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## MULTIMEDIA PRODUCTS IN IMPRESSIONS ECONOMICS

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### **Multimedia products in impressions economics**

**Abstract.** The external factors influencing the perception were selected by generalization method: the concept of the project; structure and navigation; quality of content; technical equipment; and of internal factors: the value of the user; perception; type of perception. The essence of creating a multimedia product is the transfer of ideas embedded by developer. Authors have developed a classification of user ideas perception on the basis of perception time and emergence of ideas zones. In the article it is purposed to make the decisions on the interactivity necessity based on user activity analysis and purpose of multimedia product developer.

**Key words:** *multimedia product; economy experiences; factors; perception.*

**Problem statement.** In today's world there is an increase in the role of communication through multimedia products. Making purchases, reading literature, learning, knowing the weather forecast is possible without leaving the house. The desire of many companies to declare their goods and services on the Internet leads to the fact that information noise increases, the potential consumer's attention becomes more and more elusive. Perception of multimedia product is an important component in the company's success. The best effect of perception is positive user experience, which is the driver of multimedia products.

**Analysis of latest publications.** Local authors V. Bratkiewich, A. Pushkar (2015),

V. Klimnyuk, V. Bratkiewich (2010) dedicated their works to analysis of factors affecting the quality of multimedia products. There are foreign studies focusing on impressions by D. Kulchitskaya (2014), A. Lepiman, C. Same (2011), B. Schmitt (1999). Impressions in the media is reviewed by I. Eliner (2011), A. Chandrashekar, S. Mishra, P. Dambal, G. Ghinea (2010) and Johnson P. Thomas, A. C. Liu, T. Y. Chou (2016).

However, the authors considered factors that are external to the user. For a more complete understanding perception result it is useful to consider internal factors in relation to the user.

**Research objective.** The aim of the article is to analyze the generalization of

the factors influencing the perception of a multimedia product by the user in terms of marketing impressions.

**Main results of research.** There are two forms of communication at the present stage of development in the information society (Kachkaeva, 2013): traditional (interpersonal interaction through direct communication) and new (cooperation through technical means). Many authors have noted the interaction and complementarity of these data communication forms (Kachkaeva, 2013). Communication in the new form of the product is carried out by the media product, which means a set of computer technology, simultaneously using several information environments: graphics, texts, videos, photos, animations, sound effects, high-quality accompanying sound (Blagodatin et al., 2008). The multimedia product is able to activate multiple channels of perception that enables the integration of information delivered by the different senses. The introduction of interactive elements can strongly enhance and improve the quality of integration and the perception of information.

In modern research many authors (Bratkiewicz et al., 2015, Klimnyuket al., 2010, Kulchitskaya, 2014, Leppiman A. et al., 2011) are grouping criteria affecting the quality of the multimedia product. The analysis of groups allows to correlate the quality and experience of the multimedia product perception.

I. Eliner identified the following criteria for influencing the quality of the multimedia product (Eliner, 2011):

- 1) content (relevance of the theme, originality, uniqueness of broadcast information; periodic updating, adding information; a clear focus on the target audience (TA));
- 2) structure and navigation (reasonableness of user scenarios, taking into account peculiarities of the perception of the TA, experience, age, gender; names of sections and reasonableness of their location; the convenience of placing the material and viewing it);

- 3) a scenario (the integrity of the storyline; the interpenetration with the theme, stages of the story (plot, climax, denouement); drama originality);

- 4) language of media communication (combination of verbal and visual range; flexibility, transformability, visualization and imagery);

- 5) interface (clarity in the interaction);

- 6) functionality (availability functional capabilities and their consistency with the objectives and tasks of user; the ability of project to perform these functions quickly and reliably; the relevance of the use of various advanced technologies that make media product actual);

- 7) visualization (the unity of the visual image and the content; ease of recognition, legibility, recognizability of the image by the user; the harmony of artistic techniques (color, font, plastic, dynamic solutions); the right combination of different pieces of information (text, graphics, video, animations, and so on);

- 8) sound (harmony of sound and visuals);

- 9) interactivity;

- 10) ergonomics, «usability»;

- 11) the overall impression.

The study of foreign authors A. Chandrashekar, P. Chandrashekar, S. Mishra, P. Dambal introduced two groups of criteria for assessing the quality of the multimedia product: Quality of Perception (QoP) and Quality of Service (QoS) (Chandrashekar et al., 2010).

