

## MEMETIC TRANSFER OF ATTRIBUTES OF THE IMAGE AS AN ELEMENT OF CONTENT MANAGEMENT OF TOURIST SNS

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**Abstract.** The article presents an innovative approach to content management, resulting from the synthesis of biological and management sciences. The aim of the article was to develop a theoretical foundation for the assessment of the effectiveness of the spread of content of a memetic nature. To achieve the objectives of the paper the author has applied the method of quantitative and qualitative analysis of content and the method of literature analysis. Based on the proposed evaluation capacity factor of a single attribute of memetic content, an analysis of the content (photographs) published on fb fan pages of selected hotels in Poland has been conducted. Identifying the specific memetic attributes in the population of the analysed photographs, the potential of spreading of particular groups of content within the social network has been examined. It has been shown that the proposed rate may support the process of content management, in the context of, among others, creating an image of a tourist site.

**Keywords:** memes, content management, tourist management, capacity effectiveness.

**JEL Classification:** D01; M39; Z19.

### Introduction

The aim of the presented pilot studies was to demonstrate the feasibility of the application of the theory of memes in the management of selected pieces of content shared within social networking sites (SNS). Photographs belong to the main types of pieces of content found in SNS. They can influence the perception of a particular place (Lo *et al.* 2011). As a result, photographs are used in the construction of a tourism image (Llodra-Riera *et al.* 2015). They also are of great importance for the creation of the involvement of SNS users, and through this for the evaluation of their tourist preferences (Munar, Jacobsen 2014). The analysis of a photographic image acquires importance in the light of the theory of memes (Dawkins 1976) and the model of forming the image of a tourist area (Baloglu, McCleary 1999) provides effective solutions for the memetic disassembly of content of photographic images. The scientific studies published to date do not contain an explicit reference to the theory of memes and its use in the management of virtual communities in the context of, among others, content management. These deficiencies justify the need for research in this area.

### 2. Image and tourist expectations

Image is one of the key elements influencing the popularity a tourist site or tourist objects (Tasci, Gartner 2007). Image can be seen as a set of beliefs, opinions, impressions of individuals or social groups, concerning an object or a place. It is the result of information from various sources, including Internet sources (Aksoy, Kiyici 2011; Zhang *et al.* 2014). Also significant is the fact that the image of a location or an object can also be defined by people not physically staying there, but having access and consuming information about it. Rodríguez-Molina with coauthors (2015) suggest that the image of a location will be the more positive, the greater the emotional charge the message carries. Highhouse with coauthors (2009) suggest that through impression management – i.e. influencing the perception of individuals, groups, places, objects, etc. (Schlenker 1980) – it is possible to control the impressions of audiences and shape the manner of perceiving the surrounding reality. At the same time, according to the assumptions presented by (Geng-Qing Chi, Qu 2008), the more positive the image of the area of tourist reception is, the greater the expectations of tourists towards

a tourist stay are. This in turn translates into the relation that the larger the tourist expectations are, the higher the level of their verification is, relying on a more critical perception of tourist events (Smoleński 2010).

The properties of the Internet, through which it is possible to transfer multimedia, imply a series of cause-and-effect relationships regarding the building of tourist expectations, representing a set of ideas about the consumption of a particular product or service (Higgs *et al.* 2005). Therefore, it can be assumed that the expectations regarding a tourist site or object are in a sense synonymous with its image. Andereck with coauthors (Andereck *et al.* 2012) suggest that undertaking tourist activity stems from the need to meet one or more of the expectations. Thus, building the image of a tourist site or object means, at the same time, building the desired expectations, and thereby directing the recipients of the message to specific products or services. In the case of the content published in the social networks, this fact is confirmed by the results of the research by Lo and McKercher (2015). The authors indicate, *inter alia*, that the subject of the photographs shared on the social networks, is the direct visualization of the manner, in which the person sharing the images wants to be perceived by the public. At the same time, Stepaniuk (2012) asserted the possibility of creating new tourist needs through the construction of appropriate media communications in social networks. Creating expectations and image building through the proper management of impressions perfectly fit into the practical possibilities of using the properties of memes.

