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SOCIOMETRIC ASSESSMENT OF BRANDS OF MINERAL WATER

Сьогодні в умовах насиченої конкуренції та динамічного розвитку ринку бренди відіграють головну роль у сталому розвитку підприємства. Саме стратегічне управління брендом забезпечує захищеність, конкурентоспроможність, зміцнює позиції продукту у свідомості споживача, полегшує просування нових продуктів та завойовує нові ніші на ринку, формує довіру партнерів, забезпечує доступ підприємства до людських, фінансових, інформаційних та інших ресурсів, та знижує чутливість споживчої аудиторії до цінового фактору. Особливо важливим стає питання щодо брендів на ринку мінеральної води, де одним з найбільш проблемних місць, в умовах насиченої конкуренції, є представлення комплексних досліджень, виокремлення основних продовольчих потреб та особливостей споживання саме цього продукту. Тому об'єктом даного дослідження є процес соціометричної оцінки брендів мінеральної води.

Проведено соціометричний аналіз брендів поряд з кількісними показниками, що виступають найважливішими якісними критеріями оцінки брендів. Запропоновано методичний підхід щодо соціометричної оцінки брендів на ринку мінеральної води, визначено соціометричний статус та силу брендів на основі оцінки вагомості їх індивідуальних атрибутів. Представлений рейтинг брендів дозволяє виокремити фактори, які впливають на вибір споживчої аудиторії того чи іншого бренду мінеральної води. Проведено соціометричне опитування, сформовано соціометричну матрицю та карту брендів. Результати аналізу соціометричної оцінки дозволили виявити основні тенденції споживання мінеральної води, виокремити перспективи розвитку стратегії бренд-лідера на ринку за рахунок впровадження інноваційних технологій, мотивації та підвищення кваліфікації персоналу, а також розробки програм з ефективного управління брендом та виокремлення головних переваг бренду.

Перспективами подальшого дослідження є моніторинг та аудит українського ринку мінеральної води, аналіз бренд-стратегій та методів підвищення конкурентоспроможності бренду в цілому.

Ключові слова: маркетингові дослідження, ринок мінеральної води, соціометричний аналіз, ранг бренду, споживчі фактори.

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1. Introduction

Given the growing shortage of natural mineral waters and the growing interest of the consumer audience in the useful properties of this product, it can be argued that water is a strategic resource and the main component of the country's sustainable development [1–3]. European indicators of the formation and development of drinking water resources allow to trace the main features of the formation of consumption needs and preferences of this product, to identify indicators of the provision of resources to the population of Ukraine in the context of its constant reduction [4–6].

The analysis and assessment of the mineral water market has been the subject of many works [7–9]. However, the issue of brands in the mineral water market [10–12], where one of the most problematic places, in conditions of intense competition, is the presentation of comprehensive research, the identification of basic food needs and consumption characteristics of this particular product becomes especially relevant. Thus, *the object of research* is the process of sociometric assessment of mineral water brands. And *the aim of research* is generalization of the availability indicators of water mineral resources and the sociometric section of the brands of mineral water.

2. Methods of research

In the study, the following scientific methods and principles are used:

- analytical and sociometric analysis – when researching and conducting sociometric assessment of brands in the mineral water market. And also to identify the significance of the factors that influence the choice and rating of brands in the mineral water market;
- functionality principle, with the help of which the functional content of brands in the mineral water market was revealed and presented;
- consistency principle, which allows to present the relationship between the methods and tools of sociometric brand assessment.

3. Research results and discussion

According to international experts of the World Health Organization (WHO) [13] it has been established that more than 60 % of diseases in the world are caused by the use of standard water. Mineral water is regarded as a natural resource, has social significance. Water quality is recognized as the main indicator of the balanced development

of society, its safety and existence in general. As of 01.01.2018, 253 deposits of underground mineral waters were prepared in Ukraine, represented as underground mineral, medicinal and medicinal-table waters in 172 deposits (240 plots). In turn, 112 plots of natural-table water were obtained in 81 fields (89 plots) with a total volume of operating reserves of 71.556.8 m³/day and 22469.4 m³/day, respectively [13].