The first group of criteria assessment QoP reflects the quality of experience, which includes:

QoP-LoQ (quality of multimedia product on the user's subjective opinion);

QoP-LoE (user level of enjoyment of the product management process);

QoP-IA (information assimilation) or QoP-U (understanding) the ability to synthesize, to assimilate the information content of the product, to understand it.

The second group QoS is quality of service, which includes: the frame rate, the area

of data loss, distortion, audio-video sync color depth, data loss, network transmission delay, the selection focus on the page, etc.).

After summarizing the existing criteria for assessing the quality of a multimedia product, we take them as a basis for grouping the factors influencing the per-

ception of a multimedia product. It is proposed to distinguish four main groups of factors (Table 1):

- 1) concept of the project; scenario; idea;
- 2) structure and navigation; clarity;
- 3) quality of content;
- 4) hardware.

*Table 1*

**Factors influencing the multimedia product perception, authors**

Factors	Klimnyuk et al., 2010	Bratkiewichet al., 2015	Eliner, 2011	Kulchitskaya, 2014	Chandrashekar et al., 2010
1. Concept of the project. Scenario. Idea.					
The integrity of the script storyline		+			
The presence of the original idea, the project concept. Novelty, originality, uniqueness	+	+			
Stages of development of the plot (exposition, climax, denouement)		+			
Relevance of the topic		+			
Periodic updating and adding information		+			
A clear focus on TA, focus on humane goals		+			
2. Structure and navigation. Clarity.					
Structuring content. Ease of viewing content.	+	+	+		
Ergonomics. Usability. Easy and understandable interaction with information. Information assimilation (synthesis)	+	+		+	
Reasonableness of user scenarios		+			
Consideration of the target audience perception: experience, sex, age					
Reasoning in section titles and their locations		+			
The menu organization	+	+	+		
3. Quality of content					
3.1. Text					
Information capacity: explanation of theme	+		+		
Availability: clearly and unambiguously stated	+				
Presentation structure: sequentially, correctly systematized	+				
Literary competence	+				
Quality of content optimization	+				
3.2. Visualization. Artistic image.					
The arrangement and layout. Proper arrangement of the various pieces of information (text, graphics, video, animation)	+	+		+	
Illustration and graphic design. Visualization and imagery. Allocation of accents.	+	+	+	+	
The combination of verbal and visual range (or tactile sensations)		+			
The unity of content and visual range		+			
The unity of the project style		+			
Easy recognition, image recognizability		+			+
Artistic techniques harmony (color, font, dynamic solution)		+		+	

Factors	Klimnyuk et al., 2010	Bratkiewichet al., 2015	Eliner, 2011	Kulchitskaya, 2014	Chandrashekar et al., 2010
3.3. Sound accompaniment					
Harmony of sound and visual range		+		+	
Creating emotional subtext		+			
The distribution of accents, underlining the essence		+			
Speech, voice guidance		+			
4. Technical equipment	+				
Providing interactivity. Manageability (part of the product must be presented to the user at a controlled pace)	+	+		+	+
Providing of dynamic	+				
Availability of functional capability and their consistency with the objectives and tasks of user		+	+		
The ability to quickly perform the functions of the project		+			
The appropriateness of the use of various advanced technologies that make the product interesting for TA		+			

Let us consider the selected group of factors in more detail.

1. Concept of the project. Scenario. Idea.

One of the differences of human from electronic mechanism (e.g., computer) is the ability to see the essence. So in the process of translating foreign text the automatic version by computer contains a lot of mistakes because the machine does not catch on and carries out mechanical substitution of words and phrases from the dictionary. Person can see the key issues, and everyone can receive the infor-

mation in their own way because of their own values and previous experience. The goal of creating a multimedia product is the transmission of ideas laid down by the developer. What ideas can impress users? The authors proposed to classify the possible ideas on three criteria (Table 2). The first criterion is time information perception (by what time the user accesses in the perception of the idea): the past (P), the present (Pr), the future (F). The second criterion is the zone of occurrence of ideas. Third one is the essence of the idea.

