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Адреса редакції:

Національний університет
харчових технологій
вул. Володимирська, 68
Київ 01601, **Україна**

e-mail: ufj_nuft@meta.ua

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Effective frequency of displaying the communication message to consumers of beer brand in digital media

Kateryna Semenenko¹, Larysa Kapinus¹,
Iryna Boiko¹, Volodymyr Kucherenko², Nataliia Skryhun¹

1 – National University of Food Technologies, Kyiv, Ukraine

2 – Ukrainian Corporation for Viticulture and Wine Industry "Ukrvinprom"

Abstract

Keywords:

Beer
Brand
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online-
Advertisement
Media.

Introduction. The research is devoted to the determination of effective display frequency of advertised communication messages to consumers in representative samples of the brewing industry to optimize the media budget.

Materials and methods. The study is based on the scientific research of scientists on the development of beer market and digital economy, theories of advertisement message frequency, marketing research of brewing enterprises and their brands to determine the minimum range of effectiveness of advertised messages to beer consumers.

Results and discussions. The frequency of displaying the communication message determines not only the effectiveness of appeals to the consumer, but also spending on media budget, however, currently there is no single point of view to this problem in scientific research. Both an insufficient amount of appeals and an excessive frequency lead to insufficient budget using. Effective frequency of the message influences not only on consumer's purchasing behaviour and indicators of brand's health but also allows to optimize media budget. Certainly, most media planners use the effective frequency strategy «three plus».

In order to determine the frequency of communication with consumers for instruments of online-advancement of beer the modified Matrix of Ostrow is given. The blocks of factors of influence on beer promotion on the consumer market are improved, they are «Market factors», «Factors of quality of advertisement message», «General media factors». «Online media factors» block is added, where such indexes as description of placement the resources, use of social media, use of video formats, use of non-standard displays and formats, coverage of media channel, type of placement, accordance to general content of campaign are considered.

Adaptation of the improved matrix took place on the example of the most beer brands of the market, for this reason the effective frequency of repetition of communication message and comparing to actual is carried out, that allowed to group brands into 4 groups from position of strategy of further charges to placement of advertised messages in the Internet.

Conclusions. For planning the frequency of communication messages it is suggested to use the adapted matrix for determination the effective frequency communication with consumers of beer brands in order to optimize the media market.

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Corresponding author:

Iryna Boiko
E-mail:
boikoia@
nuft.edu.ua

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Introduction

The analysis of the development of the brewery industry showed signs of globalisation of the beer market and its digitalization (Madsen and Wu, 2016). Part of the international beer market is the brewing industry of Ukraine, which produces more than 400 types of beer products and supplies them to 42 countries of the world (Prymachuk et al., 2018). The transaction of many beer brands from the regional market to the global market also requires the formation of a complex of online marketing communication and product branding. Therefore, the optimization of advertising costs in digital media for the promotion of brewing products is one of the most pressing issues today.

In the modern world every producer uses the advertisement for presentation of his/her commodity or services to the potential consumers. Allocation of charges on searching on-line-advertisement in 2020 was: Australia, \$4.5 milliards, France, \$3.1 milliard, Germany, \$4.7 milliards, Ireland, \$427 million, England, \$10.8 milliards, USA, \$60.9 milliards. In terms of growth, all countries have seen significant increases in the costs of digital advertising, with COVID-19 representing a small deviation in the general trend. For example, Ireland saw the digital advertising spend in the Irish market for 2019 rise by 17% to reach EUR 673 million. In France, 2018 saw digital becoming the leading medium for advertising sales (40%), compared with 27% for television (Fourberg et al, 2021).

Researches of eMarketer (Cramer - Flood, 2021) show that world charges on an advertisement in 2021 was about \$491, 70 milliards, charges on digital advertisement - \$146, 12 milliards. Google has about 38% of all global increase of charges on digital advertisement. Researches of eMarketer (Cramer - Flood, 2021) show that world charges on an advertisement in 2021 was about \$491, 70 milliards, charges on digital advertisement - \$146, 12 milliards. Google has about 38% of all global increase of charges on digital advertisement.

The excessive number of impressions sent to the user by the advertisers cause the users to get annoyed with products they are not interested in. At the same time, it causes the advertiser to waste vast amounts of money. For this reason optimization of a great amount of advertising requests to the potential consumers, many scientists and practical workers are engaged in (Chu et al., 2012; Leguina et al., 2021; Schmidt et al., 2015).

Traditionally, one of the basic instruments for media planning are coverage and frequency. Questioning of advertisement practical workers showed that coverage and frequency had come forward as major factors at the choice of mass media (Kreshel et al., 1985, Cheong et al., 2010).

The analysis of effective coverage and effective frequency shows two points of view to the same question. Effective frequency shows, how many displays are needed, that the advertisement became «effective»; effective coverage concerns amounts of people, which are exposed to influence on this level (Cannon, 1994).

Importance of frequency as one of indexes of media planning was marked by many researchers (Cannon et al., 2002; Cheong et al., 2010; Jeong et al., 2011; Makienko, 2012;). It is related foremost to psychological bases of advertisement, in particular, with memorizing, that in the conditions of strengthening of general informative clutter and changes of consumer's behaviour of the content (decline of threshold of attention, time reduction of focus on the message, clip-like thinking and perception) acquires special importance.

In order to achieve the goal of advertising, to optimize the advertising budget by determining the optimal number of effective contacts with potential customers, it is important to determine the frequency saturation of advertising (advertising saturation

frequency) which determines the optimal number of repetitions of an advertising message necessary to achieve a certain level of awareness of its target audience. It is important to ensure that the message is displayed enough times for potential customers to understand it and remember it, while at the same time not annoying them with an excessive frequency of advertising, so that they do not get tired of repetitions and do not feel a negative attitude towards advertising. Thus, achieving the optimal number of effective contacts will ensure the maximum effectiveness of the advertising campaign.

