

EMPIRICAL STUDY OF SOCIAL REPRESENTATIONS OF USERS ABOUT NEW PRODUCTS OF THE DIGITAL ECONOMY

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DOI:10.24412/2500-1000-2022-10-2-24-29

The Russian Foundation for Basic Research supported this work, project № 20-010-00140a.

Abstract. *The article presents an analysis of the results of an empirical study of social perceptions of users about new products and services of the digital economy, such as dark kitchen, co-living and Netflix. In the study, authors solved the problem of adapting the methodology for analyzing social representations in the part that related to data processing. The algorithm of structural data analysis according to Vergès used as a tool. The results of the analysis showed the capabilities of the structural analysis algorithm used in terms of speed, convenience of data calculation and their convex visualization to obtain estimates of users' social perceptions of new products and services of the digital economy.*

Keywords: *digital economy products, social representations, free association technique, structural analysis, core and periphery.*

Introduction. The rapid development of the digital economy and the emergence of new products make relevant research related to the study of consumer attitudes towards these products, as well as social perceptions about them. Some of these products of the digital economy are *dark kitchen, co-living, Netflix*.

In our country, *co-living, dark kitchen, Netflix* are quite new phenomena in the market of digital products and services [1; 2]. They cause disputes among experts about the trends of their future development. Opinions divided into diametrically opposed. Some experts believe that the prospects for these products are promising, while others are inclined to believe that these phenomena are temporary and will soon disappear from the digital reality or transform in a certain way. In this situation, it was interesting to present the non-expert opinion of potential consumers.

Research results.

1. Brief analysis of the methodological basis of the study.

Empirical research based on the concept of social representations (SR) by S. Moscovici and his followers [3; 4]. This concept chosen because it has significant interpretative potential. This allows us to solve problems of analyzing social perceptions of users about new products of the digital economy. The theory of social representations proposed by S. Moscovici is a key European socio-psychological concept, which, along with the approach of social identity, has existed for almost six decades [5]. The approach has a rich potential for analyzing the transformations that occur with a person in the digital world. The theory of social representations makes it possible to answer the question of how a person builds an explanation for a new phenomenon and his behavior in accordance with it [6]. The attractiveness of this concept is also because the object of analysis of researchers is not only concepts and ideas that seize people, but also images, symbols, metaphors. The modern era is fully the era of visual culture, where the power of texts, which corresponded to the generation of parents, replaced by the power

of images at the level of adolescents and youth [6]. Among the functions of social representations, the protective function attracts special attention – in the course of the development of social representations, new, strange or dangerous objects and phenomena that cause people a sense of danger transforming, placed in a more familiar coordinate system for users.

The objects of social representations becoming new phenomena or objects that acquire social significance at one time or another. The sphere of the rapidly developing digital economy and its products before our eyes without any doubt can act as such an object. In our empirical study, the objects of social representations are *dark kitchen*, *co-living*, *Netflix*.

One of the most developed approaches within the concept of social representations is the structural approach developed by J.-C. Abrik and his school [6]. There are three components in the structure of social representations: information, attitude and representation field [7]. Information includes the total amount of knowledge about the object of social representations. It is customary to understand an attitude as an emotional attitude towards an object of social representations, while the field of representation is a certain hierarchy of elements, which includes the central core and the peripheral part. The central core, as the name implies, contains the main content of social representations, it is difficult to change and largely caused by the historical and cultural determinants of certain groups and individuals.

Stability and steadiness of social representations firstly connected with the core. The core is associated with such phenomena as the collective memory of the group, its history, values, and norms. The peripheral system of social representations provides a connection between the core, which carries the abstract element of social representations, and the specific situation of their functioning. It concretizes the meaning of social representations core. The distinctive properties of the peripheral system are variability and flexibility, which allows it to perform one of the main functions of social representations - adaptation to changing external conditions.

2. Tools.

The study used an adapted version of the methodology developed by us for analyzing social ideas about the products of the digital economy, including the method of free associations [8].

At the first stage of the study, the respondents asked to express their ideas in the form of a free statement. At the same time, the authors relied on the point of view of a number of researchers those experiments with the usage of paraphrase interpretation open up new ways to study the semantics of the word [9]. That allow us to determine the brightest meaning in the system of word meanings, to identify the degree of mastery of the word by the respondents.

The approach that was the basis of our methodology based on the concept of speech behavior of a person, which involves the study of statements not by elements, but by units. This is its fundamental difference from the social representations widely used in this field of research, using the associative method. This method of analyzing verbal utterances provides more opportunities to identify the personal meaning and deep structures of the utterance, where the *connectedness* of the elements of the utterance plays an important role. Thus, the authors of one article emphasize that the structural elements of social representations can be of a different *nature*: some simply *describe* the object, while others indicate an attitude towards the object, which depends on the value system [10]. The associative method, most often used to analyze social representations, describes the elements of social representations rather than reveals their structure.

At the next stage of scientific research, the authors used an adaptive version of the methodology. In it, authors asked the respondents to show a reaction to the presented stimulus word (several stimulus words) in accordance with the classical form of a free associative experiment. In some guidelines, the researchers emphasize the necessity for a *quick* response. There is both a written and an oral version of the presentation of words.