Table 2

Classification of ideas in the process of multimedia products perception, authors

Time of perception	Zone of occurrence of ideas	Essence of the idea
P	Zone of a past life (retro)	Ideas that return person in his past
Pr	Zone of interest, hobbies, entertainment	Ideas that are in the user's interests field
Pr,F	The actuality zone (relevance)	Ideas that allow to solve the urgent problem
P, Pr,F	Public zone	Ideas related to the processes taking place in society (politics, culture, etc.)
P, Pr,F	Spiritual development zone	Aimed at maintaining the theme of self-development of person

Time of perception	Zone of occurrence of ideas	Essence of the idea
P, Pr, F	Professional development zone	Promote professional development
P, Pr, F	Family zone	Associated with the theme of family, marriage, children
P, Pr, F	Communication zone	Related to people communication
F	Prospects zone	Involving a person into a new experience, opening new horizons

2. Structure and navigation. Clarity.

Formed idea should be reflected to the user in accessible and understandable way. The following components are important in this process (Bratkiewicz et al., 2015, Klimnyuk et al., 2010, Kulchitskaya, 2014, Leppiman A. et al., 2011): structuring of content and viewing pleasure, ergonomics and usability, intelligent custom scripts for the target audience, well thought-out section titles and their locations, the organization of the menu, value format (the product meeting the standard norms the perception of the product; promo video will not be viewed for 15 minutes).

3. Quality of content.

Quality of content has a direct relationship with the user's emotions. This aspect reveals the developer ability to convey emotions through information tools. Content involves text, art, auditory components.

4. Technical equipment.

One of the components of product technical equipment is interactivity. Interactivity means the possibility of control presentation process (Hvostov, 2014): the manipulation of objects, scrolling within the screen, context-sensitive help, the ability to create or configure display objects, etc.

In his study of E. Dale (1969) suggested a new approach to the analysis of perceived information in the learning process. The idea of the author is described as a pyramid of learning (Utochkin, 2009). According to his approach interactive training allows to increase the percentage of assimilation of the material, as the impact of more intense feelings, the will (acts, practices). The best result in the perception of the material is achieved with the active learning that involves interactivity. User activity implies the involvement, interaction, experience (Schultz, 2002).

In our opinion it is advisable to monitor the relationship of goals of multimedia product developer and the planned level of user experience. The more vivid impressions and activity of the user expects the developer, the more elements of interactivity it should be put in the product. This approach resonates with the experience of marketing the concept: user activity, his experience, experimentation with the product provides the customer experience. The higher the activity and involvement, the greater is the emotional response.

According to the authors it is advisable to allocate a relationship of goals multimedia product developer with a level of interactivity of the product (Table 3).

Table 3

Relationship of goals of multimedia product developer with the level of product interactivity, authors

Activity of the user's position	The purpose of information transmission	Interactivity of multimedia product	
		Absence	Presence
Passivity	acquaintance		
	entertainment		

Activity of the user's position	The purpose of information transmission	Interactivity of multimedia product	
		Absence	Presence
Activity (based on past experience)	consumption for training purposes		
	influence the decision, which took place in the past		
	incentives to habitual actions		
The activity (on the basis of new information)	consumption in order to produce new knowledge		
	affect the value system		
	influence on decision-making		
	affect the unusual action		

From a practical point of view, the issue requires further study of the interactivity types classification. There exist such types of interactivity as feedback, first and second levels, timing, sequence, informative, creative (Schultz, 2002); reactive, proactive, two-way (Chandrashekar et al., 2010). The progression of multimedia technology involves the development of new types of interactivity, which require the description and integration in the overall classification, such as augmented reality, personalized, multi-channel and others.

In addition, it is necessary to allocate the external subjective factors affecting the user experience of multimedia products which do not depend on the developer. These include:

1) Environmental factors:

a) virality of information. User can be actively involved in the process of perception of the information. That is related to mass and popular information (it is now fashionable, professional necessity, etc.).

b) the value of important people. In the circle of communication of any person there are people whose opinion is important and authoritative. Because of this there exist

a transfer, loan of that people values what also affects the process of perception.

2) Internet factors (Chandrashekar et al., 2010):

a) delay means the time of transmission of information from a source to a destination;

b) jitter shows changes in latency;

c) loss of data during transmission (e.g., color depth reduction, loss of video and audio content, an error on the page) .

It is advisable to allocate other group of factors. They are internal aspects influencing the perception that do not depend on the developer, but do directly from the subject perceiving the product.

Firstly it is the user values. Values are a kind of filter for information. The information transmitted via multimedia product may be in the area of user interests or values and then trigger an emotional response more likely.

Second is the type of perception. There are 4 types of perception: auditory, visual, kinesthetic, discrete. The developer needs to meet abilities of the users to the fullest extent as possible according to their type of perception (Table. 4).