Last years the internet became a basic environment for advertisers. Mass media and form of advertisement are developing quickly, and the models of consumption of media continue to change (Cheong et al., 2010), that is why efficiency of media planning and determination of frequency of communication in digital epoch grows only.

Presently there is plenty of models by means of that media planners can define optimal frequency for different media (Cheong, 2010; Leckenby and Kim, 1994; Leckenby and Hong, 1998). However, even computer-assisted models helped to decide this question (Makienko, 2012), as optimization mainly depends on the price for display and does not take into account many quality factors (Ephron, 1998).

These factors were first presented by Joseph Ostrow, he is the author of one of the methods of determination of effective frequency of communication. In particular, the matrix of Ostrow comes forward as a practical method of determination the effective frequency for advertisement message that allows to analyse 20 factors that is divided into three groups (Ostrow, 1984).

It should be noted that the list of factors and specific of their grouping in a greater measure answer the specific of off-line advancement instruments and does not take into account the features of application of instruments of on-line advancement in the Internet-environment, and also work directly with alcoholic brands (including beer) in the conditions of present legislative limitations of advertisement and communication activity of the enterprises-producers. Therefore, the aim of the research is the development of adapted under the specific of the use of instruments of on-line-advancement and of advertisement and communication work in the conditions of Dark market matrix with the aim of determination the effective frequency of communication.

Materials and methods

Materials

To achieve the goals of the research, literary sources were elaborated on the development of the beer market and the digital economy (Madsen and Wu, 2016; Prymachuk et al, 2018; Fourberg et al, 2021; Cramer-Flood, 2021), on the relevance of the frequenc of the advertising message (Cannon, 2002; Cheong, 2010; Chu et al, 2012; Jeong 2011; Kreshel, 1985; Leguina et al, 2021; Makienko, 2012; Schmidt and Eisend, 2015), basic theories of the frequency of advertising messages (Cannon, 1994; Heath, 2012; Krugman, 1972; McDonald, 1970; Naples, 1997; Stewart, 1989).The study of the scientific researches (Aslam et al, 2021; Betancur et al 2020; Cortinas et al, 2019; Makienko, 2012; Ostrow, 1984; Watrobski et al, 2016; Yasmin et al, 2015), made it possible to modify the Ostrow matrix for determining the frequency of an advertising message CCsconsumers when promoting beer online. The subjects of the research were the brands of major beer producers, which 80% of the consumer market of Ukraine: PJSC “Carlsberg Ukraine”, which belongs to the Carlsberg Group (Denmark), PJSC «ABinBev

Ukraine» which is the part of Anheuser-Busch InBev (Belgium), PJSC «Obolon» (Ukraine), LLC «TPC «PPB») which is the part of the international holding (Ukraine, Germany, Kazakhstan). The modified matrix was tested on a representative sample of 15 beer brands that is included in the assortment portfolio of the presented largest Ukrainian beer producers.

Methods

The research carried out a literature review, used a systematic approach to determine the blocks of the modified matrix for determining the effectiveness frequency of communication on the Internet, applied methods of statistical analysis, generalization and comparison, to study the planned and actual frequency of communication for online promotion instruments of the largest beer brands of the Ukrainian market and the division of brands into groups from the standpoint of the strategy of further spending on advertising on the Internet, the obtained conclusions are based on the methods of scientific interpretation and systematization.

Results and discussion

Theoretical approach of effective frequency of communication message

The effective frequency concept suggests that for nearly all products there exists an optimal number of advertising exposures below which no or little effect is observed, and above which advertising effectiveness demonstrates diminishing return (Stewart, 1989). Conception of effective frequency planning (EFP) for a long time was the dominant paradigm of media planning. In particular, conception was set the effective level of frequency as three displays and it was marked on importance of reiteration of the message, as one coverage without reiterations will not result in sales (Naples, 1997).

Such amount of displays is related to the reason that between the revision of advertisement content and directly purchase passes set time that is why it is needed, if a consumer remembered the message near the shelf exactly in the moment of decision-making about purchase. The theory of the psychology of the learning process states that in order to remember information and move to the formation of habits, this process must be repeated several times – on average 3 times. American psychologist Herbert Simon (*Simon, 1978*) believed that a person usually remember information after about 3-5 repetitions. Although this statement is not absolutely accurate in all cases, because the number of repetitions necessary for learning and forming a habit can be different for different people and different situations, it can be useful in planning the process of learning and learning new advertising information.

According to the research of Krugman (1972) most advertisements are reminders, and the frequency of their display helps to be noticed by consumers at a critical moment. Krugman emphasized that the first impression is unique and the second impression allows you to assess the personal relevance of the advertisement. The third display is a true reminder, which is why Krugman called for more frequent display.

Well-known scientists (Heath, 2012; Krugman, 1972; McDonald, 1970; Naples, 1979), who studied the effectiveness of the frequency of advertising, recommended its repetition at least three times. They confirmed with research of the importance of repeating an advertising message for effective memorization and habit formation, and also

proved that the effectiveness of advertising depends not only on its frequency of display, but also on its context, performance quality, target audience and other factors. Thus, often the emotional impact of advertising on the consumer is more significant than the simple repetition of the advertising message (Heath, 2012).

Effective «three plus» frequency strategy has been implemented by 90 percent of advertisers of the packaged goods in the United States. Even today, this rule is very popular (Makienko, 2012).

At the same time it should be noted that in the conditions of realities of modern media market on classic frequency of $F=3$ is not always effective. First of all, it is related to the dynamics of media space development and switching of users between different media and such phenomenon as multi-screening that substantially influences on the average rate.

These and other lacks of EFP are examined in such systems of media planning, as the «Optimal frequency planning» (OFP) of 1994 and conception of «Frequency value planning» (FVP) (Cannon et al., 1994; Cannon et al., 2002). The central idea of OFP and FVP is to weight every level of exposure in the frequency distribution with the probability that each level of advertising exposure will have impact on consumers, as demonstrated by the advertising response curve (Cheong et al., 2010).

