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Experiencing commercial videos for online shopping

A cross-cultural user's design approach

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ABSTRACT

In recent years online shopping has become a popular and convenient instrument for companies to buy and sell products. However, the design of these web-shops does not offer the rich multisensory experiences than physical retailing offers. In the paper we argue that audio-visual contents could provide dynamic multisensory information to offer more engaging experiences to the consumer, but to achieve this goal, audio-visual contents need to be adjusted to the cultural characteristics of the users. Despite controversies regarding universalism of the emotional experiences induced by perceptual processes, we present evidence that suggests cultural modulations of videos experiences. In the reported empirical study, Spanish and Finnish participants interacted with audiovisual products depicting videos of a culturally loaded brand design. Content analysis of participants' verbalizations helped to identify categories and subcategories that defined the representation of the video elements and their relative weight depending on the cultural background of the viewer. Although results indicate common elements affecting viewers of the two countries, they differ in the relative weight to global aesthetics features. The results are discussed in light of current theories of cultural universalism. In addition, this study can be utilized in designing audio-visual representations of products for online shops taking into account the cultural factors affecting the design practice.

Keywords: users' design, cross-cultural studies, commercial videos, online shopping, user' experience, aesthetics

INTRODUCTION

For some years now, Internet is considered a useful tool that helps companies to rapidly spread information about their products to very diverse geographical location at a very low cost. Internet use many times reduces the cost for marketing and also permits companies to offer their customers the possibility of buying from home independently of where the product or the company is located. The reduction of the product cost and the possibility of buying from any location make Internet shopping an attractive instrument for companies and customers. However, displaying the product on internet for online shopping greatly differ from the displays of the product in traditional physical shops where the costumers can not only look at the products from fixed angles, but also move and look at them from different distances and perspectives, touch them and even try them, Hence, internet does not usually offer the rich multimodal experiences than physical shopping offers. For these reason, because online shopping usually display the products in two dimensional surfaces and lacks the richer sensory experiences than the physical shops offer, the design of the online shop needs to take special care of the arrangement of the visual elements, the format of presentation, the combination of colours, etc. Usually the products are introduced by presenting pictures and verbal descriptions of their features, but the designer's job is to try

to induce positive impressions and good experiences in the users by distributing the element of the web in particular ways. The choice of colours, sounds, and images seeks to influence the users and induce them to buy the product (Childers et al. 2002). Despite these efforts, many aspects of the real shopping environment are missing in the static web displays, and this might introduce communication barriers between companies and customers. One way of reducing these possible problems is to introduce dynamic elements by adding video contents to the online shops. Videos can be useful devices to induce emotions and change consumers' perceptions of an object. The mental representations of a product can be influenced by the emotions attached to the audiovisual contents where the product is inserted (Moran, 1981). By exposing an individual to a video-based content about a product, emotions toward the product can be created, which might lead to a positive tendency to consume it (Wang & Cheong, 2006). However, to ensure that these audio-visual elements induce positive experiential, and informational representations of the products, we need research that helps to provide guidelines for enhancing visual communication with the users. As suggested by Childers, et al. (2002) costumers of online-shops do not only use the web to buy in a more efficient manner, but they also look for entertainment. Adding video contents to the shop web design may introduce this important hedonic dimension by making the presentation of the product richer and more attractive. Videos may provide attractive contexts where to display the products, to enhance their aesthetic features or to describe the quality of their manufactured elements. An aesthetically enhanced video might increase the probability that the consumer buy the product, but also may induce him/her to visit the online shop in the future, and to forward the link to other prospective shoppers (Reinecke & Gajos 2014). Recently, Ecklers and Rogers (2014) also suggested that audio-visual contents form part of the viral phenomena, highlighting the influences that videos might have as strategies for marketing (Purcell 2010).

As we mentioned, however, there is not enough research directed to investigate the impact that different elements have on the consumer experience. In addition, sometimes companies have made ill use of videos by applying emotional sensationalism and try to catch the audience attention through unconventional designs and ideas with the risk of triggering a negative reaction on the potential consumer (Ecklers & Rogers 2014) instead of the desired positive experience. But what element catches attention and interest in the consumers when exploring an online-shop? Interest is an important emotion for online shopping that has been explored in the context of film studies. According to Silvia (2005) interest involves evaluation of the degree to which an idea or event is complex, unexpected and difficult to process, but at the same time is evaluated as possible to cope and to understand. Thus, people find interesting complex or unusual events that can be understood after some effort (Silvia 2005a; 2005b; 2005c; 2006).

