезисов VII Междунар. науч. конф. студентов, аспирантов и молодых ученых (Кемерово, 13–17 мая 2019 г.). Кемерово, 2019. С. 418–419.
5. Тихонова О.Ю., Резниченко И.Ю. Практическое применение алгоритма оценки конкурентоспособности маркировки пищевых продуктов // Товаровед продовольственных товаров. 2014. № 3. С. 61–67.
6. Токранова Л.А. Влияние маркировки на конкурентоспособность товара // Современные проблемы и тенденции развития АПК региона: Краевая студенческая науч.-практ. конф., посвященная 85-летию основания Пермской ГСХА и 150-летию со дня рождения акад. Д.Н. Прянишникова (Пермь, 25 ноября 2015 г.). Пермь, 2015. С. 439–441.

7. Егорова Е.Ю. Особенности требований к маркировке пищевых продуктов с включением нетрадиционного биологически ценного сырья // Ползуновский вестник. 2016. № 1. С. 16–19.
8. Food allergies and perceptions towards food allergen labelling in Mauritius. Nabiilah Bibi Soogali, Jan Mei Soon. – Food Control, Volume 93, November 2018. Pp. 144–149.