Schmidt and Eisend (2015) studied the amount of advertisement displays that stimulate consumers to purchase. It is set that in experimental terms a consumer begins to react on an advertisement appeal approximately after ten displays. Memorizing of advertisement appeal grows and only after the 8th contact with a consumer begins to level off. In addition, it was found that the effect of repeating of advertisement appeal in course of time results in reduction of emotional connection of consumer with brand and weaker memorability of advertising appeal.

In research (Pedreño-Santos et al., 2022) the connection between frequency and memorability in a radio advertisement by the study of basic signs of coverage and frequency is determined. In accordance with the results of the research the effective frequency is the range from 4 to 17 displays (where 7 is optimal average value).

In the work (Naples, 1979) there is the results of the research on obtaining a negative reaction due to the use of too many repetitions of communication message. There is even a risk that due to the high level of frequency some consumers are able to forget all advertising messages.

Zanuddin (2004) accents attention on the non-permanent display of communication message to the consumers (within the limits of purchase cycle) brings an insignificant or zero effect. Two contacts in the buying cycle are effective threshold. However three displays in the buying cycle are considered optimal. At the same time exhaustion of advertising campaigns takes place not only through superfluously high-frequency, but also from problems with the text and content. Individual researches are required to find frequency levels for each brand. Two brands that spend an equal sum on advertisement can cause different reaction depending on frequency.

In turn there are researches, that show that show that there is no special difference at frequency of messages of 1 time or 3 times. On interest and desire to purchase a commodity Advertisement creativity has the greatest influence on interest and desire to purchase the commodity (Budiawan of et al, 2017).

There are also researches that show, what factors of influence on the value of advertisement: brand image, image in advertisement, frequency of advertisement. Finally, this study found that advertising frequency influences consumers' attitude towards advertising. In addition, this study also found that higher frequency has higher influence

on consumers' attitude, which differs from the theory that higher frequency of advertising has less effect because it bores the audience (Chu et al., 2012). Leguina et al. (2021) offered methodology of determining the correct amount of advertisement displays, maximize the efficiency of enterprise's activity. Their methodology is based on hypothesis that was confirmed experimentally: the more impressions the user receives, the less probability, that he will become interested by the advertiser's products. The coefficient of cooperation that has the tendency to decrease as the number of impressions received by the user increases is given.

Planning of frequency of advertisement campaign in the Internet, unlike standard of off-line instruments (TV, external advertisement, radio, advertisement and advertisement in print publications), is more difficult process, that is related to the specific of consumer's behaviour in the Internet (in particular, by difficulty of predicting the network user's movement scenario), by the different level of penetration in different age groups and intersection of audiences of different resources, which is not always possible to accurately predict. At the same time, online advertisement campaign planning has a number of advantages that are not accessible for traditional media. For example, possibility of advertisement message adaptation under the profile of Network audience (message or accents and method of messages can differ between TV-content and by Internet-content), possibility of having a special purpose of targeting and use of social engineering technologies (translation of differentiated messages depending on social demographic and psychographic characteristics of the audience). Similar technologies have been successfully used in recent years by political technologies to deliver differentiated communication messages to representatives of specific target audiences.

Improvement of matrix of Ostrow for the use taking into account the specific of work with instruments of online-advancement

Among the existent methods of determination the effective frequency of communication the matrix of Ostrow (Joseph W. Ostrow) is often used that allows to analyse 20 factors which are divided into three groups (Ostrow, 1984):

–market factors (market reasons, such as popularity and position of brand at the market, degree of loyalty to the brand, frequency of use/consumption of the product, part of voice in clutter, key features of target audience);

–factors of quality of advertisement messages (indexes of quality of marketing message, such as complication and unicity of the message, history of communication, type of communication, variability, attrition and duration of the message);

–media factors (indexes that characterize competitive activity in advertisement, degree of audience attention to the advertisement and characteristics of media placement of the video) (Watrobski et al, 2016).

The method makes it possible to define the influence of factors according to the specified three groups on the effectiveness of return from an advertisement, to digitize them and as a result to define the minimum threshold of effective frequency for marketing communication.

The analysis of author's factors led to the conclusion that separate factors of matrix are absolutely irrelevant for application in the analysis of brands that belong to the commodities whose advertising is limited by the effect of Law of Ukraine «About an advertisement». In addition, some of the factors are impossible to use taking into account the specifics of work with the instruments of on-line-advancement (Kapinus et al, 2020).

With the aim of achievement the most effectiveness from the point of view of the theoretical and practical providing of media planning process, it would be advisable to adjust the list and formulations of factors and blocks that influence on the determination of effective frequency of communication exactly for the instruments of on-line-advancement of beer brands (Skrygun et al, 2016).

In particular, in research it is suggested to withdraw the «Market factors» of evaluation of factors of duration cycle of purchase and frequency of consumption from the block, as not relevant for the typical commodities of FMCG group, which include beverages in the Beer category. As a replacement it is proposed to introduce an indicator that characterizes drinkability, id est the level of lightness of taste profile and can indirectly indicate the frequency of consumption from the point of view of general tendencies of beer consumption at the global market and at the market of Ukraine in particular (Betancur et al, 2020).

The similar point of view is held by the researcher (Makienko, 2012) who noted that factors of duration cycle of purchase and frequency of consumption were not relevant, since each consumer make purchase decisions at different times, accordingly at the market always present customers.

The factor of age (in particular, children's) is proposed to be removed as it contradicts the norms of the Law of Ukraine (About State Regulation). Instead, we propose to include polar characteristics of target audience: traditionalists-innovators that largely represent distribution not only on the profile of beer consumption of one or another sort/of brand but also characterize a potential level of Network penetration.