For the theory, interest is the more central emotion that filmmakers and scriptwriters should seek in their audiences. Interest keeps the viewers in their seats, with the motivation of spending their mental resources on the audiovisual sequences and with high expectations for the future. Interest gives an emotional structure to the video and provides the motivation to keep watching it (Tan, 1996). Although films and commercial videos differ in many aspects, the need to rise interest and to be able to influence the emotional experience of the viewer is common to both. The use of videos poses interesting psychological problems that are also common to films because they both integrate visual elements with music, sounds and narrative structure to convey meaning and emotions (Gross & Levenson 1995) and this combination can be used to rise interest for the presented products (in the case of commercial videos) or in the visual narrative and plot (in the case of films). Different aspects of the video design such as the shot composition, the movements of the camera, the music and sounds, the script for particular scenes interact to produce emotional reaction toward the product, and to influence the consumers' behaviour. Similarly, all these very different aspects of the video interact to conforming the users' experience of the product and capture their interest. Identifying the elements of videos that capture interest, and induce positive emotions, and understanding the way in which the audience experience them, is critical for the companies using videos with commercial goals (Kaikati & Kaikati 2004). Research should, therefore, provide answer to the question of how video contents can be used to enhance customers' experiences. Two recent

studies (Silvia & Berg, 2011; Tarvainen et al., 2014) have tried to identify these elements by presenting people with short clips of pictures and asking viewers to rate the novelty, complexity, interest, and emotions elicited by the clips. Although the participants vary in their interest ratings, diverse combinations of novelty, complexity, and comprehensibility seem to predict interest. Similarly, in a recent study by Cañas-Bajo et al. (2017), participants were asked to signal the more interesting elements of a film and to indicate their emotional valence while watching the film. The results of this study showed that complex sequences that combined positive and negative emotions were rated as the more interesting parts of the film. In addition, studies should also be directed to identify elements that might differ for people with different cultural background-

Viewers' Experiences of Audio-visual Contents

Experiencing a product involves creating a mental representation of the cognitive and emotional contents associated to the product. When researchers and designers discuss about users' (or consumers') experiences, they mean the conscious part of the symbolic representation of reality that we have in the mind (Newel & Simon, 1972). This means people have mental representations of their actions, their environment, their own internal states and their emotions, and that experience can be seen as the conscious part of mental representations (Saariluoma & Jokinen 2014). Consciousness is the result of appraisal processes involving three different information sources: the perceptual stimuli, the associative process in memory, and conscious reasoning processes (Roseman & Smith, 2001). These three processes proceed sequentially so that appraisal starts from the sensory and the perceptual processing of the stimuli whose aspects are detected and perceived by our senses. Information is then recovered from memory through fast and automatic associative processes, from the representation of the stimuli to the memory contents that start providing meaning to the events. Finally, the conscious reasoning process encodes the meaning and provides the bases of cognitive and emotional experiences that will endure in time and might influence behavior (Saariluoma & Jokinen, 2014). In this sense, appraisal processes define the cognitive aspect, which produces a specific emotional state. The result of the appraisal process determines whether an individual consciously likes or dislikes the stimuli (Scherer 2009; Saariluoma & Jokinen 2014; Eckler & Bolls 2011). Appraisal theory can also be applied to emotional states coming from audiovisual stimuli. Experiencing an audiovisual product involves creating a mental representation of the cognitive and the emotional contents associated with the product. It means that people have representations of the actions and the environment depicted in the product that combine with their own internal mental states. Videos might be useful tools to induce emotions and change consumers' perception of an object. The mental representations of a product can be influenced by the emotions attached to the audiovisual contents where the product is inserted (Moran, 1981). By exposing an individual to a video-based content about a product, external emotions will be created in consciousness. The information will be presented with sensitive additions that are implicit in the image and the sound, leading to a posterior appraisal when the viewer faces the product (Wang & Cheong, 2006).

Videos and other forms of audiovisual presentations could provide contexts that may influence appraisal processes by providing associations with the presented information and influencing the apperception of the product, in turn changing the viewer's emotional experience (Moggridge, 2010). Thus, the user experience includes thoughts, perceptions, or feelings when using a certain product, and the way that the product is presented may increase or decrease the quality of the experience (Albert, 2010; Albert & Tullis, 2013). Taking this approach might be critical for increasing the video's effectiveness in facilitating knowledge about the product and the customers' intention to buy it and other possible products from the same brand. Similarly, the impact of and interest of a video may be facilitated by understanding the factors affecting the audience's emotional and cognitive experiences of the video. Designing video for advertisements or to implement on-line shopping web sites should then start from understanding the

different elements that influence the viewers' cognitive and emotional aspects (Garrett, 2010; Helfenstein, 2012; Norman, 2005).

Taking the users' experiences as a starting point is essential for increasing the effectiveness of the video in facilitating knowledge of the product. User-centred design aims to create products that meet the specific needs of the users in order to provide greater satisfaction and good experiences by reducing effort when interacting with the products (Norman 2005). As mentioned, identifying the elements that enhance users' experiences might be critical since some elements might not produce the desired experience for the users. For example, in the field of web design some studies have shown that adding features such as colours to facilitate the understanding or increasing the aesthetic of a product, could produce the opposite effect on the user experience by distracting users' attention and hinder understanding (Jiang & Benbasat 2004; Norman 2005). In audio-visual products, we might also find that introducing some technical or narrative features may have the opposite effect that the one intended. This is why focusing on the users' experiences might also be crucial for creating industrial applications that really meet the goals of the companies. However, this approach has not very frequently been used in studying online shopping. Users' approaches many times involves the use of methods that try to extract the mental representation of the user or consumer, and this in many occasions requires time consuming qualitative methods to assess mental contents. The study that we describe below represents one attempt to characterise the consumer's mental representation of the video contents and to identify the elements that capture the attention and interest of the viewer.