**Guidelines for the development of multimedia products according to the type of perception, authors**

Perception type	Key feature	General recommendations for product development
auditory	loud	Use videos in the description of the goods; Use hyperlinks with music; Use phrases that describe the perception of sound «hear», «speak», «sound», and others
visual	colorfully	Use high-quality photos Create beautiful design of the product Follow the visual ease of use of the product; Use the structure and visual markers; To structure the description of goods on the blocks; Present exhibition catalog; Use the rotation function of the goods; Use of the phrase «as seen», «obviously», «at first glance»
kinesthetic	comfort	Large present structure, the texture of the product; Use markers text; Use a phrase describing the sensation of physical contact, «feel», «sence»
discrete	functionally	Use videos with the product functions description; Relying on the figures, logic; Describe the functional characteristics of the goods

Third is the user's perceptual perception. Perception is a process of reflection objects or phenomena with their direct impact on the senses (Utochkin, 2009). In this aspect, we distinguish two components: perceptual transactionalism and perceptual blindness (blindness inattention).

Fourth is an individual stylistic difference in perception. There are two basic styles: analytical and synthetic and two mixed: analytical-synthetic and emotional. Features of perception are presented in Table 5.

Summarizing the above we can present a set of factors that influence the perception of the multimedia product (Figure 1).

Table 5

**Features of perception according to individual stylistic differences, authors**

Type of perception by individual stylistic differences	Characteristic
synthetic	the tendency to a generalized reflection of a phenomena, to determination of basic meaning
analytical	the tendency to allocate details, parts, details
analytical-synthetic	a combination of features of synthetic and analytical type, but with less severity
emotional	increased sensual reaction to a situation that prevents adequate perception.

Developers multimedia product it is advisable to take into account factors that affect the perception of the multimedia product, presented in Figure 1. Perhaps this work will lead to more research of users' interests, analysis the ways of their percep-

tion to develop a multimedia product that causes a response and create an impression.

**Conclusions.** The factors affecting the perception of the media product by the user are summarized in terms of impressions marketing. There allocated 2 groups

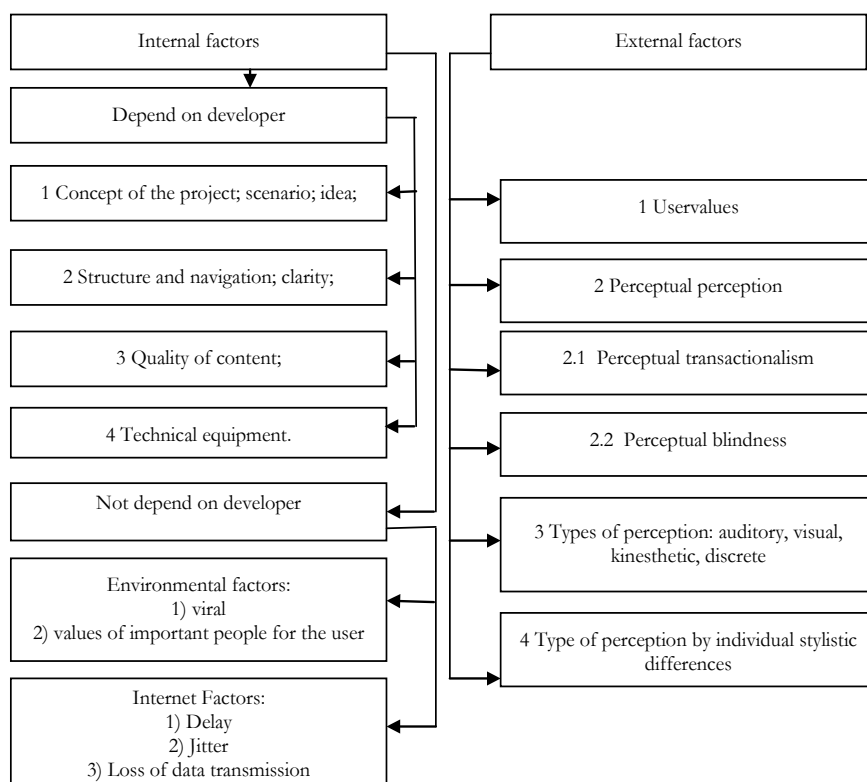


Figure 1. Factors influencing the perception of a multimedia product, authors'

of factors: internal and external. In the first group of factors the developer has the ability to influence. A second group of factors must be considered in the making of the product. Further studies lay in the field of development of methodical main-

tenance of processes for creating multimedia product management, taking into account experience of marketing concepts and the development of tools for evaluating the experience of the perception of a multimedia product.

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