From the block «Factors of quality of advertisement message» to withdraw the factor of «duration of advertisement blocks», because this indicator is such, that it does not sufficiently characterize the specificity of the instruments of on-line-advancement. There are standard timings for all types of instruments of on-line-advancement the use of which can at least partially guarantee the achievement of message r to the target audience and increase probability of passage through the communication barriers of the Internet (communication, filters, lack of audio and others like that) (Aslam et al., 2021).

Block consider «Mediafactors» consider it appropriate to rename into «General media factors» (Betancur et al., 2020), because it would be methodically logical to eliminate the following factors from the block: compliance of brand content with the characteristics of medias and description of media channel coverage, since in general only the Internet is consider; type of placement - through placement in one of media and through the presence of more unfolded parameters of placement in the new block of «Online media factors». It is proposed to replace the characteristics of the evaluation of the number of channels with 1-2 channels and 3+ with more progressive and corresponding to the latest media planning trends - Monochannel / Polychannel (360°) (Cortinas et al., 2019).

Considering that online promotion has some features that are determined by specific indicators (Semenenko et al, 2019; Yasmin et al, 2015), it is advisable to add “Online media factors” the following blocks:

- characteristics of placement resources
- use of social media;
- use of banned advertising;
- use of video formats;
- use of non-standard manifestations and formats;
- coverage of the media channel;

- type of placement;
- compliance with the general content of the campaign.

It was considered that the evaluation of factors of additional block will give an opportunity to conduct the quantitative subject digital analysis of the frequency of on-line-advancement instruments, that, in turn, will give an opportunity to get reasonable conclusions and form recommendations in relation to optimization effectiveness of media planning process and, as a result, of media budget.

Thus, the main indicators of adapted matrix for determining the effectiveness of frequency of communication message for the instrument of online-advancement of beer brands can be interpreted as follows (basic indicators are close to the interpretations (*Ostrow, 1984*) and added by authors in this edition. The general structure of the adapted matrix for determining the effective communication frequency for instruments of online-advancement of alcoholic / beer brands is shown in Figure 1.

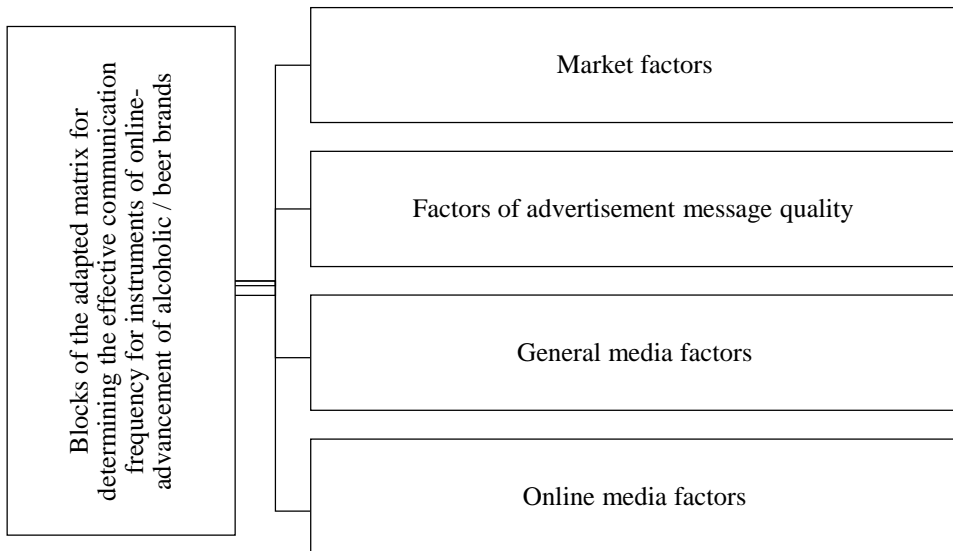


Figure 1. Blocks of the adapted matrix for determining the effective communication frequency for instruments of online-advancement of alcoholic / beer brands

Detailed comment on the mechanics of the estimation factors in the sections of blocks are given in Table 1.

Table 1

Adapted matrix of determination of effective frequency of communication for instruments of on-line-advancement of alcoholic / beer brands

| № | Decrease in frequency | Frequency correction | | | | Increase in frequency |
|--|--|----------------------|-----|---|---|--|
| Market factors | | | | | | |
| 1 | Famous brand | - 2 | - 1 | 1 | 2 | New brand |
| 2 | High market share | - 2 | - 1 | 1 | 2 | Low market share |
| 3 | High level of loyalty to the brand | - 2 | - 1 | 1 | 2 | Low level of loyalty to the brand |
| 4 | Drinkability profile of taste / frequent consumption | - 2 | - 1 | 1 | 2 | undrinkable profile of taste/ not frequent consumption |
| 5 | Low share of voice is planned | - 2 | - 1 | 1 | 2 | High share of voice is planned |
| 6 | Target audience – innovators | - 2 | - 1 | 1 | 2 | Target audience - traditionalists |
| Factors of advertisement message quality | | | | | | |
| 7 | Low complexity of advertising message | - 2 | - 1 | 1 | 2 | High complexity of advertising message |
| 8 | High uniqueness, message novelty | - 2 | - 1 | 1 | 2 | Low uniqueness, message novelty |
| 9 | Old message | - 2 | - 1 | 1 | 2 | New message |
| 10 | Product communication | - 2 | - 1 | 1 | 2 | Image communication |
| 11 | Low variation of the message | - 2 | - 1 | 1 | 2 | High variation of the message |
| 12 | High wear and tear of the message | - 2 | - 1 | 1 | 2 | Low wear and tear of the message |
| General media factors | | | | | | |
| 13 | Low activity of the competitors (small clutter) | - 2 | - 1 | 1 | 2 | High activity of the competitors (high clutter) |
| 14 | High level of audience's attention | - 2 | - 1 | 1 | 2 | Low level of audience's attention |
| 15 | Limited amount of media channels | - 2 | - 1 | 1 | 2 | Using of increased number of media channels |
| Online media factors | | | | | | |
| 16 | Determination of priority (thematic) resources for content placement | - 2 | - 1 | 1 | 2 | Packed placement without specifying the user profile |
| 17 | Promotion in social networks | - 2 | - 1 | 1 | 2 | Lack of support of social networks |
| 18 | Work with banner advertisement | - 2 | - 1 | 1 | 2 | No banner ads |
| 19 | Work with video formats (YouTube) | - 2 | - 1 | 1 | 2 | Lack of support for video formats (YouTube) |
| 20 | Non-standard manifestations and formats | - 2 | - 1 | 1 | 2 | Lack of non-standard manifestations and formats |
| 21 | Placement on the resources that have high-frequency coverage | - 2 | - 1 | 1 | 2 | Placement on the resources that have low-frequency coverage |
| 22 | Constant presence of content | - 2 | - 1 | 1 | 2 | «Seasonal» work or between TV flights |
| 23 | Connection with the content of other channels of communication | - 2 | - 1 | 1 | 2 | Lack of connection with the content of other channels of communication |

