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Multimodality as a Premise for Inducing Online Flow on a Brand Website: a Social Semiotic Approach

Oana Culache^{a,*}, Daniel Rareş Obadă^b

^a Faculty of Philosophy and Social-Political Sciences, "Alexandru Ioan Cuza" University of Iaşi, 11 Carol I Avenue, Iaşi, 700506, Romania

^b Faculty of Economics and Business Administration, "Alexandru Ioan Cuza" University of Iaşi, 11 Carol I Avenue, Iaşi, 700506, Romania

Abstract

The aim of this paper is to propose a new approach in the form of multimodality as a semiotic method that can be used by marketers and semioticians to induce online flow, a psychological state, on a brand website. First, we refer to multimodality as a semiotic analysis that can be used for a better optimization of semiotic resource sets in meaning-making, and we distinguish it from another similar concept: multimedia. Second, after a critical literature review, we address the flow construct - a state of mind sometimes experienced by people who are deeply involved and immersed in some event, object or activity. Previous quantitative studies show a correlation between online flow experience and other variables such as design, content, sound and layout that are suggested to be its antecedents. In our study, these flow antecedents are viewed as sets of signs or modes that can be orchestrated in order to create different levels of perceived challenge for brand website users. We consider that multimodality can be used for a better optimization of these various meanings as expressed by modes that are "essentially different in nature" (Bateman, 2008, p.54). Also, we refer to the online marketing outcomes of the online flow experience, in order to outline its importance and its implications in the online environment. The main conclusion of our paper is that multimodality can be used by scholars and practitioners as a premise to induce online flow on a brand website, by optimizing the sets of signs or modes. Originality – our contribution consists of an interdisciplinary approach. We use concepts from semiotics, positive psychology, and online marketing for a better understanding of how marketers and semioticians can positively influence online customer behaviour.

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* Corresponding authors.

E-mail addresses: oanaculache@gmail.com; rares.obada@gmail.com

1. Introduction

The expansion of the online environment has led to an increasing interest on the part of researchers and practitioners in investigating the personal experience of website users.

According to the study *World Internet Usage and Population Statistics* (2012) retrieved from Internet World Stats, an international website that features up-to-date world Internet Usage, Population Statistics, Travel Stats and Internet Markets, the Internet penetration rate for June 30, 2012 was to 34.3% of the world's population, meaning 2,405,518,376 users. Considering the growth of online markets, it has become extremely important for brand managers to address their message to online customers, and to provide them with compelling experiences.

The purpose of a brand website is to create a positive brand experience for customers. This type of site differs from e-commerce sites due to its main function which is to inform the customers and build the brand, rather than to facilitate online transactions. In this context, it is extremely important for marketers and semioticians to understand online customer behaviour and factors that influence a compelling experience when surfing a brand website.

In the last few years, the flow construct proposed by Csikszentmihalyi (1975) and applied in computer mediated environments by Hoffman and Novak (1996) proved to be useful for marketing scholars and practitioners in order to understand the user's experience and behaviour in virtual worlds, so that they could create effective brand websites.

In this paper, we argue that the online flow state can be affected by the semiotic resources website creators use, namely content, layout, sounds, and design. We build our argument on the social semiotic perspective, given that multiple semiotic resources are co-deployed in the brand website building process, and their interaction generates meaning. In this respect, we believe that these semiotic resources and their interaction create meaning, and they also create the conditions for inducing the online flow state, by means of capturing the visitors' attention and offering them an interesting, long-lasting online experience that would make them want to revisit a brand website.

2. Background

According to the American semiotician Charles Sanders Peirce, the world consists of signs. There are various types of signs identified by Peirce, the most popular of which in the literature are icons, indexes, and symbols (CP 1.369). Signs operate in the context of a semiosis, defined as an action or influence involving three elements: sign, object, and interpretant (CP 5.484) - whose cooperation is mandatory in order to ensure communication. In order to represent a semiosis' objects, social semioticians argue that there are a great deal of social semiotic systems that have a role in representation and meaning-making (Halliday, 1978). Each of these semiotic resources is socially developed, and impacts in a particular way during the representation and communication process, while their interaction defines the final meaning of a message. These sets of signs are commonly known as *modes*.