### 3. Memes and social networking sites

Memes are the carriers of cultural information, which have the ability to spread from human to human (Dawkins 1976). The term “meme” was proposed by Dawkins (1976) as an analogy to a gene, which is the carrier of information through the process of succession. Memes shape behaviours, attitudes, activities of an individual. At the same time, due to the different frequency of these phenomena manifesting in the population, Aunger (2000) suggested that memes, like genes, are subject to the process of selection. This selection, referred to as cultural selection, relies on the fact of favouring (i.e. higher incidence with respect to the others) in some cases, of certain attitudes, behaviours, styles of being.

Memes, among others, through a variety of information channels – including SNS, can be trans-

ferred from person to person through imitation or copying (Dawkins 1982; Blackmoore 2000). According to Shifman (2013), memes have a few basic attributes:

- Content – part of the text, an image or a fragment, or any other form of a communication and the meaning, which it – (information transmission);
- Form – nature of visualization / manifestation of a communication in the form of text, images, melodies;
- Stance – concerns the relationship between the sender and the message content as well as the form and its recipient, the relation between the addresser, the information content and form, and of course the addressees.

Consequently, the skilful construction of the message, mainly related to the introduction of content of a memetic nature, may allow the creation of new needs and associated with them expectations, and therefore the specific image of a location or an object. In turn, the properties of the memetic content, as defined *inter alia* by Shifman (2013), allow for its dissemination through forwarding, linking or copying. These properties are simultaneously identical with the opportunities posed by contemporary social networks (SNS). SNS (e.g. Facebook, Google +) are part of the social media, which also include: content communities (e.g. Youtube), virtual worlds (e.g. Second Life); virtual games community, microblogs (e.g. Twitter) and blogs. The properties of the SNS, therefore, allow to gather information through viral means, concerning the various aspects of the functioning of an individual (Hinz *et al.* 2011), which thus affect his behaviour and activities. Garrido and Lockett (Garrido, Lockett 2013) suggests that the recommendations appearing within the virtual communities are indeed crucial from the perspective of the functioning of the hotel industry. In turn, Olenski (2012) indicate, that 81% of respondents declare a significant impact on the manner of functioning of the content available in the SNS as well as the content recommended (sharing, liking or leaving positive comments represents a specific form of recommendation) by friends.

#### 3.1. Memetic content and content management

Content – memetic content, present in individual photos shared on the social networks, can be classified with the use of a number of attributes. When assessing the impact of the memetic content on the image of a tourist destination, one of the most ade-

quate model is the one proposed by Baloglu and McCleary (1999). A key element of this approach are two groups of factors affecting the image (the manner of reception and perception) of a location. These are the perceptual-cognitive factors and the factors related to the motives of tourist behavior, which can be seen as the semantic components of memes.

Hence, it is likely that the appropriate way to manage the content shared across social networks can contribute to the formation of certain impressions of and expectations, which will affect consumer decisions in a certain way. The aim of the communication is also reaching the greatest possible number of users. Hence, there is a need for the proper assessment of the evaluation capacity – relating to the capacity of specific content of a memetic nature to spread in virtual communities (user groups). Assuming that memes are subject to the process of cultural selection (Aunger 2000) it is possible to indicate the ones that are the strongest in evolutionary terms, as well as those that do not exhibit such properties. Thanks to this approach, it is possible to more efficiently manage the content serving to build expectations and the image of tourism entities and shared on social networks. At the same time, the application of the theory of memes enables another evolutionary approach to Social media content management (SMCM). SMCM was defined by Glazkov (2005) as a set of concepts, methodologies, and standards, which enable and facilitate creation, organization, and maintenance of content by means of social interaction of individuals online. The entire weight of the selection of content would entail, in this case, specifying the attributes with the greatest potential for dispersion among the users. The measure of evolutionary success would be the result of summation of the ranks assigned to the activities (forwarding, linking or copying) of virtual group members.