Source: given by authors

Use of adapted matrix of Ostrow on the example of most brands of beer of Ukraine

During 2020 in Internet-media such brands of beer (most from the point of view of budget advancements in Network) were present:

- TM «Lvivske» (PJSC «Carlsberg Ukraine»);
- TM «Chernihivske» (PJSC «ABinBev Ukraine»);
- TM «Obolon» (PJSC «Obolon»);
- TM «Zakarpatske» (LLC «TPC «PPB»);
- TM «Svizhyi rozlyv» (LLC «TPC «PPB»);
- TM «Baltyka» (PJSC «Carlsberg Ukraine»);
- TM «Bilyi vedmid» (PJSC «ABinBev Ukraine»);
- TM «STELLA ARTOIS» (PJSC «ABinBev Ukraine»);
- TM «TUBORG» (PJSC «Carlsberg Ukraine»);
- TM «HIKE» (PJSC «Obolon»);
- TM «CORONA» (PJSC «ABinBev Ukraine»);
- TM «KRUSOVICE» (LLC «TPC «PPB»);
- TM «KRONENBOURG 1664» (PJSC «Carlsberg Ukraine»);
- TM «HOEGAARDEN» (PJSC «ABinBev Ukraine»);
- TM «SETH & RILEYS GARAGE» (PJSC «Carlsberg Ukraine»).

The above-mentioned trademarks used the different variants of communication mix of instruments of on-line-advancement within the framework of brand strategy. Frequency on which the brands worked with communication messages, in accordance with the reports of independent media audit is given in Table 2.

As it is evidently from the results of audit the frequency of communication for most brands of beer market, greater part of brands worked on midfrequency - 3. Rejection was observed in the vast majority at actually less frequency of placing. For frequency communication planning most brands of the market on the indexes of the level of beer media budget of instruments of advancement will apply the adapted matrix for determination of effective frequency of communications for instruments of on-line-advancement. The consolidated information is generalized by authors in Table 3.

For better visualization of given results, a comparison of actual and estimated communication frequency for instruments of online advancement is grouped in Table 4.

For conditional optimum it is possible to take frequency 3 that is considered as average frequency from the point of view of achievement of desirable changes in purchasing behaviour, aims of brand health charges of media budget which is supported by the research (Krugman 1972; McDonald, 1970; Naples, 1979; Zanuddin, 2004). Exactly this frequency is elected by most companies as such from that correlations of cost-effectiveness (8 from 15 brands by results of the audit of media indexes of advertisement campaigns in the Internet in 2020 p) expect optimally.

Use of offered by authors adapted matrix of determination of effective frequency of communication for instruments of online-advancement allows to correct this index taking into account influence of environment (market factors, factors of quality of advertisement message, general media factors, on-line media factors). For conditional maximum accept frequency 5 as such that is maximally recommended for work in any of media. Exceeding through this limitation can lead to the formation of negative perception of the brand in the consumer due to the increase in the comfortable number of branded paraphernalia and inventory in the point of view of one specific representative of target audience. In addition,

working at the frequency of 5+ actually means the irrational use of media budget, as it turns a potentially desirable contact with content into noise and increase the possibility of passing through advertising clutter which are supported by the research (Leguina et al, 2021; Naples, 1979).

In accordance with authorial methodology of the got results from the position of strategy of further charges to placing in the Internet can be distinguished 4 groups of brands (Figure 3):

- «Group Optimum» –calculative efficiency coincides with actual; deviation is equal /0/.
- «Group Expenses» – calculative efficiency is less than than actual; deviation is more or equal the value of /-1/;
- «Group Expenses +» – calculative efficiency is more than actual; deviation is in the range of /1-2/;
- «Group Expenses 2+» – calculative efficiency is significantly larger than actual; deviation is more than /2/.

Table 2

Planned and actual frequency of communication for instruments of online-advancement of most beer brands of Ukrainian market on the index of media budget level, 2020

| Brand / Trade mark | Frequency | | Deviation |
|--|-----------|--------|-----------|
| | Planned | Actual | |
| TM «Lvivske» (PJSC «Carlsberg Ukraine») | 4 | 5 | 1 |
| TM «Chernihivske» (PJSC «ABinBev Ukraine») | 5 | 4 | -1 |
| TM «Obolon» (PJSC «Obolon») | 3 | 3 | 0 |
| TM «Zakarpatske» (LLC «TPC «PPB») | 3 | 3 | 0 |
| TM «Svizhyi rozlyv» (LLC «TPC «PPB») | 3 | 2 | -1 |
| TM «Baltyka» (PJSC «Carlsberg Ukraine») | 2 | 3 | 1 |
| TM «Bilyi vedmid» (PJSC «ABinBev Ukraine») | 3 | 2 | -1 |
| TM «STELLA ARTOIS» (PJSC «ABinBev Ukraine») | 3 | 3 | 0 |
| TM «TUBORG» (PJSC «Carlsberg Ukraine») | 3 | 3 | 0 |
| TM «HIKE» (PJSC «Obolon») | 4 | 3 | -1 |
| TM «CORONA» (PJSC «ABinBev Ukraine») | 3 | 3 | 0 |
| TM «KRUSOVICE» (LLC «TPC «PPB») | 3 | 2 | -1 |
| TM «KRONENBOURG 1664» (PJSC «Carlsberg Ukraine») | 3 | 3 | 0 |
| TM «HOEGAARDEN» (PJSC«ABinBev Ukraine») | 3 | 2 | -1 |
| TM «SETH & RILEYS GARAGE» (PJSC «Carlsberg Ukraine») | 4 | 4 | 0 |