CROSSCULTURAL APPROACHES IN DESIGNING AUDIO-VISUAL CONTENTS

Understanding users' experience is even more important when shopping websites are aimed at a multicultural audience. For audio-visual elements to be successful, they need to adjust their contents to the type of product and to the cultural characteristics of the user. These cultural elements might influence users' experiences of the product. An obvious advantage of online shopping is that costumers can be reached from many different geographical and cultural backgrounds, but this advantage would only materialize if the features of the online shop match the needs of the costumers. For this reason, cross-cultural studies from a users' experience perspective are needed for successful and efficient design of online shopping interfaces. To the extent that competition between companies has become globalized, it is important to understand the users' experiences and the impact of their products across cultures. Creating cross-cultural attractive interfaces where consumers from different cultural backgrounds can experience pleasant thoughts and feelings is especially critical (Van Slyke 2010). In this context, it is possible that an audiovisual product developed in a country and a cultural context does not have the same impact on the user from another country or culture. Although, it might be possible to find some features that users may generally consider usable and attractive (e.g., designs that follow the laws of Gestalt), many factors are strongly influenced by cultural values (Ito & Nakakoji 1996). Thus, the success of a video design may depend not only on the coordination of the quality of individual technical or narrative elements comprising it, but also on external factors such as historical and cultural aspects, which might influence the consumer (Dempster, 2006). Audience reception studies (Hall, 1966; Morley, 2006; Tomlinson 1999) have stressed the idea that the messages conveyed through the media are not passively accepted by the audience, and that people interpret their meaning based on their cultural background. For audio-visual elements to be successful, they need to be adjusted to the type of a product and to the cultural characteristics of the users. Audio-visual elements of products displayed in online shopping web sites convey culturally differing perceptions, which influence users' experiences of the products, and thus affects the adoption of e-commerce (Pavlou & Chai 2002).

Cross-cultural studies have also tried to identify a number of dimensions in which cultural differences affect the type of relationships and communication of companies and organizations (Hofstede 2010; Trompenaars 2010; Kasemsap 2016). For example, Hofstede identified six cultural dimensions in which

countries differ (Power distance; Individualism vs. Collectivism; Uncertainty avoidance; Masculinity vs. Femininity; Long-term vs. Short-term orientation; Indulgence versus Restraint). Obviously these dimensions may have an effect on how people experience and react to audiovisual products.

One important dimension in online shopping web design is aesthetics since many aesthetics elements have been shown to positively influence purchase intentions (Bloch 1995). The appeal of the product in first impression formation seems to influence behaviour before consciously considering of buying a product (Lindgaard et al. 2006). However, it is not clear whether there are universal features for successful design and many studies have shown that aesthetic impressions may vary across individual personalities, genders, and ages (Moss & Gunn 2009; Cyr et al. 2010; Reinecke & Bernstein 2011; Hsiu-Feng 2014). Thus, aesthetic experiences involve interpretative interaction with several states and actions and thus cannot be considered merely as an immediate response (Carroll 2001). Additionally, important for the design of online shops is the many demonstrations that aesthetics vary with geographical location and culture (O'Connell 2014). For example, in their studies Reinecke and Gajos (Reinecke & Gajos 2014) observed that geographically close countries share similar visual preferences regarding color and visual complexity. For example, Finland and Russia preferred the lowest visual complexity and colorfulness of all countries they study. Similarly, Northern European countries seemed to prefer lower colorfulness than Southern European countries. In a similar vein, Marcus & Gould (2000) showed that Asians prefer brighter, more colourful and animated web sites than Westerners and that these more colourful web sites are sometimes perceived as information overload by the Westerners. In general, all these studies suggest that the countries with a regular exchange of cultural values share similar website preferences. Hence, in designing video contents to convey positive emotions toward a product or a brand, it is critical to consider the cultural dimensions in which people differ, not only when making aesthetic judgments, but also when considering other aspects of the products.

