Complexity of Print Advertising: Theoretical Insights

The article presents theoretical aspects of print advertising complexity. The insights of Lithuanian and foreign authors are analysed achieving to determine the dimensions of complexity of print advertising. As a result of the research, advertising complexity can have visual, verbal and/or informational basis. Moreover, every of the three dimensions is composed of particular inherent components, which form the complexity of dimension as well as advertisement complexity. Trying to construct the foundation for further research on advertising complexity, the results of theoretical analysis are concluded with the model of advertising complexity.

Keywords: advertising complexity, informational complexity, print advertising, verbal complexity, visual complexity.

Introduction

Enormous competition has emerged in the world of advertising during the first decades of the twenty first century. All types of media are overcrowded by ads and commercials striving to capture the consumer’s attention. According to R. Pieters et al. (2010), advertising needs to have “stopping power” and marketers need to know which factors influence the stopping power of their advertisements and how to assess this to improve their effectiveness. A distinctive feature of advertising, relative to other contemporary forms of human communication, is its reliance on pictures to persuade (Phillips,
McQuarrie, 2004). Therefore, the visual impression of advertising becomes crucially important. Furthermore, comprehension of a written language (i.e. reading) involves the occipital cortex (primary visual analysis), the occipitotemporal regions (visual form processing), the posterior superior temporal gyrus (grapheme-to-phoneme conversion), the superior/middle temporal gyrus (semantic analysis), the inferior frontal gyrus (IFG) (phonological and semantic processing), and the precentral gyrus and cerebellum (motor skills for speech production) (Chen et al., 2009). Consequently, visual impression contains visual as well as verbal elements of print advertising. According to A. N. Tuch et al. (2012), the consistent first impressions can be formed very quickly, based on whatever information is available within the first 39 milliseconds. First impressions do often influence mid- and long-term human behaviour. It is important to understand how first impressions are formed and what factors they depend on. J. Hallward (2005) states that the first impressions of advertising may often be more emotional than rational, we need to explore beyond the rational to better understand consumers’ emotions towards and impressions of the product or the message. Scientific literature (Tuch et al., 2012) suggests that in a very short time consumer can form reliable judgements of, for instance, attractiveness or trust, and that these judgements depend on factors such as context or visual complexity. Therefore, the scientific problem solved in the article is what are the dimensions of complexity of print advertisement and how do they interrelate?

Accordingly, the object of the research is the complexity of print advertising, and the aim is to define the dimensions of print advertisement complexity.

Research methods. While achieving the aim of the article, the analysis of the scientific literature was provided. Scholarly studies in fields of complexity (Lowrey, 1992, 1998; McQuarrie, Mick, 1996, 2009; Pieters et al., 2010; Putrevu et al., 2004; etc.) were analyzed. The article aims at revealing attitudes of different authors to the complexity of print advertising. The general scientific research methods were applied for the theoretical analysis – the logical analysis and synthesis of the scientific literature.

The theory of advertising complexity

Advertisers have to find ways to motivate consumer engagement with the advertisement per se, the first step in eventually persuading consumers to adopt the brand (Putrevu et al., 2004). Accordingly, an advertising style that could capture the consumer’s imagination is the level of complexity embedded in the advertisement. Complexity, as defined by the number of independent units in a stimulus, can heighten arousal by increasing the cognitive demands that are necessary to appraise it (Zuckerman, 1994). R. Pieters et al. (2010) compare two opposite approaches to advertising complexity stating that the verdict regarding whether ad complexity hurts or helps the stopping power of advertising is still out. Moreover, R. Chamblee et al. (1993) suggest that readers approach advertisements for different product categories with different expectations of complexity.

Accordingly, the two extreme approaches to advertising complexity are simple and difficult. The first approach states that complexity hurts advertising
because it makes people pay less attention to the brand and ad message and, in general, is disliked; at the other extreme is stated that complexity helps advertising because it makes people stop and pay more attention to the brand and message, and people may like the challenge in accomplishing this (Pieters et al., 2010).