Source: summarised by authors according to the data of analytical agency Kwendi

Table 3

Estimations of effective frequency of displays of communication messages through the instruments of online-advancement of brands by the adapted methodology

| Factor number | Frequency correction | | | | | | | | | | | | | | |
|--|----------------------|----------------|----------|---------------|------------------|-----------|----------------|-----------------|----------|--------|----------|-------------|-------------------|-----------------|----------------|
| | «Lvivske» | «Chernihivske» | «Obolon» | «Zakarpatske» | «Svizhyi rozlyv» | «Baltyka» | «Bilyi vedmid» | «STELLA ARTOIS» | «TUBORG» | «HIKE» | «CORONA» | «KRUSOVICE» | «KRONENBOURG1664» | TM «HOEGAARDEN» | «SETH & RILEYS |
| Market factors | | | | | | | | | | | | | | | |
| 1 | -2 | -2 | -2 | -2 | -2 | -1 | -1 | -2 | -2 | -1 | -1 | -2 | -2 | -1 | -2 |
| 2 | -2 | -2 | -2 | -2 | -2 | -2 | -2 | -1 | -1 | -1 | -1 | -1 | -1 | -1 | -2 |
| 3 | -2 | -2 | -2 | -2 | -2 | -2 | -2 | -1 | -1 | -1 | -1 | -1 | -1 | -1 | -2 |
| 4 | -2 | -2 | -2 | -2 | -2 | -2 | -2 | -2 | -2 | -2 | 1 | 1 | 1 | 1 | -2 |
| 5 | 2 | 1 | 1 | 2 | 1 | 1 | 2 | 1 | 1 | 1 | 1 | 1 | 2 | 1 | 1 |
| 6 | 2 | 2 | 2 | 2 | 2 | 2 | 1 | -2 | -2 | -2 | -2 | -2 | -2 | -2 | -2 |
| Factors of advertisement message quality | | | | | | | | | | | | | | | |
| 7 | -1 | 1 | 1 | -1 | 1 | 1 | -1 | 2 | 1 | 1 | 1 | 2 | 2 | 2 | 1 |
| 8 | -1 | -1 | -1 | -1 | -1 | -1 | -1 | -1 | -1 | -1 | -1 | -1 | -1 | -1 | -1 |
| 9 | 2 | -1 | -2 | 2 | -1 | -2 | 2 | -1 | -2 | 2 | -1 | -2 | 2 | -1 | 2 |
| 10 | 2 | 1 | 1 | 3 | 1 | 1 | 2 | 1 | 1 | 2 | 1 | 1 | 2 | 1 | 1 |
| 11 | 2 | 1 | 1 | 1 | 1 | 1 | 2 | 1 | 1 | 2 | 1 | 1 | 2 | 1 | 1 |
| 12 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| General media factors | | | | | | | | | | | | | | | |
| 13 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| 14 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| 15 | 1 | 2 | -2 | 1 | 2 | -2 | 1 | 2 | -2 | 1 | 2 | -2 | 1 | 2 | -2 |
| Online media factors | | | | | | | | | | | | | | | |
| 16 | -1 | 1 | 1 | -1 | 1 | 1 | -1 | 1 | 1 | -1 | 1 | 1 | -1 | 1 | 1 |
| 17 | -1 | 1 | -1 | -1 | 1 | -1 | -1 | 2 | 2 | -1 | 1 | -1 | -1 | 1 | -1 |
| 18 | -2 | -2 | -1 | -2 | -2 | -1 | -2 | -2 | -1 | -2 | -2 | -1 | -2 | -2 | -1 |
| 19 | -1 | -2 | 1 | -1 | -2 | 1 | -1 | -2 | 1 | -1 | -2 | 1 | -1 | -2 | 1 |
| 20 | -1 | 1 | 1 | -1 | 1 | 1 | -1 | 1 | 1 | 1 | 1 | 1 | -1 | 1 | 1 |
| 21 | 1 | 2 | 1 | 1 | 2 | 1 | 1 | 2 | 1 | 1 | 2 | 1 | 1 | 2 | 1 |
| 22 | 2 | -2 | 2 | 2 | -2 | 2 | 2 | -2 | 2 | 2 | -2 | 2 | 2 | -2 | 2 |
| 23 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| Total | 4 | 3 | 3 | 4 | 3 | 4 | 4 | 3 | 4 | 4 | 5 | 5 | 8 | 6 | 3 |