The scientific objective of the study was the creation of a theoretical basis for the assessment of the evolutionary potential of particular content of a memetic nature, i.e. having the ability to spread within the social network. This component will be one of the elements of the system of memetic content management within tourist social networks, based on evolutionary assumptions. By treating certain content as memes, we gain the opportunity to study the changes in the frequency of their occurrence (the change in the frequency of appearance of alleles is the process influencing biological evolution). This provides the ability to track the processes of evolution of the manner of perceiving the image of certain entities and predicting or con-

trolling this process in the future. The scientific literature published to date does not contain any works concerning similar subjects.

#### 4. Materials and methods

The research material included 32 randomly selected hotels' Facebook profiles. The pilot studies covered the photographs available on 32 Facebook fan pages of hotel establishments in Poland, which were selected by using the search engine integrated within the platform. A combination of keywords was used, composed of: "city name" and "hotel". For each of the cities, the top 5 results were chosen, relating exclusively to hotels. Only in the case of Lubliniec – the smallest of the cities – two profiles of hotel objects were selected for analysis.

It was as follows: 1. Hotels from Warsaw (5): Hotel Marriot; Hotel Bristol; Hotel Regent; Hotel Sheraton; Hotel Radisson Blu Sobieski; 2. Hotels from Cracow (5): Hotel Atrium; Hotel Qubus; Sheraton Kraków Hotel; Hotel Pod Wawelem; Hotel Puro; 3. Hotels from Białystok (5): Hotel Gołębiowski; Hotel Leśny; Hotel Mozart; Dwór Czarnieckiego; Hotel Best Western Cristal; 4. hotele z Rzeszowa (5): Hotels from Rzeszów; Grand Hotel Rzeszów; Hotel Classic Rzeszów; Nowy Hotel Imperial Palace Rzeszów; Hotel Prezydencki; 5. Hotels from Sopot (5): Hotel Rezydent; Grand Hotel; Hotel Eden; Sheraton Sopot; Park Hotel; 6. Hotels from Augustów (5): Hotel Warszawa; Hotel Augustów; Hotel Karmel; Hotel Wojciech SPA; Hotel Albatros & SPA; 7. Hotels from Lubliniec (2): Hotel Zamek; Hotel Alhar.

The selection of cities was associated with the typology proposed by Christaller (1933), who distinguished: capital city (more than 1 000 000 inhabitants), provincial cities (500 thousand – 750 thousand) – Cracow, regional centre (250 thousand – 500 thousand) – Białystok, district centre (100 thousand – 250 thousand) – Rzeszow, county centre (50 thousand – 100 thousand) – Sopot (which, by way of exception, received the status of a district city), communal town (20 thousand – 50 thousand) – Augustów; and a market town (less than 20 thousand inhabitants) – Lubliniec.

Due to the pilot nature of the research, the choice of individual urban centres was subjective and supported only by the subjective feelings of the author concerning their tourist attractiveness.

To achieve the objectives of the work, the method of quantitative and qualitative content analysis was applied.

The introductory stage was the examination of the incidence of specific pieces of memetic con-

tent, contained in the photographs available on the profiles of selected hotels. To extract the attributes of the memetic content, the assumptions of the model of the image of reception areas according to Baloglu and McCleary (1999) were used, where the key element are the perceptual-cognitive factors, which may become simultaneously the qualitative attributes of the memetic transmission. It was assumed that a single photograph represents a single attribute of the memetic content, because by combining the form, content, and the relationship between the provider and the recipient represents the complete meme. Details are presented in Table 1.