R. Chambee et al. (1993), analyzing the multidimensional nature of complexity link two aspects of complexity – visual (multiple distinct visual elements) and technical (high level of technical content/jargon) complexity – to advertising effectiveness; moreover, the authors substantiate the existence of lexical (lengthy compound sentences) complexity of advertising and its effect on advertising readership. T. M. Lowrey (1998) analyses the syntactic complexity of advertising in her research. Moreover, the other type analyzed in the field of advertising complexity is rhetorical complexity (e.g., McQuarrie, Mick, 1996; Phillips, McQuarrie, 2004; van Mulken, 2006); rhetorical figures can be analyzed in textual and visual frameworks. Considering technical complexity, it can be argued that as well as rhetorical, it can take verbal (textual) or visual form. Hence, it can be stated that lexical, syntactic, technical (textual), and rhetoric (textual) complexities are similar, and can be incorporated into the branch of verbal complexity. Moreover, N. Yannopoulou and R. Elliott (2008) highlight that there have been few studies that have explored real consumers’ interpretations of advertising texts, therefore further research in the area is necessary. S. Putrevu et al. (2004) add informational (extensive product/usage detail) complexity to the field. The assumption can be made that informational complexity is formed by both: visual and verbal complexities.

Visual complexity

According to A. Forsythe et al. (2011), visual complexity has been known to be a significant predictor of preference for artistic works for some time.

The two most generalized basic factors that affect visual complexity are perceptual complexity (related with the number and variety of objects) and cognitive complexity (related with the amount of the associations or other cognitive marks evoked by the stimuli) (Nicki, Moss, 1975).

The research provided by R. Pieters et al. (2010) substantiated the existence of two types of visual complexity: feature complexity (advertisements are visually complex when they contain dense perceptual features) and design complexity (advertisements are visually complex when they have an elaborate creative design). Consequently, feature complexity and design complexity indicates perceptual complexity; while visual rhetorical figures reveal cognitive complexity regarding the advertisement (meaning operations refer to the target or focus of the cognitive processing required to comprehend the picture; visual structure refers to how the two metaphorical objects are physically arranged (Phillips, McQuarrie, 2004)).

A. Oliva et al. (2004) stated that visual complexity is principally represented by the perceptual dimensions of quantity of objects, clutter, openness, symmetry, organization, and variety of colours. Accordingly, these dimensions substantiate the extracted types of perceptual visual complexity – feature complexity and design complexity.

Analyzing feature complexity it is determined (Pieters et al., 2010) that advertisements which contain more detail and variation in their basic visual features,
color, luminance, and edges are more complex. The more detail and variation there is in the three basic visual features across an image, the more computer memory is needed to store the image. Image compression techniques reduce the amount of computer memory needed relative to the original image by stripping an image of its redundancies and the JPEG algorithm is a standard for image compression. Consequently, R. Pieters et al. (2010) used JPEG file size as the measure of feature complexity. H. C. Purchase et al. (2012) used JPEG file size as the measure of feature complexity as well as a number of unique RGB colours in the image.

D. Donderi (2006a, 2006b) argued that when a picture is compressed, the string of numbers that represent the organization of that picture is a measure of its information content. When the image contains few elements or is more homogeneous in design, there are few message alternatives, and, as such, the file string contains mostly numbers to be repeated. A more complex picture will have more image elements, and these elements will be less predictable. The file string will be longer and will contain an increasing number of alternatives. Accordingly, information theory (Shannon, 1948) was used as a possible framework that could explain the success of compression size as a determinant of complexity. The information theory is a branch of mathematical theory of probability and statistics that studies the information and how to storage in digital form. It was developed by C. E. Shannon in 1948 to find the fundamental limits in compression and reliable storage of data communication (Quispe-Ayala et al., 2010). Accordingly, information theory treats a message as a series of components to be communicated. The message components in a visual image are small image elements, such as angles and lines. As the number of different elements increases, so does the unpredictability of the message (Forsythe et al., 2008).

Considering the probability approach, a first principle of the measurement information can be established. This principle establishes that the message that has more probability, it provides less information. This can be expressed as follows (1):

\[ I(x_j) > I(x_i) \iff P(x_j) < P(x_i) \]  

Where: \( I(x_j) \) – amount of information provided by \( x_j \);
\( P(x_j) \) – probability of \( x_j \).

According to this principle, it is the probability of a message to be sending and not its content, which determines their informational value. For a message \( x_i \) with an occurrence probability \( P(x_i) \), the information content can be expressed by (2):

\[ I(x_i) = \log_2 \frac{1}{P(x_i)} \]  

Where \( I(x_i) \) will have the unit of bit (Quispe-Ayala et al., 2010).