Dynamics of underground mineral water production from 2008–2017 (m³/day) is shown in Fig. 1.

According to the Decree of the Cabinet of Ministers of Ukraine No. 456 dated March 7, 2000, 12 deposits of unique underground mineral waters are represented in Ukraine [14].

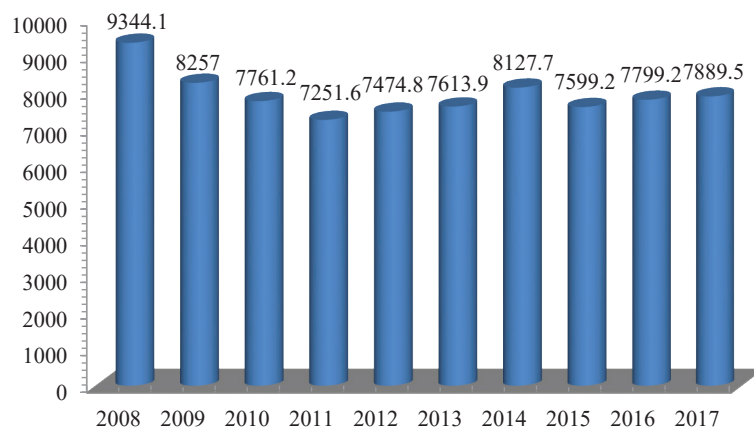


Fig. 1. Dynamics of underground mineral water production for 2008–2017 (m³/day) [13]

In turn, the rating of mineral waters as of 01.01.2018 is presented in the form of a diagram in Fig. 2.

As can be seen from Fig. 2, IDS Borjomi Ukraine is a leading national manufacturer, which holds a leading position and acts as an expert on the quality of natural mineral waters. Thanks to products produced in ecologically clean regions of Ukraine, the leading company acts as a quality standard by the highest international standards and is part of the international company IDS Borjomi International.

IDS Borjomi Ukraine produces and offers the consumer a balanced portfolio of popular mineral waters (Myrgorodska, Morshynska, Morshynska Sportik, Truskavetska, Alaska), and is also the exclusive importer of the legendary Georgian mineral water Borjomi in Ukraine [16].

Today in the market of mineral water among existing brands, competition is intensely developing and escalating. Marketing research and scientifically-based methods enable the company to adapt to objective market conditions, to develop clear strategic business prospects using both price methods and non-price determinants [1].

Methods of sociometric assessment allow determining the sociometric status of mineral water market brands based on the developed methodology [14].

Dispersion of the average size of the calculation by the consumer (σ^2) was presented as the average size of the

purchase made, determined as a result of the study using the in-depth interview method. The latter included the observation and oral experience of a group of 50 buyers of Morshynska mineral water.

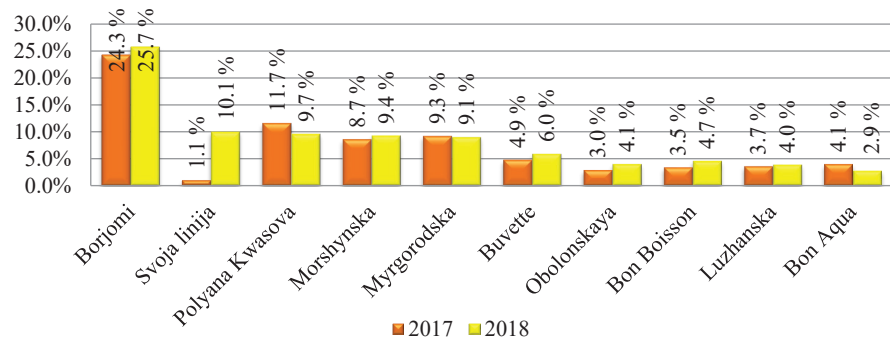


Fig. 2. The rating of mineral waters from 2017–2018 (%) [15]

As a result of processing the research results, the average value of the purchase size is 0.5 USD/liter.