The idea of culturability introduced by Barber and Badre (1998) and extended by Cyr and Trevor-Smith (2004) summarizes the importance of cultural design. Culturability represents the mixture of design elements and culture to achieve usability in webs “... *color, spatial organization, fonts, shapes, icons, and metaphors, geography, language, flags, sounds, and motion contribute to the design and content of a Web page, which directly affects the way that a user interacts with the site*” (Badre 2001). To address culturability in web and video design attention needs to be paid to many features (visual complexity, music, animation, narrative features, etc.) that can be culturally determined. Decision about these elements from the users’ perspective will have an impact on the representation that people make of the product and this mental representation would impact apperception of the product. Thus, the use of videos as a possible solution for enhancing emotional experiences and interest in web shopping calls for research intending to understand the multiple elements of videos that can impact these representations. Thus, differences in national and cultural dimensions may have an effect on how people experience and react to audiovisual products For example, in a recent cross-cultural study (Cañas-Bajo et al. 2015) images and videos of Iittala products (Finnish design) were compared with the goal of finding whether participants from Finland and Spain, appraised the designs similarly. In the study participants interacted with different audiovisual products depicting images/videos of the brand design. Through content analysis, four main categories defining the representation of the product were identified. Interestingly, the relative weight of these categories depended on nationality of the participants and on the type of visual presentation (image/video). The results indicated cultural differences in some dimensions (memory, usefulness) regarding the products, however the differences regarding these dimension were reduced when participants were shown videos instead of static images. These results suggest that videos are effective in inducing emotions and in changing consumers’ perception of an object. Therefore, when designing web interfaces for internationally oriented web shops, audio-visual content may be used to reduce cultural differences and have more global impact.

This proposal can influence how we think of videos and use them. As we argued, videos can be used in online shopping as a way of offering customers a rich multimodal experience that can be closer to the

experience of a physical shop (Childers et al., 2002; Reinecke & Gajos, 2014), but also audiovisual presentations of the products can be used to reduce the communication limits due to cultural differences by providing richer perceptual, multisensory experiences of the products.

Some theories propose (Barrat, 2012) that perceptual and cognitive processes are independent modules with different properties: perceptual processes are universal and independent of cultural factors, while cognition is prone to be influenced by culture. Accordingly, to the extent to which videos depend on perceptual processing, cultural and contextual factors should play a smaller role than for other type of object representations. Hence, videos can be used to reduce cultural differences and represent an useful strategy to become more global (Purcell, 2010). However, more evidence is needed to support these claims.

ARE USERS' EXPERIENCES OF VIDEOS CULTURALLY MEDIATED?

Studies in this research area lack knowledge for identifying the factors that increase consumers' interest and the aspects of the video contents that help in creating pleasant users' experiences across different cultures (Cañas-Bajo et al. 2015). The aim of empirical case study that we describe below is to identify elements of audio-visual contents that enrich the product experience. Because the idea is to enhance cognitive and emotional mental contents of the consumer, the approach that we have taken in our research is to try to understand mental contents, and very specifically, what aspects of the displays capture interest in the viewers. The studies reviewed in the previous section also suggest that the answer to these questions might be culturally mediated. Hence, in our case study, (Cañas-Bajo & Silvennoinen, 2017) we have taken a cross-cultural approach and explored the mental contents and experiences of people from two countries, such as Finland and Spain, that are geographically distant (see Reinecke & Gajos 2014, for data showing differences in aesthetics judgment depending on geographical distance) and that also differ according to some Hofstede's cultural dimension. For instance, in the Hofstede's dimensions regarding "uncertainty avoidance", "collectivism" or "restrain" both countries present different results (Hofstede 2010). These differences has been found relevant when people from those countries buy new technological product (Cañas-Bajo et al., 2015).

In our study Spanish and Finnish participants were exposed to three videos representing Scandinavian design products and we investigated whether participants' mental representations of the videos include elements related to aesthetics qualities of the videos (e.g. the video is interesting, the video is colourful), but also if we could identify aesthetic emotions (Scherer 2009) and intentional aesthetics elements (Carroll 2001). According to Scherer an aesthetic experience is a mixture of interacting cognitive and emotional states when appraised produced aesthetic emotions (e.g. the video makes me feel nostalgic). Similarly, we tried to identify if intentional dimensions of aesthetic also impacted the viewers' experiences. Recent philosophical accounts of aesthetics in arts proposed that aesthetic experiences might also include appraisal of the aesthetics intention of specific element (e.g. the color is trying to capture my attention). From this view, the study not only assessed the elements of the video influencing the viewers' experience, but also aimed to provide support to the psychological reality of some aesthetics dimensions. In addition, we aimed to seek evidence of the importance of culture in modulating users' experiences of audiovisual products. Although appraisal theory and audience studies seem to suggest that culture plays a role in how we perceive and represent the external world, the question of the universality of emotions elicited by videos and films is subject to controversy. Thus, some cognitive theories assume that the capacity of making sense of a projected video is universal and not culturally determined (Barrat, 2012). According to this idea, a functioning perceptual system can visually allow any person to understand a film. According to the modularity hypothesis (Barrat, 2012), perceptual and cognitive processes are independent modules with different properties. As we mentioned, this hypothesis suggests that perceptual processes are universal and independent of cultural factors, while cognition is prone to be influenced by

culture. Hence, to the extent that the presented stimuli depend on these modules, culture might have a larger or a smaller effect.