Within information theory, there is the algorithmic approach that talks about the Kolmogorov complexity \( K(x) \) which is defined as the length of the shortest program capable to producing \( x \) on a universal machine (Rigau et al., 2007). Intuitively, \( K(x) \) is the minimum amount of information necessary to generate \( x \) through an algorithm (3):

\[ K(x) = \min_{q \in Q_x} |q| \]  

\( Q_x \) is the set of codes that instantly generate \( x \). The Kolmogorov complexity \( K(x|y) \) from \( x \) to \( y \) is defined as the length of the shortest program that computes \( x \) when \( y \) is given as an auxiliary input for the program. The function \( K(x|y) \) is the length of the shortest program that produces the
concatenation of $x$ and $y$. But $K(x)$ is a non-calculable function. Both, the probabilistic approach of Shannon and the algorithmic approach of Kolmogorov for information theory, have a relationship with data compression. The compression serves to transport the same information, but using the least amount of space. Data compression is fundamentally based on search data series repetitions. There are two general approaches for compression: lossless compression and lossy compression (Roman-Gonzalez, 2013).

JPEG Compressor is a lossy compression algorithm, this means that when decompressing the image does not get exactly the same picture we had before compression. Lossy JPEG compressor takes an image and divides it into blocks of 8x8 pixels, for each block applies Discrete Cosine Transform (DCT) and then applies a quantifier, finally an entropy encoder for to get the compressed image; worth highlighting the loss of information is in the quantifier (Quispe-Ayala et al., 2010).

A. Forsythe et al. (2008) highlighted that JPEG type of compression does not allow the exact reconstruction of an original image, and although the image tends to be “good enough,” the process of removing small details and fine edges makes it particularly unsuitable for line drawings and textual or pictorial graphics. Furthermore, the system also adds additional information, known as compression artifacts, which were not contained in the original image. Despite this, the conclusions were drawn that JPEG compression measure is able to approximate human judgments of complexity, particularly in colorized or grayscale pictures. On the other hand, in order to more adequately capture the human notion of visual complexity, the appliance of more than one computational metric would be appropriate (e.g., number of unique RGB colours in the image).

Concerning design complexity, E. Michailidou et al. (2008) extracted six factors that reflect the latter variable’s complexity: quantity of objects, clutter, openness, symmetry, organization, variety of colours. Authors’ R. Pieters et al. (2010) as well as U. R. Orth and J. Wirtz (2014) extracted the same six variables that reflect design complexity:
- Quantity of objects;
- Irregularity of objects;
- Dissimilarity of objects;
- Detail of objects;
- Asymmetry of object arrangement;
- Irregularity of object arrangement.

Furthermore, U. R. Orth and J. Wirtz (2014) extracted two additional variables that reflect design complexity: variety in colour, variety in contrast. However, R. Pieters et al. (2010) assessed colour as variable of feature complexity. This is substantiated by the fact that computational metrics better assess the variety of colours in comparison with the human eye.

Consequently, each of the extracted variables of design complexity separately raises the visual complexity of the advertisement. An overall index of design complexity could be elaborated by summing all the coded values of latter variables (Pieters et al., 2010). Large number of objects, irregular shape of objects, dissimilar shape, colour, texture, orientation of objects, more detail from colour, edges, texture in the objects, asymmetric arrangement of objects, and irregular arrangement of objects compose the highest visual complexity regarding design complexity, and vice versa.

Analyzing visual rhetoric in advertisements, it is worth noting that there are...
two dimensions of visual rhetorical figures (Phillips, McQuarrie, 2004):

1) Visual structure, which refers to the way the two elements that comprise the visual rhetorical figure are physically pictured in the advertisement;

2) Meaning operation, which refers to the target or focus of the cognitive processing required to comprehend the picture.

Visual figures, like all rhetorical figures, are fundamentally concerned with the relationship of one thing to another. Given that a visual figure must present two elements on a printed page, B. J. Phillips, E. F. McQuarrie (2004) stated that there are three possible ways of accomplishing this: juxtaposition, fusion and replacement. Contrarily, M. Wedel and R. Pieters (2008) extracted six visual structures of visual rhetorical figures: juxtaposition, inclusion, combination, fusion, replacement, and removal. Furthermore, the complexity increases in a sequence that is given in Table 1, from juxtaposition (lowest complexity) to removal (highest complexity). In other words, the processing demands on consumers increases from juxtaposition to inclusion to combination to fusion to replacement to removal, and this differential demand contributes to differences in their responses to advertisements (Madupu et al., 2013).