2.1. The role of multimodality in representation and communication

Modes are sets of semiotic resources organized in such a manner as to create meaning, while their existence and way of employment are validated by a previous social and cultural acceptance (Bezemer & Jewitt, 2010). This perspective is also assumed by Kress (2010), who defines the mode as "...a socially shaped and culturally given semiotic resource for making meaning" (p. 79) and being represented by: image, writing, layout, music, gesture, speech, moving image, soundtrack, colours, and 3D objects. Each mode of representation offers a unique potential to create meaning, potential that proves to be different from that of other modes of representation. As a result, in order to better represent an object or entity, Kress noted that there are always several modes used together, in "modal ensembles" (2010), that are strategically designed so that each mode uses its own "affordances" (Gibson, 1977) - a concept understood as referring to something that is "...possible to express and represent easily in a mode" (Bezemer & Jewitt, 2010, p.184), that is what a mode can contribute in a communication situation. This distinctiveness of each mode is paramount in selecting the mode that is used in a specific communication context (Kress, 2010). The method of combining several modes in a message in order to better express the intended meaning is referred to as multimodality.

Multimodality is defined as "...the existence of multiple modes of communication, in order to manage meaning construction through the effective integration of a repertory of resources suited to the needs of different users"

(López Rodríguez, Prieto Velasco, & Sánchez, 2013, p.49).

Multimodality represents the case when, within a message, "...at least two input (senses) or output (medium/device) modes (or sub-modes) are involved" (Pauwels, 2012, p.250). Kress (2010) points out the difference between two similar concepts: *multimedia* and *multimodality*. While the former refers to the cultural technologies currently used for *disseminating* messages (such as television, radio, World Wide Web, etc.), the latter comprises the cultural technologies of *representation*, as we have already specified - still and dynamic images, 3D objects, colours, writings, speeches, layouts, music, etc. We understand representation in conformity with the following definition:

[A] process in which the makers of signs [...] seek to make a representation of some object or entity, whether physical or semiotic, and in which their interest in the object, at the point of making the representation, is a complex one, arising out of the cultural, social and psychological history of the sign-maker, and focused by the specific context in which the sign-maker produces the sign (Kress & van Leeuwen, 2006, p.7).

In order to better represent an object or entity, the various modes used by people should be strategically combined in a "semiotic harmony" (Kress, 2010). The modes do not act as duplicates. On the contrary, they complement each other. To explain this, Ravelli (2006) uses the concept of "intersemiosis", designating the unitary coordination of semiosis created across multiple sign systems so that they are not perceived to be isolated, but as having a unitary meaning. Thibault (2000) considers the meaning of a multimodal message as a composite product/process involving the way in which different resources are co-deployed. Consequently, it should not be divided into a number of separate "channels" or "codes". Also, Lemke (1998) introduces the concept of "multiplication of meaning", as an orchestrated combination of meanings, different from redundancy, which bring something new. This idea is supported by Schriver (1997), who explains that through rhetorical clusters we can ensure that users understand the proper way to interpret a text:

We can think of a document as a field of interacting rhetorical clusters. If the document is well designed, the clusters orchestrate a web of converging meanings, which enable readers to form a coherent and consistent idea of the content (p.344).

As we have previously discussed, multimodality does not comprise the addition of meanings, but a reunification of various meanings that are "essentially *different* in nature" (Bateman, 2008, p.54), according to the "resource integration principle" (Baldry & Thibault, 2006). The orchestration of different modes describes "...the process of selecting/assembling/designing the semiotic "materials" which seem essential to meet the rhetor's interests and which will be given shape as the semiotic entity of text as an ensemble, through the process of design" (Kress, 2010, p.162).

In the next section, we briefly review flow theory and discuss the manner in which multimodality can be used to manage different sets of signs or modes, such as design, layout, sound and content, and influence a brand website visitor's experience by making it enjoyable, self-rewarding, and long-lasting.

2.2. Flow theory

In the literature, *flow* is a term used by positive psychologists to describe a state of mind sometimes experienced by people who are deeply involved in some event, object, or activity to such an extent that they are completely and totally immersed in it (Csikszentmihalyi, 1977). According to Csikszentmihalyi (1977), *flow* is the holistic sensation that people feel when they act with total involvement.

Flow experience, or "optimal experience", is a common feeling of deep immersion identified by Csikszentmihalyi (1975, 1990) while interviewing certain professional and amateur dancers, chess players, rock climbers and surgeons.