Table 1. The selected components of the model of building the tourist area image (Source: own elaboration based on Baloglu and McCleary (1999))

Perceptual/Cognitive Items		
Factor I: Quality of Experience:	Factor II: Attractions:	Factor III: Value/Environment
– Standard Hygiene and Cleanliness	– Interesting Cultural Attractions	– Good Value for Money
– Quality of Infrastructure	– Interesting Historical Attractions	– Unpolluted/Unspoiled Environment
– Good Nightlife and Entertainment	– Beautiful Scenery/Natural Attractions	– Good Climate
– Suitable Accommodations	– Other	– Other
– Appealing Local Food (Cuisine)		
– Great Beaches/Water Sports		
– Interesting and Friendly People		
– Other		

Preliminary analysis of the subject on images on the selected profiles allowed for creation of the configuration of most common content of a memetic nature, which is present in the content of the shared photos (Table 2).

The aim of this study was to assess the impact of the evolutionary potential of individual images as elements conveying the memetic message. The level of evolutionary “potential” of the memetic content, i.e. the ability to “infect” subsequent users was measured with the use of the Activity Index (AI) indicator (Bandurski 2014). According to the assumptions of the AI indicator, each of the individual activities of social network users has different value. These values correspond to different

Table 2. Research tool used in the work (Source: own elaboration based on Baloglu and McCleary (1999) and Bandurski (2014))

Parameter (thematic category)	Attributes of the memetic content (content of a photography)
Factor I Hotel	You will relax having a swim
	Our guests are smiling
	You will meet a cheerful staff
	Our interiors are really great
	You will eat well
Factor II Local cultural heritage	in the neighbourhood you will see interesting architectural objects
	We have an interesting handcraft
	You will be intrigued by the local traditions
	You can pray
	You will listen to good music
Factor III Environment	and from the window you’ll see nature

weights, which are: liking – 1; comment – 4; publishing a text post – 8; publishing a multimedia post – 12; sharing – 16 (Table 2). Using the above, assumptions of the evaluation system of the evolutionary potential of a single attribute of memetic content and its indicator (based on the AI indicator) –  $AI_{sa}$  (i.e. the measure of its ability to spread among users, and basing on their differently evaluated activities) were established. Adding text post and adding multimedia post was not included in the formula because of the inability to reference these activities to the fb functionality available to a single published piece of content. This potential would be measured by the following formula:

$$AI_{sa} = N_l + 4 * N_c + 16 * N_{sh},$$

where:  $AI_{sa}$  – evolutionary potential of the memetic content attribute (literally of the meme);  $N_l$  – the number of likes;  $N_c$  – number of comments;  $N_{sh}$  – the number of shares

On the basis of the weight of the AI indicator, the “evolutionary potential” of individual memetic content attributes in the analysed cities was determined. Research was conducted in December 2015 and January 2016.

## 5. Results

The analysis included 676 photographs shared on the analysed fb profiles of hotels from 7 selected cities in Poland: hotels from Warsaw – 137, hotels from Krakow – 161, hotels from Bialystok – 74, hotels from Rzeszow – 97, hotels from Sopot – 45,

hotels from Augustow – 44, hotels from Lubliniec – 118. Photos were classified using memetic content attributes shown in Table 2. The incidence of each of the main categories and the memetic content attributes related to them were included below (Table 3).

Table 3. The incidence of each memetic attribute in profiles of hotels from individual cities (Source: own elaboration)

The Capital City (Warszawa)	Provincial town (Cracow)
You will eat well (43)	Our interiors are really great (68)
Our interiors are really great (32)	in the neighbourhood you will see interesting architectural objects (39)
You will be intrigued by the local traditions (18)	You will relax having a swim (23)
You will meet a cheerful stuff (13)	You will eat well (13)
Our guests are smiling (12)	You will meet a cheerful stuff (9)
We have an interesting handcraft (6)	you can pray(4)
You will listen to good music (6)	and from the window you'll see nature (3)
and from the window you'll see nature (3)	You will be intrigued by the local traditions (2)
in the neighbourhood you will see interesting architectural objects (3)	
You will relax having a swim (1)	
Regional centre (Białystok)	District Centre (Rzeszów)
You will eat well (32)	Our interiors are really great (51)
Our guests are smiling (15)	You will eat well (24)
in the neighbourhood you will see interesting architectural objects (9)	You will meet a cheerful stuff (13)
Our interiors are really great (7)	Our guests are smiling (7)
You will be intrigued by the local traditions (6)	and from the window you'll see nature (1)
You will relax having a swim (2)	You will relax having a swim (1)
You will meet a cheerful stuff (2)	
We have an interesting handcraft (1)	
District Centre (Sopot)	Communal town (Augustów)
You will eat well (18)	You will eat well (21)
in the neighbourhood you will see interesting architectural objects (9)	and from the window you'll see nature (9)
Our interiors are really great (8)	Our interiors are really great (8)