The second dimension of visual rhetorical figures distinguishes three meaning operations: connection, comparison for similarity and comparison for opposition. As B. J. Phillips, E. F. McQuarrie (2004) stated, meaning operations provide instructions to consumers that direct their inferences from the arranged elements. Similarly, whereas visual structures can be arrayed according to their degree of complexity, meaning operations can be arrayed according to their degree of ambiguity, polysemy or richness of reference. In other words, consumers are expected to come up with many alternative meanings as they move along this dimension (Madupu et al., 2013).

Consequently, generalized approaches of such authors as B. J. Phillips, E. F. McQuarrie (2004), M. Wedel, R. Pieters (2008) and V. Madupu et al. (2013) are provided in Table 1.

### Table 1

<table>
<thead>
<tr>
<th>Direction of complexity</th>
<th>Visual structure</th>
<th>Direction of richness</th>
<th>Meaning operation</th>
</tr>
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<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td>Connection (A is associated with B)</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Similarity (A is like B)</td>
</tr>
<tr>
<td>Juxtaposition</td>
<td>The two metaphorical elements are presented side by side separately</td>
<td></td>
<td></td>
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<tr>
<td>Inclusion</td>
<td>One metaphorical element is inside another metaphorical element</td>
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</tr>
<tr>
<td>Combination</td>
<td>One metaphorical element is combined with another metaphorical element to form the third metaphorical element</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Fusion</td>
<td>The two metaphorical elements are fused together</td>
<td></td>
<td></td>
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<tr>
<td>Replacement</td>
<td>Of the two metaphorical elements, only one element is present while the other element is absent</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Removal</td>
<td>Of the two metaphorical elements, only one element is present without its expected complement</td>
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</table>
Rhetorical figures may be advantageous in processing contexts where exposure is not forced and/or processing effort will be minimal. They invite attention via their artful deviation, known more conventionally as incongruity, and then reward it with a pleasure-of-the-text, known more conventionally as cognitive elaboration. This incremental cognitive elaboration produces better recall and a more favorable attitude toward the advertisement (Wedel, Pieters, 2008).

Consequently, specific combination of perceptual and cognitive visual complexities may result in the higher effectiveness of the advertisement.

**Verbal complexity**

Verbal complexity relates to the linguistic structure and semantic content of communications (Putrevu et al., 2004). As it was mentioned before, the group of verbal complexity can be divided into sub-groups of syntactic, lexical, rhetorical, technical complexities. According to T. M. Lowrey (1992) verbal aspects of advertising have long been of obvious interest and importance in marketing research. R. Chamblee et al. (1993) state that even if readers may spend more time looking at visually complex advertisements, it does not indicate anything about whether they actually process the contents of the them. Therefore, verbal complexity is crucial for advertisements comprehension. The research clearly indicates that a simple text is better comprehended than a complex text; and most of the copywriting guidelines appear to assume that better comprehension always leads to greater persuasion (Lowrey, 1998); however, most of the past advertising research using psycholinguistic theory were focused on semantic components of advertising messages, such as word meanings and inference-making (Lowrey, 1992).

Considering *lexical complexity*, R. Chamblee et al. (1993) argue that it applies equally well across product categories: one can assess the lexical complexity of an advertisement for a cake mix just as easily as for a luxury-class automobile. According to M. G. Weinberger et al. (2012), the effectiveness of advertising messages is widely believed to be moderated by involvement with the underlying concept that higher involvement products tend to be more durable, more risky, and often more expensive. Lower involvement products on the other hand tend to be more routinely purchased, less risky and lower priced.

The study provided by R. Chamblee et al. (1993) proved that advertisements with higher lexical complexity help readership. However, there is a lack of consensus about the definition of lexical complexity among marketing scholars.

One group of researchers (Ke, Wang, 2013; Rimkutė, Pakalnytė, 2009; etc.) analyze lexical complexity from morphological perspective; their research is aimed to define the usage of verbs, nouns, adjectives, pronouns etc. E.g., according to Q. Ke and W. Wang (2013) the adjectives can give consumers good images which will cause them to buy the products or services.