Since 1975, scholars have used the flow construct in different fields such as education, sports, management and marketing. In 1996, Hoffman and Novak used the flow construct in online environments and defined it as the state

occurring during network navigation which is: (1) characterized by a seamless sequence of responses facilitated by machine interactivity, (2) intrinsically enjoyable, (3) accompanied by a loss of self-consciousness, and (4) self-reinforcing. Hoffman and Novak (1996) argued that optimal experience, or flow, can have positive marketing outcomes, such as increased perceived behaviour control, positive subjective experience, increased learning and exploratory behaviour.

Our literature review of flow studies in offline and online environments revealed that researchers share the same perspective on the conceptual definition of flow as presented by Csikszentmihalyi (1997). However, we identified different models of flow proposed by scholars containing different factors influencing optimal experience. In our study, we will refer to two flow models in order to establish the conceptual framework and to explain how multimodality can be used by marketers and semioticians in order to induce users' online flow, while they surf a brand website.

As we have already stated, we consider it important to clarify the *flow process stages* and the *nature of variables included in flow models*.

First, in order to clarify *flow process stages*, we invoke the flow model proposed by Chen (2000):

- Flow antecedents – or conditions of flow experience (e.g.: clear goals, immediate feedback, potential control, and merging of action and awareness);
- Flow experience – symptoms (e.g.: concentration, telepresence, time distortion, and loss of self-consciousness);
- Flow consequences – flow outcomes (e.g.: positive affect and autotelic experience).

Chen's model is important when it comes to clarifying the flow phenomenon and its stages, because there are some discrepancies in the literature regarding the variables proposed to be flow antecedents, flow experience symptoms, and flow consequences (Obadă, 2013). However, most researchers agree on the following three stages of the flow process as a flow framework: flow antecedents, flow experience, and flow consequences (Chen, 2000; Ghani, 1995; Ghani & Deshpande, 1994; Trevino & Webster, 1993).

As stated before, in our paper we focus on flow antecedents, or flow conditions, by arguing that multimodality can be used by marketers and semioticians in order to induce flow experience on a brand website. As we can see in Chen's model, flow conditions are *variables that can be classified into different types according to their nature*. In this context, we refer to the Person-Artifact-Task (PAT) model proposed by Finneran and Zhang (2003), in order to clarify the nature of these components:

- *Person*. Csikszentmihalyi (1988) states that individuals are different in their skills and life attitudes, and these differences affect their propensity to achieve a flow experience. Csikszentmihalyi (1988) called this the "autotelic personality" trait. For a user to experience flow, it is important to have *a clear goal, a sense of control, and a balance between perceived skills and perceived challenge*.
- *Artefact*. Finneran and Zhang (2003) argue that artefact characteristics influence the user's flow experience. For example, website speed, content (i.e. sound, text, image, audio, video, layout, or a combination of any of these), and interactivity (or immediate feedback) represent an important part of a user's *perceived challenge*.
- *Task*. Task type (i.e. goal-oriented or experiential tasks) can influence flow occurrence (Finneran & Zhang, 2003). Whereas a goal-directed task - such as searching for information on a brand website - has utilitarian benefits, situational involvement, and instrumental orientation, an experiential task - such as entertainment - uses a non-directed search and has hedonic benefits, ritualistic involvement, and enduring involvement (Finneran & Zhang, 2003). The task nature and task complexity influence flow experience because, in some cases, they can determine an imbalance between the user's perceived challenge and his perceived skills (Finneran & Zhang, 2003), that are important antecedents of online flow (Csikszentmihalyi, 1988).

Finneran and Zhang (2003) state that the components of the PAT model are interrelated, and they proposed it for a better conceptualization of online flow. In our study, based on Finneran and Zhang's PAT model, we argue that marketers and semioticians can manage the second component, *artefact*, using multimodality as a

qualitative/semiotic method. As a result, in the next section, we will examine the way in which multimodality influences online flow on a brand website.

3. The multimodal nature of a brand website and its influence on the flow state

Websites are communication instruments that allow their users to control their interaction with a brand in the virtual world. As studies have demonstrated, successful online marketing is strongly influenced by a website's ability to induce a flow state on the part of the visitor (Hoffman & Novak, 1996). Thus, brand owners invest resources in order to create an interesting interface and a relevant content. As we shall argue, these efforts should take into consideration the semiotic multimodality whose affordances may prove to generate the conditions that induce the flow state. As presented above, there are some particular factors that favour the appearance of a flow state. We believe that the multimodal method - represented by modes and their organization - influences a brand website's potential to generate a visitor's flow experience.