You will meet a cheerful stuff (6)	Our guests are smiling (4)
You will relax having a swim (2)	You will relax having a swim (1)
and from the window you'll see nature (1)	You will meet a cheerful stuff (1)
Our guests are smiling (1)	
Market town (Lubliniec)	
Our interiors are really great (42)	
You will eat well (24)	
Our guests are smiling (16)	
We have an interesting handcraft (13)	
in the neighbourhood you will see interesting architectural objects (10)	
You will meet a cheerful stuff (7)	
and from the window you'll see nature (6)	

Factor I
  Factor II
  Factor III

Within the content presented by Warsaw hotels the occurrence of 10 memes was found and it was the highest value. In other cases, the number of memes was eight (Krakow, Bialystok), seven (Sopot and Lubliniec) or six (Rzeszow and Augustow). In the latter case, there was no use of memes relating to the cultural heritage of the cities. In each of the cases key positions were occupied by attributes associated with the message on the interior of the hotel building (Factor II). Among the top three most popular memes are also those associated with the local cultural heritage (Factor III). This is particularly evident in cities with a long history (e.g. Warsaw, Krakow) or an intriguing contemporary architecture (e.g. Sopot). On the other hand, in cities exposing their natural values, for example Augustów, significant emphasis is placed on the message associated with nature.

The evolutionary potential of the analysed memetic content is presented below (Table 4).

The highest values (Table 4) of the indicator of the memetic content evaluation potential (Alsa) relate to Warsaw (Factor II, followed by the attributes associated with Factor I) and Krakow (the opposite situation). At the same time, in the case of hotels in Warsaw, the third content in terms of frequency sharing (Table 4; Factor II, "You will be intrigued by local traditions") has the highest evolutionary potential, i.e. the ability to spread among users. A similar situation can be observed also in the case of facilities from Lubliniec (Table 4),

Table 4. The values of the memetic content evaluation potential  $AI_{sa}$  presented within the hotel fb fan page in the analysed cities (Source: own elaboration)

City	Attributes	$AI_{sa}$	
Warszawa	You will be intrigued by the local traditions	707	
	You will eat well	641	
	Our interiors are really great	516	
	You will meet a cheerful stuff	502	
	in the neighbourhood you will see interesting architectural objects	208	
	Our guests are smiling	175	
	You will listen to good music	106	
	and from the window you'll see nature	95	
	We have an interesting handcraft	36	
	You will relax having a swim	22	
	Kraków	Attributes	$AI_{sa}$
		Our interiors are really great	434
You will meet a cheerful stuff		268	
in the neighbourhood you will see interesting architectural objects		184	
You will eat well		144	
You can pray		90	
You will be intrigued by the local traditions		66	
and from the window you'll see nature		65	
You will relax having a swim		29	
Białystok	Attributes	$AI_{sa}$	
	Our interiors are really great	135	
	Our guests are smiling	113	
	You will meet a cheerful stuff	98	
	You will eat well	41	
	in the neighbourhood you will see interesting architectural objects	22	
	You will be intrigued by the local traditions	10	
	You will relax having a swim	6	
	We have an interesting handcraft	3	
Rzeszów	Attributes	$AI_{sa}$	
	Our interiors are really great	324	
	Our guests are smiling	254	
	You will eat well	198	
	and from the window you'll see nature	139	
	You will meet a cheerful stuff	117	
Sopot	Attributes	$AI_{sa}$	
	You will eat well	23	
	in the neighbourhood you will see interesting architectural objects	22	
	You will meet a cheerful stuff	12	
	You will relax having a swim	7	
	and from the window you'll see nature	3	
Augustów	Attributes	$AI_{sa}$	
	and from the window you'll see nature	130	
	Our guests are smiling	63	
	You will relax having a swim	14	
	You will eat well	1	