3. Results.

The study involved 33 people: 19 men and 14 women. Their age ranged from 18 to 69

years. Occupation: students (medicine, IT), IT-specialists, psychologists, housewife's, specialists in architecture and design, businessmen-entrepreneurs, researchers, HR-specialists.

The study conducted in an online format in the form of a questionnaire. Authors asked the respondents to follow the link with posted questionnaire.

Instruction: Authors offered several words denoting phenomena in the digital space. We ask you to write at least five associations for each proposed word - a word or a phrase. The grammatical form of the association word can be any - noun, verb, adjective, and adverb. For example, "Computer virus" - a program, something dangerous, harmful, malicious, scammers. Important: answer as quickly as possible without thinking.

A separate line suggested feedback from respondents.

Since this is the first study, it is important for us to know if you had any difficulty reading the instructions and completing the questionnaire? Please write your comments and recommendations! This will help us in future research.

The processing of the results carried out using Vergès prototypical analysis [1, p. 226]. All associations were taken into account, even if their total number was not indicated – five, since the sample is small and this would affect the number of *core* elements. The analysis carried out in Excel. Each association assigned a rank - the place of occurrence of this word or phrase in the general series of answers of one respondent. All associations arranged alphabetically.

Some associations with similar meaning but different form combined. For example, "comfortable", "convenient", "convenience" considered as a repetition of "comfortable". In the literature, we did not find an explanation of the argumentation of the criteria for choosing similar words for subsequent association. In cases where a number of synonymous associations expressed by different parts of speech, the choice falls on the association that is repeated more often than the others. In addition, words given in the plural counted together with the same words in the singular ("computer" and "computers").

Researchers who work according to this methodology suggest taking only those concepts that indicated by at least 10% of respondents (in our sample - 3 or more times) [7]. To divide the rank into low and high, authors used the value of the average rank - the arithmetic mean of the ranks of repetitions of all selected associations. Thus, each repeating association assigned characteristics in the form of frequency and its average rank.

Next, associations distributed depending on their frequency and the average rank of each association in four squares formed by the intersection of the median of frequency and the average rank of all associations.

The upper left square includes associations with high frequency and low rank. This is the central area of social representations - or their core. The zone of the first periphery, or "potential zone of change", formed by squares two and three. The lower left square 2, which includes associations with low frequency and low rank, indicates the direction in which social representations will develop.

The upper right square (square 3) includes associations with high repetition frequency and high rank. These associations formed under the influence of external influence, including the media.

Associations that has a high rank and rarely encountered form the zone of the second periphery (4th square). This is the most mobile part of social representations, which in the near future may completely disappear from social representations or move into the structure of another representation. It connects with the individual characteristics of the respondents, their personal experience, and memory.

5. Discussion.

About *Dark kitchen* product. Authors analyzed 31 questionnaires and 144 associations with the object of social representations. Authors used those associations that were mentioned three or more times. The subsequent analysis included 31 associations, which accounted for 21% of all associations with the word *dark kitchen*. The *core* represented by two associations: *delivery* (8; 2.63) and *darth vader* (4; 2.75). In parentheses are the rank of association and the average frequency of their

mention, respectively. *Food* (3; 2,33), *backstage* (3; 2,67), *kitchen* (3; 2) - entered the zone of the first *periphery* (square 2). The Association *unclear* (4; 3,75) entered the zone of the first *periphery* (square 3), which, according to researchers, should reflect external influence, the influence of the media. In this

case, it characterizes the company's marketing policy as not clear enough for consumers (Table 1).

The group we are interested in has a differentiated experience of acting in relation to the potential object of social representations.

Table 1. Structure of social representations *Dark kitchen*

Square 1 (frequency > 3,5; rank < 2,93) CORE	Square 3 (frequency > 3,5; rank > 2,93) PERIPHERY 1 (external influence)
darth vader (4; 2,75) delivery (8; 2,63)	unclear (4; 3,75)
Square 2 (frequency < 3,5; rank < 2,93) PERIPHERY 1 (potential area of change)	Square 4 (frequency < 3,5; rank > 2,93) PERIPHERY 2
food (3; 2,33) backstage (3; 2,67) kitchen (3; 2)	future (3; 4,33) fast (3; 3)

Considering the different age of the sample (from 18 to 69 years old), it can be assumed that some respondents might not know the meaning of the word "*dark kitchen*" and could not identify themselves with it. As for the incomprehensible, at first glance, association *darth vader* - we can refer to the explanations of the author of the concept S. Moscovici, who attributed concepts, ideas, images, metaphors, and practices to this area. *Darth Vader* is a metaphor that can talk about the vagueness (obscurity) of the idea (association with evil, with something destructive and hidden); on the other hand, it may reflect a completely conscious attitude towards this product of the digital economy. In such ambiguity, the absence of an explanatory context is a minus of this method of analysis (associative).

Second periphery (square 4) includes association's *future* and *fast*. Associations have a

positive meaning, indicate the trend of future development, and ease the usage of this product of the digital economy.