The universality of emotional processing is a classic question in the field of psychology (Darwin, 1872; Ekman & Friesen, 1971). Universalists have argued that basic emotions, such as hunger, fear, sadness, and so on, are universal and independent of culture. In their research and attempt to identify basic, culturally independent emotions, Ekman and Friesen (1971) provide evidence that facial emotional expressions are interpreted in similar ways by people from different cultures. The question of the universality of emotions is important for the video industry because if emotions are universal, video producers can use a culturally independent language (images) to convey such emotions. From this perspective, the visual language involved in video production (cuts, shots, angles, shadows, and so on) can be considered universal resources to convey culturally independent meanings and emotional experiences (Brown, 2003; Nielsen, 2005). From this standpoint, efficiently managing audiovisual resources should result in producing the desired emotional impact on the viewers.

Against the idea of universality, the research on web and visual design has shown that aesthetic emotions may vary with culture. Additionally, communication studies have stressed that research should be targeted to features of the audience and that individual differences in culture and education may influence aesthetic emotions and the appreciation of cultural products. Films and other audiovisual products (series, clips, short films, etc.) are cultural items that can be influenced by individual factors regarding knowledge and orientation toward cultural products. Research on the so-called *cosmopolitan orientation* (Cleveland, et al., 2009; Hannerz, 1990; Skrbis & Woodward, 2007; Szerszynski & Urry, 2002; Woodward et al., 2008) has shown that knowledge and interest in cultural products, as well cultural habits of individuals, play a major role in the consumption of foreign products. *Cosmopolitan-oriented* people are identified by their interest in other cultures and geographically distant places and activities, as well as by their preference to consume products with different cultural combinations. A cosmopolitan orientation is usually associated with openness and compromise with social matters (Meuleman, & Savage, 2013). In technology and design research, sociocultural differences and tendencies have been approached from the life-based design (LBD) paradigm (Leikas et al., 2013). This approach argues that individuals differ in their *forms of life* (Wittgenstein, 1958), constituting the habits, interests, and activities that they show in a given culture and context. Religious beliefs, support for a football team, and being part of a choir constitute forms of life. Cultural orientations are also considered aspects that comprise different forms of life (Rössel & Schroedter, 2015). In this theoretical context, designers have shown that people with different forms of life might vary in the types of activities and technological devices that are useful to them. From this perspective, designers need to pay attention to the aspects of individuals' lives and the contexts in which technology fits. Similarly, if cultural orientation and cosmopolitanism are considered forms of life, the design of cultural products should take into account the cultural habits of prospective consumers. People with interest in and openness to other cultures and consumers of cultural products may differ in many aspects that may impact their cultural experiences (Geertz, 1973). From this viewpoint, researchers and creators of audiovisual contents must consider different cultures and forms of life when targeting broad audiences. Thus, its approach is that culture may have an effect on how people experience and react to audiovisual products and that audiovisual companies should understand these different reactions when creating videos conforming to the cultural characteristics of its members. An audiovisual product created in a specific cultural context may not have the same impact on a viewer with a different cultural background. Thus, it is critical for designing video advertisements, industrial videos, or feature length films to understand viewers' experiences across cultures.

To sum up, different orientations and theoretical approaches assign varying roles and importance to cultural factors, and clearly more empirical studies are needed to try to understand the relative weight of universality and culturalism in the appreciation of video contents.

AN EMPIRICAL STUDY ON CULTURAL INFLUENCES ON VIDEO EXPERIENCES OF VIDEO PRESENTATION OF CULTURALLY LOADED PRODUCTS

Method

In the study described in, (Cañas-Bajo & Silvennoinen, 2017). Spanish (N = 20) and Finnish (N = 20) participants were exposed to three videos representing Scandinavian design products (Videos of Iitala products) with audio-dubbings presented in Finnish or in Spanish depending on the participants' nationality (See Appendix A). Both Finnish and Spanish participants were presented each of the videos and then asked: what thoughts and emotions does the video suggest to you? What video elements would you highlight?). Participants were tested individually in a quiet at the University of Granada, Spain (for the Spanish participants) or at the University of Jyväskylä in Finland (for the Finnish participants). We performed content analyses (Weber 1990) to extract the basic dimensions of the participants' mental representations of the videos. The approach for the content analysis was data-driven because the focus was on analyzing the type of feelings, emotions and impressions attached to different properties of the videos by the participants. Semantic units were transformed into content categories and then the frequencies of the semantic units within the categories were recorded in the following manner. Through several iterations of categorisations and mutual agreement between the authors, the categories and sub-categories were identified. First, we identified single words, phrases, and idioms that constituted semantic units for describing cognitive and emotional experiences produced by features of the videos. The second phase of the analysis was to critically evaluate the semantic units into initial categories. This classification phase of the coded semantic units resulted in 30 categories (see Appendix B). In the third analysis phase, second level categorisation was conducted to construct higher-level main categories from the initial sub-categories. These higher-level main categories were related to overall impression of the video (aesthetics, emotion, memory, desirability, etc.), narrative structures (plot, characters, and scenario), visual design (light, colour, shapes) and audio design. The frequency of semantic units within each category was counted for statistical analyses. These analyses were conducted to detect what aspects of the videos raised the users' interest and how these aspects affected the emotional and cognitive experiences of the viewers.