The other group of researchers analyze lexical complexity from semantic point of view: lexical borrowings, slang, neologisms, jargon etc. For example, analyzing the lexical borrowings in advertising, L. Nevinskaite (2013) provides generalised classification of reasons for lexical borrowing, which includes...
designative, semantic, stylistic and socio-psychological reasons. Accordingly, borrowings help to attract attention to the advertisement or product, to demonstrate its advantages by a symbolic value of other languages, to address a particular audience or to play with language for an emotional effect.

Analysing syntactic complexity, H. Jae (2011) suggests that syntactic analysis is concerned with grammatical relations between words; when syntactic structure gets more complicated, it impacts text comprehension. The study provided by T. M. Lowrey (1992) showed that syntactic complexity can have direct implications for the persuasiveness of advertising messages. However, the research provided by J.-C. Chebat et al. (2003) showed that it is difficult to determine the impact of syntactic complexity alone.

T. M. Lowrey (1992) in her research on syntactic complexity in advertising, analyses the structure of sentences, namely: length of a headline, affirmative statements / negations, active / passive constructions, right-/ left-branching sentence structures. According to H. Jae (2011), syntactic complexity was manipulated to be simple and complex. Complex advertisements included sentences that were left-branching, negative, and passive. Simple advertisements included sentences that were right-branching, affirmative, and active.

According to S. Putrevu et al. (2004), this technical complexity refers to the technical content and jargon used in a particular advertisement. This dimension is of particular interest in technology-oriented products such as cars, computers, and other electronic goods. R. E. Anderson and M. A. Jolson (1980) argue that technical wordings are more predominant in trade or specialty publications than in mass print media such as general newspapers and magazines. One of the major features of technical language is that it abounds in novel concepts or terms which usually require more allocation of processing capacity (Yang, Meeds, 2008). There is some reason to believe that an advertisement’s technical content level affects the communication’s power to generate believability, interest, attention, and the audience’s overall belief in the product’s merits; moreover, technical content of an advertising message merges with the audience’s educational level and previous familiarity with the advertised product to determine the effectiveness of the communication (Anderson, Jolson, 1980).

Not many researchers have analyzed the effect of technical complexity on advertisement’s processing. However, the most important results were:

- As the technical level of an advertisement rises, the ad is less likely to gain and hold the interest and attention of readers; readers perceive the advertised product to be less durable, more difficult to operate, higher priced (Anderson, Jolson, 1980).
- As the level of technical language increases, the worse the attitudes towards the brand and the commercial are (Yang, Meeds, 2008).

As the opposite of technical complexity, rhetorical complexity can be analyzed. According to E. F. McQuarrie and D. G. Mick (1996), the rhetorical perspective suggests that the manner in which a statement is expressed may be more important than its propositional content. Authors classify rhetorical figures into two distinct modes called schemes and tropes. Scheme figures deviate by being excessively regular at the sensory level. A trope figure deviates at a
deeper level, by means of an irregular semantic usage (McQuarrie, Mick, 2009). Latter figures are divided into four rhetorical situations (repetition, reversal, substitution, and destabilization) according to their complexity. Analyzing textual rhetorics, M. Van Mulken, (2006) made an assumption that more complex figures required more elaboration and cognitive effort; however, more complex figures were more appreciated than less complex figures.

**Informational complexity**

The information dimension deals with the extent to which the message contains cues that permit consumers to make optimal buying decisions; informationally complex ad contains extensive product or usage details (Putrevu et al., 2004). However, the information in advertisement can be provided verbally (including huge amount of text) and/or visually (providing visual cues to consumer).

Thus, informational complexity will be considered as an independent dimension of complexity.

A. Resnik and B. L. Stern (1977) provided Evaluative Criteria for the measurement of advertisement’s informativeness: Price or Value, Quality, Performance, Components or Contents, Availability, Special Offers, Taste, Packaging or Shape, Guarantees or Warrantees, Safety, Nutrition, Independent Research, Company-Sponsored Research, and New Ideas. It can be stated that the more elements from the list appear in ad, the more complex it can be considered. Moreover, any of the elements can be provided in verbal and/or visual form.