The dispersion of the average purchase size was calculated by the formula:

$$\sigma^2 = \frac{\sum_{i=1}^n (X_i - \bar{X})^2}{n}, \quad (1)$$

where \bar{X} – the average purchase size; X_i – the size of the purchase of the i -th buyer; n – the number of surveyed buyers.

The variance of the average size of the purchase made is (0.42).

According to the method of sociometric analysis, the sociometric status of the brand can be determined in the following sequence.

A list of competitors of the Morshynska brand of a certain class is determined and a sociometric brand card is composed, which brands are the basis for assessing the brand by rank (Table 1).

The age of the respondents is 18–65 years. Location – urban population of the Kyiv region (Ukraine).

Their number, according to the regional committee of state statistics, in 2018 amounted to 1097273 people, this is the volume of the general population [16].

The marginal (predetermined) error is assumed to be 0.042 USD (10 % of 0.42 USD).

The volume of the sample is determined using the empirical calculation formula:

$$n = \frac{t^2 \sigma^2 N}{t^2 \sigma^2 \Delta^2 N}, \quad (2)$$

where t – confidence coefficient depending on the probability of the statement that the marginal sampling error does not exceed the t -fold average error (most often $t=2$); σ^2 – variance of the investigated property, which is determined on the basis of the experiment; Δ – marginal (predetermined) sampling error; N – the number of units in the population.

95 % – probability. $n \approx 200$.

Brand ranking (2018)

Table 1

Trade mark	Sociometric status		Expansivity index	
	S_m , units	Ranking assessment	I^{exp} , units	Ranking assessment
 (1)	0.54	2	0.77	4
 (2)	0.43	3	0.72	2
 (3)	0.7	1	0.85	1
 (4)	0.4	4	0.7	3
 (5)	0.01	6	0.5	5
 (6)	0.2	5	0.6	4
 (7)	-0.04	7	0.48	6
 (8)	-0.94	8	0.03	7
 (9)	-0.96	9	0.02	8

The following stages of sociometric analysis, with the help of which the strength of the Morshynska brand is determined, are:

1. A list of competing brands of the parity class for Morshynska, which is entered in the sociometric brand card.
2. The sociometric survey is conducted, during which sociometric brand cards are filled.
3. The sociometric matrix based on brand cards is created.
4. The sociometric status of each trademark is calculated in its status, and the brand's expansiveness index.

The sociometric status of the m -th brand is calculated by the formula:

$$S_m = \frac{V_m - W_m}{N}, \quad (3)$$

where N – the number of surveyed persons (number of cards); V_m – the number of choices of the m -th brand; W_m – the number of deviations of the m -th brand.

$$S_{Morshynska} = 154 - 46 / 200 = 0.54;$$

$$S_{Karpatska\ Dzherelna} = 143 - 57 / 200 = 0.43;$$

$$S_{Borjomi} = 170 - 30 / 200 = 0.7;$$

$$S_{Myrgorodska} = 140 - 60 / 200 = 0.4;$$

$$S_{Luzhanska} = 101 - 99 / 200 = 0.01;$$

$$S_{Truskavetska} = 120 - 80 / 200 = 0.2;$$

$$S_{Buvette} = 96 - 104 / 200 = -0.04;$$

$$S_{Znameniivka} = 6 - 194 / 200 = -0.94;$$

$$S_{Shaianska} = 4 - 196 / 200 = -0.96.$$

Brand expansivity index is calculated by the formula:

$$b^{exp} = \frac{V_m}{N}. \quad (4)$$

The following trademark indices are obtained:

$$I_{Morshynska}^{exp} = 154 / 200 = 0.77;$$

$$I_{Karpatska\ Dzherelna}^{exp} = 143 / 200 = 0.72;$$

$$I_{Borjomi}^{exp} = 170 / 200 = 0.85;$$

$$I_{Myrgorodska}^{exp} = 140 / 200 = 0.7;$$

$$I_{Luzhanska}^{exp} = 101 / 200 = 0.5;$$

$$I_{Truskavetska}^{exp} = 120 / 200 = 0.6;$$

$$I_{Buvette}^{exp} = 96 / 200 = 0.48;$$

$$I_{Znameniivka}^{exp} = 6 / 200 = 0.03;$$

$$I_{Shaianska}^{exp} = 4 / 200 = 0.02.$$

And also a sociomatrix of brands is compiled, which is shown in Table 2.

Table 2

		Sociomatrix								
		Brand ranking, b								
Number of card, n		1	2	3	4	5	6	7	8	9
1		+	-	+	-	+	-	+	-	-
2		-	-	+	-	-	0	+	-	0
3		+	+	+	+	+	-	+	0	-
4		+	-	+	+	-	-	-	-	0
5		+	+	+	+	+	0	0	0	0
6		-	+	-	+	-	-	+	0	0
7		-	+	-	+	+	-	-	0	0
8		-	+	-	-	+	-	+	0	0
9		-	-	+	-	+	-	+	0	0
10		-	+	+	-	+	-	+	0	0
...	
200		+	-	-	-	+	0	-	0	0
Total (V_m^+)		154	143	170	140	101	120	96	6	4
Total (W_m^-)		46	57	30	60	99	80	104	194	196
Total (difference V_m^+ and W_m^-)		200	200	200	200	200	200	200	200	200

5. Individual sociometric indices are obtained to identify brand leaders, which must be ranked based on the results.

Ranking is carried out in descending order of importance. In this case, the 1st rank is assigned to the brand leader. The maximum rankings must correspond to the maximum value of the indices (Table 1).

As a result of the analysis and calculations, it can be concluded that the strongest brand (the leading brand) in the Kyiv region is the Borjomi mineral water brand, which has received the maximum rank in sociometric status. In second place are the Morshynska and Myrgorodska brands. The sociometric analysis makes it possible to clearly determine the position of Borjomi in the market (Table 3).

As can be seen from the Table 3, according to the assessment of the sociometric status of brands, the leading position is occupied by the Borjomi brand, the strategic

brand management of which corresponds to the stated goals and mission of the company:

- develop a culture of consumption of natural mineral waters and promote a healthy lifestyle, offering consumers high-quality natural mineral waters;
- consolidation of a leader position in the mineral water market, introduction of innovations in production.

Table 3

Sociometric status of brands as of 01.01.2018

Trade mark	Sociometric status of the brand
 (1)	2
 (2)	3
 (3)	1
 (4)	4
 (5)	6
 (6)	5
 (7)	7
 (8)	8
 (9)	9

This study allows to conclude that the ranking according to the sociometric status of the brand coincides with the ranking of mineral water market leaders in terms of sales. This confirms the objectivity of this assessment system and shows the independence of the latter from the existing brand image. Based on the analysis, it is possible to distinguish that DS Borjomi International:

- continues to introduce innovations;
- emphasize the unique and bold nature of the brand;
- update and improve the corporate identity and media design of the Borjomi mineral water brand;
- change the company logo;
- improve the shape of labels and the appearance of caps, as well as brand packaging;
- expand the portfolio of «Morshynska» and «Truskavetska» brands.

In order for other brands to approach the brand leader in the market, it is necessary to adhere to an offensive strategy, due to:

- introduction of innovative technologies;
- motivation of qualified personnel;
- development of programs for effective brand management.

In general, analysis and sociometric assessment of mineral water brands allows:

- identify the main trends in preferences and characteristics of the consumption of mineral water in the Ukrainian market;

- highlight the main exporters and importers in this market;
- track the likelihood of new brands with new features.