Results¹

As mentioned, semantic units referring to video contents and emotional experiences elicited by them were classified according to four main categories. The first category was **“Overall impression of the video”** and contained subcategories related to overall features of the video. Three of these features referred to aesthetics dimensions: 1) Aesthetic persuasion: represented aesthetic evaluations regarding the intentionality of the video. Examples: *“They are trying to make you think about the shapes of everything”* *“to sell these objects is fine”*; 2) Aesthetic emotion: represents aesthetic evaluations of the general emotions experienced by the viewers. Examples of this subcategory are: *“I liked it a lot”* *“It did not make me feel anything”* *“The video makes me feel calm”*. 3) Aesthetic Quality: Represents quality attributes attached to the video by the viewers. Examples of this subcategory might be *“The video gives warmth”* *“I think it is interesting”*. In addition to aesthetics some units referred to what we termed: 4) Memory matches & Associations: represented mental associations such as memories and familiarity with the context. For example verbalization such as *“you wake up in the morning and breakfast is made”*, *“this suggests memories of Finland”*. 5) Desirability: represented enhanced experience of the product through its presentation in the video. Examples: *“Makes you want to buy”*; and 6) Rhythm and length representing evaluation of the dynamics and rhythm of the footage. Examples: *“it felt like too long”*, *“it moved forward all the time with a calm phase”*

¹ Results are all described in "Cross-Cultural Factors in Experiencing Online Video Contents in Product Marketing" (Cañas-Bajo & Silvennoinen, 2017). They are reproduced here with permission of IGI GLOBAL.

The second main category referred to the “**Narrative Structure of the video**”. This broad category also contained aesthetic element corresponding to the three aesthetics subcategories: persuasion, emotion and quality, but this time referring to narrative elements of the video. Examples of 1) aesthetic persuasion are “*that are tried to invent to represent some forms, how it can move and so on*”, “*it didn't try to explain anything just showed*” 2) aesthetic emotion are “*Well sometimes analogies and metaphors annoy me*”, “*this story didn't get me on its side concerning my emotions*” and 3) aesthetic quality are “*comparison between older and newer version was kind of useless*”, “*There was interesting information that it takes 30 hours of work per one Aalto vase*”. In addition, we identified units referring to the general description of the videos regarding the main idea perceived by the viewer. We termed this subcategory “Overall idea” and examples are “*they are talking about lamps and lights*” “*they are talking about design*” “*video featuring household items*”. Some other subcategories within “Narrative structure” referred to evaluation of specific aspects of the storyline such as “*It explains how the design of curves and forms emerged*” “*It is interesting to see how it's done*”(Plots aspects subcategory); Evaluation of Character featured in the story line and their role: “*two artists involved in his work*” “*Then turn to the figure of the designer*”(Character subcategory); Evaluation of the Scenarios appearing in videos such as “*It seems the house of a couple*” “*what it does is use the Scandinavian landscape*” (Context subcategory); and Product presentation: evaluations on how the product is presented in the storyline. Examples: “*they see that each piece is unique*” “*Products were presented like in a catalogue*”

The third main category referred to elements of “**Visual Design**”. Again some unit referred to the three aspects of aesthetics, persuasion, emotion, quality, as they related to visual elements. Examples of 1) aesthetic persuasion are “*all the elements a cozy atmosphere was tried to be created*”, “*They try some kind of unity in here with the distribution of the elements*” 2) aesthetic emotion are “*peaceful feeling, because of the happy, bright images*”, “*stillness, and safety inside the home walls*” and 3) aesthetic quality are “*the quality of the image was horrible and it disturbed me a lot*”, “*visually really stimulant*” In addition some units can be classified within the Composition subcategory that included evaluation of the visual composition of the element in the image. Examples are “*Quite a lot of graphic lines and details*”, “*the video plays whit the camera angle of the view*”; some units were related to the Text subcategory that represented evaluation of the subtitles appearing in one of the videos. Example “*text, high-spaced video image were the core elements*”; Product presentation that included evaluations the way in which the product was visually and the fit within the general visual design. Examples: “*products were presented in their natural environment*”. In addition, some subcategories referred to perceptual impressions; Materials referred to valuations regarding the material of the product and in other visual objects in the video. Examples: “*Soft wool and hard metal wire in that self, so that in here was lots of balancing elements*”, “*there are a lot of wooden surfaces*”; Shapes referred to evaluation and comments on the visual shapes of object in the videos. Example: “*The shape of the vase was clearly the most important element here*”; Light referring to evaluations regarding the disposition of lights and lightning effects on the visual design. Examples: “*At the end of the video the room's lighting gets darker*”, “*With the light and the glass, shadows came which looked nice*”; Colors included evaluation of the colors in the visual display and its integration into the overall visual design. Examples: “*there are lots of interesting colors in these*”, “*Quite simple colors*”