**The theoretical model of advertising complexity**

Summarizing the analysis of scientific literature, the theoretical model of advertising complexity has been elaborated (see Figure 1).
Informational complexity of print advertising is formed by verbal as well as visual complexities of advertising. Furthermore, visual, verbal and informational complexities directly influence the complexity of advertising. Consequently, the assumption could be made that increasing complexity of verbal and/or visual and/or informational dimensions of advertising directly positively affects advertising complexity. Thus, advertising complexity could be expressed in a structural equation (4):

\[ \text{Adverting Complexity} = \beta_{60} + \beta_{63} \text{Visual Complexity} + \beta_{64} \text{Verbal Complexity} + \beta_{65} \text{Informational Complexity} + \zeta_6 \]  

Accordingly, the fit of the advertising complexity to the consumers’ expectations regarding specific product category could be attained by the particular combination of variables regarding their weights.

Additionally, visual complexity is formed by perceptual complexity as well as cognitive complexity. Perceptual complexity is reflected in the complexity of features and design complexities in the advertisement, while cognitive complexity is reflected in the complexity of visual rhetorical figures in the advertisement. Moreover, each of these complexities (features, design, and rhetoric) is reflected by the corresponding manifest variables of latter latent variables.

Verbal complexity is formed by lexical, syntactic, technical, and textual rhetorical complexities. Consequently, increasing one or more of latter complexities would result in the higher verbal complexity of advertisement. Subsequently, lexical, syntactic, technical, and rhetorical complexities are reflected by their corresponding manifest variables.

Even though informational complexity is influenced by verbal and visual complexities, it is reflected by corresponding manifest variables as well.

As a result, the correct combination of verbal, visual, and informational complexities, which would result in the general advertising complexity, fitting the expectations of the consumers regarding specific product category, could influence the advertising effectiveness.

**Conclusions**

Faced with intensively growing competition, organizations have to deal not only with their products’ or services’ quality. The primary goal becomes capturing the consumer’s attention. For many years, advertising helped to accomplish this mission. However, the abundance of advertising messages in the media forces the reach for excellence in advertising creation.

Nevertheless, advertising is not a uni-dimensional object, as it may seem for an amateur marketer. Numerous researches in marketing field have proved its complexity. Considering the complex nature of the construct, it becomes crucially important to determine the core dimensions determining its final version. Knowing the dimensions and their interrelations can help organizations to better attract the consumer’s attention, form more positive attitude to a brand, or increase the interest to a product or a company.

The scientific analysis highlighted the existence of three primary dimensions of advertising complexity: verbal, visual, and informational. Moreover, visual complexity is formed by perceptual complexity, which is reflected in the complexity of features and design complexities in the advertisement; as well as cognitive complexity, which is reflected in the complexity of
visual rhetorical figures in the advertisement. Additionally, verbal complexity is formed by lexical, syntactic, technical, and rhetorical complexities. Consequently, increasing one or more of latter complexities would result in the higher verbal complexity of advertisement. Each of the different latent variables, which form visual as well as verbal complexities, has their corresponding manifest variables. Furthermore, visual and verbal complexities influence informational complexity, which is reflected by its corresponding manifest variables as well.

As a result, the correct combination of verbal, visual, and informational complexities, which would result in the general advertising complexity, fitting the expectations of the consumers regarding specific product category, could influence the effectiveness of the advertising.

Acknowledgment

This research was funded by a grant (No. MIP-098/2014) from the Research Council of Lithuania.

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The paper submitted: May 27, 2014 
Prepared for publication: June 10, 2014


Teorinis tyrimas atskleidė, kad reklama nėra viendimensinis objektas – ankstesni tyrimai patvirtino jos kompleksiškumą, tačiau modelio, apjungiančio skirtingas reklamos dimensijas į bendrą višumą, rasti nepavyko. Galime teigti, kad dimensijų, lemiančių spausdintos reklamos kompleksiškumą, nustatymas ir apibendrinimas yra svarbus ne tik marketingo mokslui, bet ir verslininkams, siekiantys prasibrauti pro rinkos triukšmą ir patraukti vartotojų dėmesį reklama.

Atlikta mokslinės literatūros analizė leido klasiškai skirti skirtagingų autorių užrašais reklamos kompleksiškumą lemiančias dimensijas į tris pagrindines kategorijas – Žodinės, vaizdinės ir informacinės, kurių kiekviena yra papildomai sudaryta iš jų formuojančių antrinių dimensijų.