4. Conclusions

In the course of the study, a sociometric analysis of brands is carried out along with quantitative indicators; they are the most important qualitative criteria for assessing brands. A methodological approach to the sociometric assessment of brands in the mineral water market is proposed, the sociometric status and strength of brands are determined based on the assessment of the significance of its individual attributes. The presented brand rating allows to highlight the factors affecting the choice of a mineral water brand for a consumer audience.

Prospects for further research are a more detailed analysis of the Ukrainian market of mineral water, assessment of brand strategies, analysis of brand competitiveness and market segmentation.

References

1. Mazaraki, A. A., Blank, I. O., Lihonenko, L. O., Huliaieva, N. M.; Mazaraki, A. A. (Ed.) (2006). *Vnutrishnia torhivlia v Ukraini: ekonomichni umovy efektyvnoho rozvytku*. Kyiv: Kyiv. nats. torh.-ekon. un-t, 194.
2. Kendiukhov, O. V., Dymytrova, S. M. (2009). *Marketynhova stratehiia pidpriemstva: brend-pidkhd do vyznachennia efektyvnosti*. Donetsk: DonUEP, 363.
3. Piliushenko, V. L., Arakelova, I. O. (2013). *Stratehiia innovatsiinoho upravlinnia sferoiu posluh na osnovi marketynhovoho pidkhdodu. Marketynh i menedzhment innovatsii*, 4, 133–142.
4. Zainchkovskiy, A. O., Kushnirenko, A. M. (2011). *Rozvytok in-tehratsiinoho prostoru na rynku mineralnoi vody. Nauk. pr. Nats. un-tu kharchovykh tekhnologii*, 41, 141–143.
5. Oleksiuk, O. I. (2009). «Nevahome bahatstvo» rynku mineralnostolovykh vod Ukrainy. *Marketynh v Ukraini*, 2 (54), 17–23.
6. Pakhter, Yu. O. (2009). *Mineralni vody yak vazhlyva skladova rozvytku kurortno-rekreatsiinoi sfery. Nauk. visn. UzhNU. Seriiia «Ekonomika»*, 28, 45–48.
7. *Obzor kitaiskogo rynku pitevoi i mineralnoi vody*. Available at: <http://www.foodmarket.spb.ru/current.php?article=1096>
8. Erkomaishvili, G. G. (2003). *Proizvodstvo mineralnykh vod v Gruzii i ego potrebitelskii rynek. Problemy sovremennoi ekonomiki. Evroaziiskii nauch.-analit. zhurn.*, 2 (6). Available at: <http://www.m-economy.ru/art.php?nArtId=256>
9. *Rynok mineralnoi vody v Ukraini*. Available at: <https://maxriseconsulting.com/rynok-mineralnoj-vody-ukrainy/>
10. *Mineral Water, champion of the food industry*. Available at: <http://www.sleeve.com/trends/solution/mineral-water-champion-of-the-food-industry>
11. *Growth potential for global bottled water industry*. Available at: <http://www.foodbev.com/news/growth-potential-for-global-bottled-wate#.UuzPD9J3mAg>
12. *Nielsen-shopportunities-2018*. Available at: <https://www.nielsen.com/ua/uk/events/2018/shopportunities-2018/>
13. *Vodni resursy Ukrainy*. Available at: <http://www.nbu.gov.ua/node/3972>
14. *Derzhavna sluzhba Heolohii ta nadr Ukrainy*. Available at: <http://www.geo.gov.ua/groundwater/>
15. *Obzor ukrainskogo rynku bezalkogolnykh napitkov 2017–2018*. Available at: https://trademaster.ua/ryinki_food/312974
16. *Ukrinform*. Available at: https://www.ukrinform.ua/rubric-other_news/2445181-servisi-zasnovani-na-vidkritih-danih.html

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