Source: created by authors

Table 4
Comparison of actual and calculation effective of frequency of communication for instruments of on-line-advancement

| Brand / Trade mark | Actual frequency | Calculated effective frequency | Deviation | Group |
|--|------------------|--------------------------------|-----------|----------|
| TM «Lvivske» (PJSC «Carlsberg Ukraine») | 5 | 4 | -1 | Costs- |
| TM «Chernihivske» (PJSC «ABinBev Ukraine») | 4 | 3 | -1 | Costs- |
| TM «Obolon» (PJSC «Obolon») | 3 | 3 | 0 | Optimum |
| TM «Zakarpatske» (LLC «TPC «PPB») | 3 | 4 | 1 | Costs+ |
| TM «Svizhyi rozlyv» (LLC «TPC «PPB») | 2 | 3 | 1 | Costs+ |
| TM «Baltyka» (PJSC «Carlsberg Ukraine») | 3 | 4 | 1 | Costs+ |
| TM «Bilyi vedmid» (PJSC «ABinBev Ukraine») | 2 | 4 | 2 | Costs+ |
| TM «STELLA ARTOIS» (PJSC «ABinBev Ukraine») | 3 | 3 | 0 | Optimum |
| TM «TUBORG» (PJSC «Carlsberg Ukraine») | 3 | 4 | 1 | Costs+ |
| TM «HIKE» (PJSC «Obolon») | 3 | 4 | 1 | Costs+ |
| TM «CORONA» (PJSC «ABinBev Ukraine») | 3 | 5 | 2 | Costs+ |
| TM «KRUSOVICE» (LLC «TPC «PPB») | 2 | 5 | 3 | Costs 2+ |
| TM «KRONENBOURG 1664» (PJSC «Carlsberg Ukraine») | 3 | 8 | 5 | Costs 2+ |
| TM «HOEGAARDEN» (PJSC«ABinBev Ukraine») | 2 | 6 | 4 | Costs 2+ |
| TM «SETH & RILEYS GARAGE» (PJSC «Carlsberg Ukraine») | 4 | 3 | -1 | Costs- |

Source: created by authors

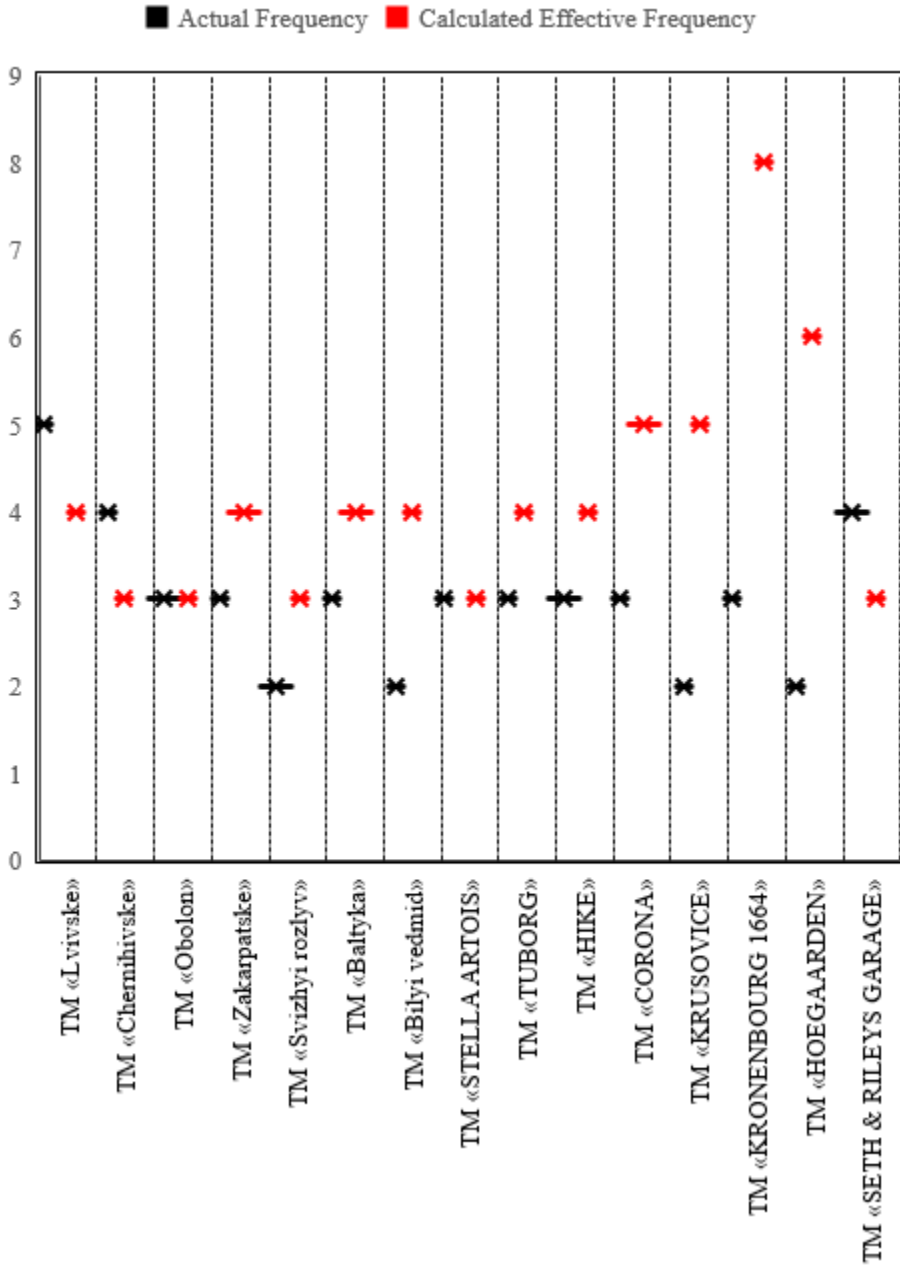


Figure 2. Comparison of actual and calculation effective of frequency of communication for instruments of on-line-advancement