About the product *Co-living*. Analyzed 29 questionnaires, 139 associations with the proposed word-concept. As in the previous example, the authors used those concepts that indicates by at least 9% of respondents (3 or more people). Accordingly, the dictionary included 33 associations, which accounted for 24% of all expressed associations.

Table 2 shows that *the core* included one association – *cohabitation*. The first periphery (square 2) associated with potential changes is *communal apartment* and *cohabitation*. Semantically, these words differ from *the core*, as do the associations included in the next square of the first periphery (square 3) – *cheap*, *dormitory*.

Table 2. Structure of social representations *Co-living*

Square 1 (frequency >3,5; rank < 2,93) CORE	Square 3 (frequency > 3,5; rank >2,93) PERIPHERY 1 (external influence)
Co-living (5; 1,8)	cheap (6; 2,83) dormitory (7; 3)
Square 2 (frequency <3,5; rank < 2,93) PERIPHERY 1 (potential area of change)	Square 4 (frequency <3,5; rank > 2,93) PERIPHERY 2
communal apartment (3; 2,67) cohabitation (3; 1)	youth (3; 3) uncomfortable (3; 3) hangout (3; 5)

In our opinion, this difference positively characterizes the possibilities of the proposed method. In addition, the number of respondents with this association in this square is significantly higher than in the rest. It assumes that in this case, external factors affecting social representations are quite strong. This allowed most of the sample to develop similar social perceptions about the new product. Finally, the second periphery (square 4) reflects the spread of individual variations in the social perceptions of users, partly related to the heterogeneity of the sample.

About product *Netflix*. 31 questionnaires analyzed, 159 associations received. Authors used those concepts that indicates by at least 9% of respondents (3 or more people). Accordingly, the dictionary included 57 associations, which accounted for 38% of all expressed associations.

Recall that in the core (square 1), as suggested by some researchers [5], included words that reflect the most stable, established elements of the structure of social representations. They are the characteristic of most of the sample and occupy the first ranks in a number of associations. In this case, these are products of cinema art (*films, TV-series*). Periphery 1 (square 2) reflects the social perceptions of users about the direction of the economic policy of the company that produces this product: *cinema, convenient*. The positive connotation of association words can indicate the emotional attitude of users regarding this product. Periphery 2 (square 4) reflects the most mobile part of the social perceptions of users, which may soon disappear or move to other squares: *paid, USA, red* (Table 3).

Table 3. Structure of social representations *Netflix*

Square 1 (frequency >3,5; rank < 2,93) CORE	Square 3 (frequency > 3,5; rank >2,93) PERIPHERY 1 (external influence)
films (8; 2,50) TV-series (19; 1,74)	subscription (10; 3,22)
Square 2 (frequency <3,5; rank < 2,93) PERIPHERY 1 (potential area of change)	Square 4 (frequency <3,5; rank > 2,93) PERIPHERY 2
cinema (5; 1) comfortable (5; 2,40)	paid (4; 3,75) USA (3; 4,33) red (3; 4)

A question added to the version of the methodology used by authors, aimed at feedback from users about the difficulties that arise when filling out the methodology, the convenience and ease of working with it. Feedback was mostly positive. Users confirmed that the questions are easy to answer, interesting, the questionnaire does not take much time. Thus, after a certain correction, this form of the survey is useful at the next stage of the study.

Conclusion.

The study, using the methodology developed by the authors, reflected the inconsistency of social perceptions of users about new products of the digital economy: *co-living, dark kitchen, Netflix*. This was partly because the study sample included users of different ages and occupations. Experience with select-

ed products also differentiates. This could lead to large differences in social perceptions, especially in *the core* area, as well as a wide range of individual interpretations.

Nevertheless, the method used to identify social representations, supplemented by the method of simple free associations when processing the results obtained, showed constructive possibilities for its further use in research. It allows not only to get a picture of the consensus within the group, but also to identify trends in the further development of users' social perceptions of new products of the digital economy, the influence of external factors on the formation of their structure. Convenience and simplicity of data processing allows you to quickly monitor social representations and identify their dynamics.

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ЭМПИРИЧЕСКОЕ ИССЛЕДОВАНИЕ СОЦИАЛЬНЫХ ПРЕДСТАВЛЕНИЙ ПОЛЬЗОВАТЕЛЕЙ О НОВЫХ ПРОДУКТАХ ЦИФРОВОЙ ЭКОНОМИКИ

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***Аннотация.** В статье представлен анализ результатов эмпирического исследования социальных представлений пользователей о новых продуктах и услугах цифровой экономики, таких как – dark kitchen, коливинг и Netflix. В проведенном исследовании была решена задача адаптации методики анализа социальных представлений в части, которая связана с обработкой данных. В качестве инструментария был использован алгоритм структурного анализа данных по Вержесу. Результаты анализа показали возможности используемого алгоритма структурного анализа в плане скорости проведения, удобства подсчета данных и их выпуклой визуализации для получения оценок социальных представлений пользователей о новых продуктах и услугах цифровой экономики.*

***Ключевые слова:** продукты цифровой экономики, социальные представления, методика свободных ассоциаций, структурный анализ, ядро и периферия.*