In our view, marketers and semioticians can optimize the sets of signs or modes in order to create a compelling experience for brand website users. For example, by managing the sets of signs, marketers can use appealing images, a high quality content, an easy-to-read layout for an aesthetically pleasing brand website, suitable colours and music, moving images, soundtrack, and 3D objects. All these modes or sets of signs can be administered to create an artefact, in our case a brand website, that can induce online flow.

First of all, website design has proven to be an important variable for successful brand websites. Huang (2003) considers that website attributes can be designed in order to induce flow. Huang (2003) argues that users see each website as a bundle of attributes with various capacities to satisfy their needs. This means that different modes can be managed to meet users' needs when they surf a brand website while searching for information (goal-oriented behaviour) or for entertainment.

Second, ease of use has been proven to affect the visitor's experience (Skadberg & Kimmel, 2004) and refers to the navigational characteristics of a website. By using multimodality, marketers and semioticians can optimize the navigational characteristics of brand websites. From a broader perspective, websites are created using different codes or signs. This means that multimodality can be used to create a "semiotic harmony" (Kress, 2010), or a successful brand website.

Third, the perceived characteristics of a brand website may engender the flow experience. For example, user's perceptions of a website's flexibility and modifiability may contribute to flow. Users may enjoy the idea that they can tailor softwares to their individual needs by varying commands, speeds, and difficulty levels, sounds, or colours (Malone & Lepper, 1987). In Ghani's (1991) survey, computer users who have developed their own applications and explored the capabilities of the software, spend more time in computer interactions, are more involved, and reported greater enjoyment.

Fourth, in our opinion, it is extremely important for brand websites to contain optimized sets of signs, or modes, so that to ensure a balance between the user's perceived skills and the perceived challenge.

3.1. Meeting online visitors' needs via multimodal brand websites

As a flow state requires the visitor's focused attention (Pace, 2004), the website must be able to get it by satisfying the visitor's needs, so as to be congruent with his interests. As a result, the website, which is an informative platform per se, should display relevant information. The multimodal nature of digital instruments allows message producers to use only two "(super-)modes": the visual and the auditory, ruling out all modes that address the other senses (Pauwels, 2012). Hence, in order to display relevant data for visitors, websites may employ textual features (including typography), layouts, shapes, colours, still and dynamic images, special effects, and hyperlinks. Regarding the auditory prompts, websites may contain sound effects or noises, soundtracks/music, and even recorded speech. The content must be codified and exposed by using several modes that best comply with their objects: rarity/originality may imply specific information/images; emotional impact may be generated by the content's subject, tropes, images, music, and soundtracks; the aesthetic appeal may be materialized in layout, colour interplay, typography, special effects, etc.

3.2. *Organizing modes for an easy-to-use brand website*

Website *ease of use* refers to the ease with which visitors can locate the relevant information which they are searching for (Skadberg & Kimmel, 2004). As Pace (2004) argues, a poorly designed interface may inhibit the flow state because of the excessive efforts required on the part of the visitor in order to achieve his informational goals. For example, we must consider that a website has two types of structures: (1) a logical one, which refers to the conceptual organization and the "reading path", and (2) a geometrical one, represented by its layout (Bateman, 2008). In order to ensure an optimal experience for their visitors, websites are organized in a particular manner that makes them intuitive and user-friendly, by anticipating needs and actions. In this respect, website designers imagine possible "reading paths" (Kress, 2005), that is "...the order by which the reader may process different episodes in a multimodal text" (Lim Fei, 2004, p.230), and they should generally coincide with a visitor's decisions during navigation. Like other visual texts, websites are usually designed so as to allow multiple "reading paths", but there are still some preferred ones, dictated by the most salient elements on a webpage, as Kress and van Leeuwen (2006) argue. Along with salience, information value and framing are very important factors in terms of a website's organization principle. While information value refers to centred or polarized compositions, the role of frames is to separate/disconnect elements, so as to make them easily identifiable in a quick scan of a webpage, by using white spaces and geometric shapes and also by alternating and contrasting colours (Bateman, 2008).