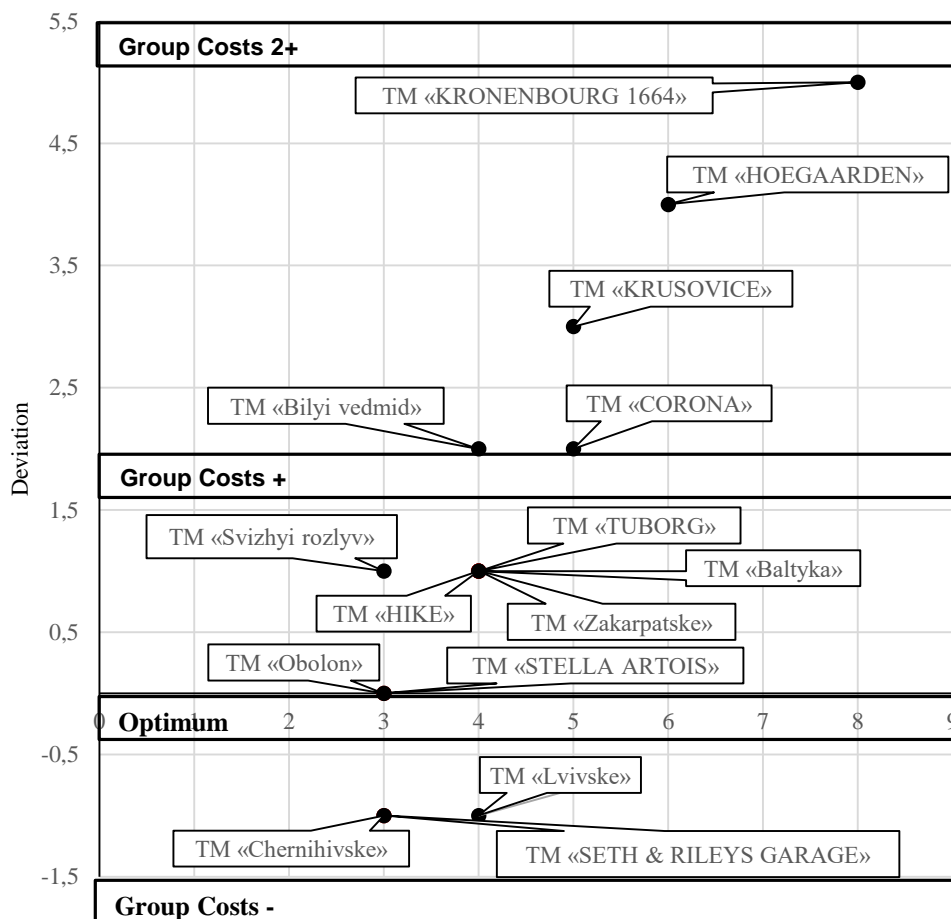


Figure 3. Matrix of the optimal communication frequency level

Taking into account other initial indexes, in particular additional coverage (unique displays), increase of the level of attention that influences both on communication and on economic efficiency is forecast.

«Group Optimum». As evidently from the results of analysis, TM «Obolon» (PJSC «Obolon»), TM «STELLA ARTOIS» (PJSC «ABinBev Ukraine») are only trademarks, in which the values of actual and calculative effective frequency that gives an opportunity to talk about accordance of communication strategy to the general situation on the market and fully takes into account the market, media and on-line media factors and factors of quality of advertisement messages.

«Group Expenses-». TM «Lvivske» (PJSC «Carlsberg Ukraine») and TM «Chernihivske» (PJSC «ABinBev Ukraine»), TM «SETH & RILEYS GARAGE» (PJSC «Carlsberg Ukraine») are included in this group. The marked brands potentially can

communicate with less frequency - id est to spend less money, but to keep the influence on a consumer.

«Group Expenses +». Insufficient frequency of communication, taking into account all terms and factors of environment, have TM «Zakarpatske» (LLC «TPC «PPB»»), TM «Svizhyi rozlyv» (LLC «TPC «PPB»»), TM «Baltyka» (PJSC «Carlsberg Ukraine»), TM «TUBORG» (PJSC «Carlsberg Ukraine»), TM «HIKE» (PJSC «Obolon»), TM «Bilyi vedmid» (PJSC «ABinBev Ukraine»), TM «CORONA» (PJSC «ABinBev Ukraine»). Id est taking into account existing influence market, general, online-factors and factors of quality of advertisement message, frequency must be higher. Aims still can be achieved by means of the exceptionally use of instruments of on-line-advancement.

«Group Expenses 2+». Distant from optimal frequency have TM «KRUSOVICE» (LLC «TPC «PPB»»), TM «KRONENBOURG 1664» (PJSC «Carlsberg Ukraine»), TM «HOEGAARDEN» (PJSC «ABinBev Ukraine»). Advancement of these brands exceptionally with the use of instruments of on - line advancement is insufficient - even at the terms of work on maximal frequency 5+, there is the requirement in additional contacts, id est for the achievement of communication and market aims it is expedient to use other channels of communications in media mix.

Using the obtained results, companies can optimize their media budget and increase the effectiveness of appeals.

Conclusions

1. The concept of effective frequency is one of the most important concepts in media planning, which allows you to determine the frequency of display of the advertising message, to form a positive perception of beer brands among consumers and to optimize the media budget for the promotion of beer brands both on the local market and on the international market.
2. To plan the frequency of advertised messages it is suggested to use the adapted Ostrow matrix to determine the effective frequency of communication with consumers of production of brewing industry. The “Market factors” block includes: market share of the brewing industry, loyalty to the beer brand, beer taste profile, voice share, the target audience of beer products, innovators and traditionalists. The block ‘Factors of the quality of an advertising message includes: complexity of the marketing message for beer consumers, uniqueness (novelty) of beer products; degree of novelty of beer products, type of communication of beer producers, variability of the message, degree of wear and duration. «General Media factors» consist of competitive activity, Attention of audience of beer industry, Amount of channels. To the block of «Online media factors» are: Description of resources of placing, Use of videos-formats, Use of non-standard displays and formats, Scope of media channel, Type of placement, Accordance to general content of campaign.
3. For most beer brands of Ukrainian market planned and actual frequency of communication is investigational with the use of instruments of online-advancement for increasing the communication effectiveness of the advertised message. The effective frequency of displaying advertising messages to consumers in the representative sample of the enterprises in the brewing industry was determined in order to optimize the media budget.

4. The modified Ostrow matrix proposed by the authors can be used to determine the effective frequency of the advertised message not only for beer brands, but also for adaptation for brands of other activities in the food industry.

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