Lubliniec	Attributes	$AI_{sa}$
	in the neighbourhood you will see interesting architectural objects	186
	Our guests are smiling	80
	You will meet a cheerful stuff	76
	Our interiors are really great	74
	You will eat well	53
	and from the window you'll see nature	37
	We have an interesting handcraft	13

Factor I
  Factor II
  Factor III

where in the prepared communication main focus is placed on highlighting the aesthetic value of the facilities and wellbeing of guests (Factor II), and the content most popular among users includes memetic elements synonymous with Factor I (i.e. related to the historical value of the city). Exposition of the attribute associated with Factor I and referring to religious practices (“you can pray”) in Krakow (Table 4) also deserves attention. This is probably related to the person of Karol Wojtyła (later Pope John Paul II) and the fact that he occupied the post of Metropolitan of Krakow. In none of the other analysed cities, religious content has been exposed.

## 6. Discussion

The meme theory may be an important base for theoretical deliberations related to the management of the selected pieces of content within social networks. Acceptance and adoption of the defined content by the users can be simultaneous with absorbing specific behaviours, preferences or expectations “encoded” in the memetic information. A similar situation, concerning mainly the level of satisfaction of staying in the hotel, was described by Smoleński (Smoleński 2011). Some of the hotel guests were so positively inspired by the presence of indoor flower arrangement that they declared the desire to change the decor in the place of their residence. In this case, the value of a mimetic content translated from the digital world into real life with a simultaneous, probable improvement of the quality and comfort of life. The evolutionary approach to the management of the content shared on SNS provides an opportunity to track and anticipate changes in preferences of consumers of tourist products and services. It is also a kind of complementation to deliberations regarding the subject of foresight in tourism. This type of work was carried out, among others, by Szpilko (Szpilko 2014a). The data obtained through this can allow for effective building of the reception areas image and be part of an innovative creating of the strategy for

tourism development (Sziplko 2014b). The necessity of implementing innovations in tourism was stressed, among others, by Szymańska (Szymańska 2012).

The factor of evolutionary potential of the memetic content may be an important tool in assessing the impact of such content on the activity of the recipients. Taking advantage of this fact will allow for a kind of “a test” of the individual components of the content in order to build the most expansive (spreading) communication. In this case, this communication should be constructed of elements with the highest potential for dispersion. From the perspective of the entities that create the image of a reception area or a tourist facility, such an approach enables efficient image building, based on a desired configuration of attributes. At the same time, the basis for creating new expectations and travel needs related to them are formed. This has practical implications. It allows for creation of a kind of reception of the existing or planned tourist product, composed of modules associated with a place or an object, and being its showcase.

At the same time, evolutionary aspect allows for the development of similar analyses towards determining the mutagenic potential of the shared content. Contemporary social networks and numerous tools in the network allow for the creation of new content based on the already shared. Analysing the degree and pace of transformation by modification, adding new content by multiple users (evolutionary levels) of the output content would provide a basis for determining the speed of evolution of the specific content, and at the same time would allow for studying and making recommendations relating to the management of the level of user involvement in relation to the activities of the SNS tourism entity.

## 7. Conclusions

The applied concept of the evolutionary potential coefficient of the memetic content attribute has its theoretical and practical implications. Firstly, the solutions presented above constitute the basis for the synthesis of the theory of biological sciences and management sciences in the context of effectively creating of the image of tourism entities (places or objects) and are a contribution to the development of scientific theory. Secondly, the proposed approach provides a quantitative and qualitative evaluation of a shared media in a practical way and can easily facilitate action regarding management of the content published in the SNS.

At the same time, the presented approach can form the basis for the creation of an applications that allows, among others, to support the decision-making process in the planning of a strategy for the development of tourist areas.

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