3.3. *Creating challenging brand websites using modes*

We consider that visitors to a brand website are seeking information about a brand product or service. This means that they are ready to engage in a semiotic interaction with the brand. The visitors' challenge, after entering the website, implies scanning the page for relevant information and understanding the website's content and non-linear structure, as Pace (2004) concluded. Different modes may be more or less difficult to interpret, and their combination may complicate the meaning, being directly influenced by the "interpretative space" (Yuen, 2004). Depending on the type of signs - icons, indexes, symbols - decoding messages might be challenging, while some images require a "visual literacy" (Debes, 1968) in order to be deciphered. Also, tropes such as metaphors, metonymies and similes require special attention to give the right interpretation. Not last, the overall organization of salient elements on the website's pages impacts on its status as being challenging.

3.4. *Managing perceived characteristics of brand websites by multimodal means*

Brand website characteristics are important antecedents of the flow experience. This argument is supported by many studies from the literature, and flow models include variables such as website design, speed, content quality, modifiability, or interactivity. As we have already explained, it is important for brand website users to tailor software to their individual needs by varying commands, speeds, and difficulty levels, sounds, or colours (Malone & Lepper, 1987). Customers may experience a flow state while they surf a brand website if the artefact offers them a level of perceived challenges in line with their perceived skills. Our idea is supported by Ghani's (1991) survey, in which computer users who developed their own applications and explored the capabilities of the software, spent more time in computer interactions, were more involved, and reported greater enjoyment.

4. **Conclusion**

This paper argues that multimodality, as a semiotic method, can induce an online flow state while users surf a brand website. Multimodality combines multiple semiotic resources to generate integrated multisemiotic messages, and we assume that multimodality is important for creating an efficient artefact (in our case a brand website). The modes co-deployed on a brand website constitute website content, design, layout and sound. The interaction effect between modes has an impact on the user's experience that occurs while using the artefact. In this respect, we consider that multimodality represents a premise for inducing the user's optimal experience on a brand website.

Our study also has limitations. First, our paper is purely conceptual and our main hypothesis should be tested in empirical studies and confirmed by practitioners. Second, due to the interdisciplinary approach we used and the concepts' origins, researchers may have difficulty in the operationalization of the concepts.

However, it is important to note that future research is needed for a better understanding of the flow phenomenon. Optimal experience, also called flow, appears to be a critical and relevant issue for consumer behaviour theory and practice, because facilitating enjoyable online shopping experiences has been found to lead to positive marketing outcomes (Koufaris, 2005; Novak, Hoffman & Yung, 2000; Skadberg & Kimmel, 2004). Creating a compelling online experience for customers through brand websites could be a new research area for Internet scholars.

5. Implications

In this section we refer to the implications of using multimodality as a qualitative method for inducing online flow on a brand website. First of all, it is important for marketing practitioners to create compelling brand websites by managing different modes. In our view, practitioners can optimize the sets of signs, or modes, such as dynamic images, 3D objects, colours, writings, speeches, layouts, music.

Second, flow experience has proven itself to be extremely important for marketers to better understand online customers' behaviour. Flow studies showed a positive relationship between optimal experience and learning (Hoffman & Novak, 2009; Ho & Kuo, 2010), brand attitudes (Mathwick & Rigdon, 2004; Sanchez-Franco, 2006), attitude toward a website (Luna, Peracchio & de Juan, 2003), intention to use the Web (Agarwal & Karahanna, 2000; Sanchez-Franco, 2006), revisit intentions (Koufaris, 2002; Luna, Peracchio & de Juan, 2002, 2003), purchase intentions (Luna, Peracchio & de Juan, 2002, 2003; Richard & Chandra, 2005), an increased exploratory behaviour (Novak, Hoffman & Yung, 2000; Koorzan, 2003), and perceived control (Webster, Trevino & Ryan, 1993; Hoffman & Novak, 1996; Agarwal & Karahanna, 2000; Huang, 2006).

Third, in our view, an interdisciplinary approach is needed. In this paper, we propose a new approach by using concepts from social semiotics, positive psychology and online marketing in order to achieve an integrative view.