The fourth main category referred to the units regarding “**Audio Design**”. Similarly, to the previous categories the Aesthetics categories regarding persuasion (e.g. “*Music was taken into account, and to all the parts that created the space*), emotion (e.g. *I like the music; The music wasn't supposed to disturb so much*) and quality were included as they applied to audio elements. (e.g. *the music suggests tranquility; the music influenced me*). In addition, some units referred to the quality of the Narrator/off voice (e.g. *the voice was relaxing*); and to the Congruency of the music with other elements of the video (e.g. *Music and the forms were unified; I think the music wasn't the right one for this video*)

Figure 4 (see Appendix C) shows the mean number of verbalizations for each group (Finnish/Spanish) in each of the four higher-level categories. An analysis of variance (ANOVA) was carried out including Category as within-subjects variable and Nationality as between-subjects variable. Both main effects were significant (Category: $F(2, 81) = 41$; $p < .05$; $\eta_p = .52$; Nationality: $F(1, 38) = 8,38$; $p < .05$; $\eta = .12$).

“Overall impression of the video” produced more verbalizations than the other categories (mean = 9.67). Moreover, Spanish reported more verbalizations (mean = 7.45) than Finnish participants (mean = 5.24). Importantly, there was also a significant interaction, $F(2, 81) = 3,22; p < .05; \eta_p = .08$. Bonferroni corrected pairwise comparisons showed that there were significant differences between Spanish and Finnish participants in the first category: “Overall impression of the product” ($p < .01$) and a marginal difference in the fourth category “audio design” ($p = .056$). Thus, Spanish participants produced more verbalizations related to overall impression with the product and audio design (mean = 12.15) than Finnish participants (mean = 7.20).

When we analysed the specific subcategories within the overall categories, we observed that the differences in “Overall impression” between Spanish and Finnish participants came from their verbalization regarding *Aesthetic quality* ($p < .05$) and *Memory matches* ($p < .05$). Similarly, we analysed the broader “Audio design” category and observed significant differences in Aesthetics persuasion ($p < .05$) with Spanish participants producing more verbalizations than Finnish participants, all other comparison within this category were not significant ($p > .05$).

Although the overall “video design” category did not reach significance, two of the subcategories within it did: “Composition” and “Shapes” were significant ($p < .05$), both showing more verbalizations by Spanish participants than by Finnish participants. Furthermore, the subcategory “Plot” was also significant ($p < .05$), although its higher-level category “Narrative Structure” was not. Again, Spanish made more verbalizations than Finnish.

DISCUSSION

The study reported here was designed to study possible differences between Spanish and Finnish participants in the emotional experiences elicited by videos in the context of online shopping. As we mentioned in the introduction, although design studies suggest that videos experiences might be culturally mediated, some psychological and film studies theories proposed that some emotional experiences are universal and that may be universal features that attract the viewers’ interest. The results of the content analysis performed in the data form our empirical case study indicated that Finnish and Spanish participants focused in different aspects of the videos. In general the Spanish participants produced more verbalizations than the Finnish, but importantly they also differed from the Finnish participants in their greater reliance in aspects related to the overall impression of the videos and in the audio categories. Regarding “overall impressions”, the differences between the two groups came from the subcategory “aesthetic quality” where the Spanish participants verbalised more global perceptual and emotional aspects of the video (“the video is colourful, it suggests calm, it is interesting”. etc.) than the Finnish participants. However, these differences did not appear when local and concrete visual features such as shapes, colours or lighting of specific objects or parts of the videos were considered. Similarly, Spanish participants represented mental associations and global contextual features (e.g. *you wake up in the morning and breakfast is made; reminds me of my town, etc.*). Hence, the pattern of the verbalizations suggests that there are qualitative differences in the elements of the video contents that capture attention and interest for the two groups. Thus, the Spanish participants seem to pay more attention than the Finnish to contextual factors and memories reflecting an overall, global approach to the video contents, while Finnish participants seem to pay more attention to local functional features. It is also interesting that the only differences found in the category of visual design referred to more global features, such as composition or shapes and differences in the narrative structure dimension, also came from the Spanish mentioning more features related to the overall plot.

Although these differences might be due to a number of factors, this global approach to perception by the Spanish participants could also be associated to higher scores in Hofstede’s “collectivism” dimension and lower in “Restraint” of countries such as Spain. Obviously, this hypothesis is speculative and should be the focus of further research, but is consistent with cognitive research suggesting that cultural factors influence the focus with which people perceive the world. For example, Colzato et al (2008) compared