References

- Agarwal, R. & Karahanna, E. (2000). Time Flies When You're Having Fun: Cognitive Absorption and Beliefs About Information Technology Usage. *MIS Quarterly*, 24(4), 665-694.
- Baldry, A. & Thibault, P. J. (2006). *Multimodal Transcription and Text Analysis: A multimedia toolkit and coursebook with associated on-line course*. London & Oakville: Equinox.
- Bateman, J. A. (2008). *Multimodality and Genre: A Foundation for the Systematic Analysis of Multimodal Documents*. New York: Palgrave Macmillan.
- Bezemer, J. & Jewitt, C. (2010). Multimodal Analysis: Key issues. In L. Litosseliti (Ed.), *Research Methods in Linguistics* (pp. 180-197). London: Continuum.
- Chen, H. (2000). *Exploring Web Users' On-line Optimal Flow Experiences* (Unpublished doctoral dissertation). School of Information Studies, Syracuse, NY: Syracuse University.
- Csikszentmihalyi, M. (1975). *Beyond Boredom and Anxiety: The Experience of Play in Work and Games*. San Francisco: Jossey-Bass Publishers.
- Csikszentmihalyi, M. (1977). *Beyond Boredom and Anxiety*. Second printing. San Francisco: Jossey-Bass.
- Csikszentmihalyi, M. (1990). *Flow: The Psychology of Optimal Experience*. New York: Harpers Perennial.
- Csikszentmihalyi, M. (1997). *Finding Flow: The Psychology of Engagement with Everyday life*. New York: Basic Books.
- Csikszentmihalyi, M. & Csikszentmihalyi, I. S. (1988). *Optimal Experience: Psychological Studies of Flow in Consciousness*. Cambridge: Cambridge University Press.
- Debes, J. (1968). Some foundations of visual literacy. *Audio Visual Instruction*, 13, 961-964.
- Finneran, C. M. & Zhang, P. (2003). A Person-Artifact-Task (PAT) Model of Flow Antecedents in Computer-Mediated Environments. *International Journal of Human-Computer Studies*, 59, 475-496.
- Ghani, J. A., Supnick, R. & Rooney, P. (1991). The Experience of Flow in Computer-Mediated and in Face-to-Face Groups. In J. I. DeGross, I. Benbasat, G. DeSanctis, & C. M. Beath (Eds.), *Proceedings of the Twelfth International Conference on Information Systems* (pp. 16-18). December. New York.
- Ghani, J. (1995). Flow in Human Computer Interactions: Test of a Model. In J. Carey (Ed.), *Human Factors in Information Systems: Emerging Theoretical Bases* (pp. 291-311). New Jersey: Ablex Publishing Corp.
- Ghani, J. A. & Deshpande, S. P. (1994). Task Characteristics and the Experience of Optimal Flow in Human-Computer Interaction. *The Journal of Psychology*, 128(4), 381-391.

- Gibson, J. J. (1977). The theory of affordances. In R. Shaw, & J. Bransford (Eds.), *Perceiving, Acting and Knowing* (pp. 67-82). Hillsdale, NJ: Erlbaum.
- Halliday, M. A. K. (1978). *Language as a Social Semiotic*. London: Edward Arnold.
- Ho, L. A. & Kuo, T. H. (2010). How can one amplify the effect of e-learning? An examination of high-tech employees' computer attitude and flow experience. *Computers in Human Behavior*, 26(1), 23-31.
- Hoffman, D. L. & Novak, T. P. (1996). Marketing in Hypermedia Computer-Mediated Environments: Conceptual Foundations. *Journal of Marketing*, 60(3), 50-68.
- Hoffman, D. L. & Novak, T. P. (2009). Flow Online: Lessons Learned and Future Prospects. *Journal of Interactive Marketing*, 23(1), 23-34.
- Huang, M. H. (2003). Designing websites attributes to induce experiential encounters. *Computers in Human Behavior*, 19(4), 425-442.
- Huang, M. H. (2006). Flow, Enduring and Situational Involvement in the Web Environment: A Tripartite Second-Order Examination. *Psychology and Marketing*, 23 (May), 383-411.
- Koufaris, M. (2002). Applying the Technology Acceptance Model and Flow Theory to Online Consumer Behavior. *Information Systems Research*, 13(2), 205-223.
- Kress, G. (2005). *Literacy in the New Media Age*. Taylor & Francis e-Library.
- Kress, G. (2010). *Multimodality: A Social Semiotic Approach to Contemporary Communication*. New York: Routledge.
- Kress, G. & van Leeuwen, T. (2006). *Reading Images: The Grammar of Visual Design* (2nd ed.). London & New York: Routledge.
- Lemke, J. L. (1998). Multiplying meaning: visual and verbal semiotics in scientific text. In J. Martin & R. Veel (Eds.), *Reading science: critical and functional perspectives on discourses of science* (pp. 87-113). London: Routledge.
- Lim Fei, V. (2004). Developing an integrative multi-semiotic model. In K. L. O'Halloran (Ed.), *Multimodal Discourse Analysis: Systemic-Functional Perspectives* (pp. 220-246). London & New York: Continuum.
- López Rodríguez, C. I., Prieto Velasco, J. A. & Tercedor Sánchez, M. (2013). Multimodal representation of specialized knowledge in ontology-based terminological databases: the case of EcoLexicon. *The Journal of Specialized Translation*, 20, 49-67.
- Luna, D., Peracchio, L. A. & de Juan, M. D. (2002). Cross-cultural and cognitive aspects of web site navigation. *Journal of the Academy of Marketing Science*, 30, 397-410.
- Luna, D., Peracchio, L. A. & de Juan, M. D. (2003). Flow in Individual Web Sites: Model Estimation and Cross-cultural Validation. In P. A. Keller & D. W. Rook (Eds.), *NA - Advances in Consumer Research*, 30 (pp. 280-281). Valdosta, GA: Association for Consumer Research.
- Malone, T. W. & Lepper, M. R. (1987). Making learning fun: A taxonomy of intrinsic motivations for learning. In R. E. Snow, & M. J. Farr (Eds.), *Aptitude, Learning and Instruction III: Cognitive and affective process analyses* (pp. 223-253). Hillsdale, NJ: Erlbaum.
- Mathwick, C. & Rigdon, E. (2004). Play, Flow, and the Online Search Experience. *Journal of Consumer Research*, 31 (September), 324-332.
- Novak, T. P., Hoffman, D. L. & Yung, Y. F. (2000). Measuring the Customer Experience in Online Environments: A Structural Modeling Approach. *Marketing Science*, 19(1), 22-42.
- Obadă, D. R. (2013). Flow Theory and Online Marketing Outcomes: A Critical Literature Review. *Procedia Economics and Finance*, 6, 550-561.
- Pace, S. (2004). A grounded theory of the flow experiences of Web users. *Int. J. Human-Computer Studies*, 60, 327-363.
- Pauwels, L. (2012). A Multimodal Framework for Analysing Websites as Cultural Expressions. *Journal of Computer-Mediated Communication*, 17, 247-265.
- Peirce, Ch. S. (1931-1935). *The Collected Papers of Charles Sanders Peirce*. C. Hartshorne, P. Weiss, & A. W. Burks (Eds.). Cambridge, MA: Harvard University Press.
- Ravelli, L. J. (2008). Analysing Space: Adapting and Extending Multimodal Frameworks. In L. Unsworth (Ed.), *Multimodal Semiotics: Functional Analysis in Contexts of Education* (pp. 17-33). London: Continuum International Publishing Group.
- Richard, M. O. & Chandra, R. (2005). A model of consumer web navigational behavior: conceptual development and application. *Journal of Business Research*, 58, 1019-1029.
- Sanchez-Franco, M. J. (2006). Exploring the Influence of Gender on Web Usage Via Partial Least Squares. *Behavior and Information Technology*, 25(1), 19-36.
- Schrifer, K. A. (1997). *Dynamics in document design: creating texts for readers*. New York: John Wiley and Sons.
- Skadberg, Y. X. & Kimmel, J.R. (2004). Visitor's flow experience while browsing a Web site: its measurement, contributing factors and consequences. *Computers in Human Behavior*, 20, 403-422.
- Thibault, P. J. (2000). The multimodal transcription of a television advertisement: theory and practice. In A. P. Baldry (Ed.), *Multimodality and Multimediality in the Distance Learning Age*. (pp. 311-385). Campobasso: Palladino Editore.
- Trevino, L. K., Webster, J. & Ryan, L. (1993). The Dimensionality and Correlates of Flow in Human Computer Interactions. *Computers in Human Behavior*, 9(4), Winter, 411-426.
- Yuen, C. Y. (2004). The construal of Ideational meaning in print advertisements. In K. L. O'Halloran (Ed.), *Multimodal Discourse Analysis: Systemic-Functional Perspectives* (pp. 163-195). London & New York: Continuum.
- ***. (2012). *World Internet Usage and Population Statistics* (June 30, 2012). Retrieved from Internet World Stats (Miniwatts Marketing Group) website: <http://www.internetworldstats.com/stats.htm>.