neo-calvinist and atheist Dutch participants in the global-local task (Navon 1977) and showed that neo-Calvinists focused more on the local features composing global figures than the atheists. Similarly, the dimension of audio design also showed differences between the Spanish and Finnish participants. Thus, the Spanish participants also paid more overall attention to the audio design of the video, especially to the emotional aspects composing aesthetics elements of the audio, than the Finnish participants. This difference may also be related to the differences in the “collectivism” dimension since cultural studies in emotion perception (Massuda et al. 2008) suggest the less individualistic societies pay more attention to contextual cues (e.g. music) to interpret emotions. These cultural differences in appraising the elements of the video that are brought into consciousness (overt verbalizations) by Finnish and Spanish viewers have implications for the design of the contents and aesthetics elements of the videos. Thus, our results suggest that videos designed for Spanish audiences should enhance global contextual and emotional features (global plot, global associations, global emotions suggested by light, color and music in the video), whereas audiovisual contents for Finnish viewers should also enhance local features of specific parts of the videos and individual objects. Because we have compared only two countries, we are not at the moment able to dissociate whether the obtained differences are due to geographical distance as suggested by the research by Reinecke & Gajos (2014), or to cultural dimension such “uncertainty avoidance”, “collectivism” or “restrain” (Hofstede 2010). Further research should help to understand the underlying reasons for these differences and to generalise some of our conclusions to countries varying in geographical locations and cultural values.

Note that the pattern of results goes against theoretical positions suggesting that many aspects of videos and films evoke universal emotions and experiences. Modular theories (Barrat, 2012) assume that perceptual processes are universal and independent of cultural factors, while cognition is prone to be influenced by culture. From this assumption, videos that contain more perceptual features should be less prone to cultural modulation than other type of stimuli. However, our results seem to indicate that despite the rich perceptual features of the presented videos, they were represented and experienced differently by our Finnish and Spanish participants. This suggests that video design should pay attention to cultural factors when aiming to reach an international audience, and there is a need to adjust the video contents to the cultural characteristics of the viewers since the cognitive module may convey culturally different perceptions, which influence the viewers’ experiences that may lead them to the adoption of e-commerce (Pavlou & Chai, 2002).

Although identifying aesthetic dimension was not the main goal of the study, it is important for aesthetics theories that we were able to identify in people mental representation of the video different aesthetic dimensions. Thus, we were able to classify units that reflected aesthetic contents of some visual, audio or narrative qualities of the video, separately from units that represented emotional aspects raised by the aesthetic quality of the video. But most interesting was the fact that we were able to identify in both Spanish and Finnish participants, what we called aesthetic persuasion that identifies elements clearly containing an interpretative dimension. Thus, within this dimension, mental contents as reflected by the participants’ verbalizations referred to units where participants verbalized their interpretation of the intended meaning of different elements of the video (Carroll 2001).

These results indicate that audiovisual experiences involve evaluations of aesthetic persuasion regarding the overall impression of the video, and in more detail, concerning the narrative structure, visual design, and audio design. The elicitation of impression of aesthetic persuasion as a cognitive process can be explained with appraisal theory of emotion (Smith & Kirby 2001; Jokinen et al. 2015; Silvennoinen et al. 2015). Appraising aesthetic persuasion of an audiovisual representation requires information derived from all three-appraisal sources of information (Scherer 2009; Saariluoma & Jokinen 2014; Eckler & Bolls 2011). Thus, the evaluation of the aesthetic persuasion of a video includes perceiving the audiovisual stimuli, associations withdrawn from memories, and critical reasoning considering the intents of the aesthetics of the stimuli. In addition, aesthetic persuasion appraisals include visual literacy processes in

detecting design methods and choices through which the aesthetic strives to create meanings, attitudes, and experiences and elicit emotions in the viewer.

Furthermore, overall impressions, narrative structure, visual and audio design involve aesthetic emotions and evaluations of aesthetic qualities. In appraisal theory of emotion, aesthetic emotion is conceptualized as a separate emotion typology from utilitarian emotions (Mastandrea 2014; Scherer 2009). Utilitarian emotions focus on their adaptive function, which help in adapting to certain stimuli or event. Aesthetic emotions are subjective affective responses to artifacts and to their intrinsic qualities (Mastandrea 2014). Thus, aesthetic emotion and aesthetic quality are intertwined in audiovisual experiences. Aesthetic emotion is a result of the cognitive evaluation of the significance of the event (in this case the audiovisual representation), this process also involves aesthetic qualities that are attributed to mentally represented information contents of the encountered audiovisual representation.

The categories presented in this paper illustrate the mentally represented contents of audiovisual experiences, and can be utilized to inform experience-driven design processes for online videos, and to understand the cognitive process of audiovisual experience from cross-cultural perspective. In addition, our study provides support to aesthetics theories that defend the multidimensional aspects of aesthetics including cognitive, emotional and intentional/interpretative aspects of it. Similarly, our results support and extend previous research suggesting that videos are effective in inducing emotions and in modulating consumers' perceptions. Thus, the mental representations of the viewers were affected by the properties associated to the audiovisual context.

A possible limitation of the study is the association of nationality to familiarity with the product and video presentation styles. Although, the use of familiar Finnish items had the advantage that allowed us to observe the influence of cultural aesthetics (for the Finnish participants the product aesthetics matched their aesthetics preferences) in the mental representations, it is possible that the differences that we obtained between Finnish and Spanish participants might be due to familiarity with the product more than with other cultural dimensions. However, the fact that familiarity was only important for images but not when video was presented, suggests that there is more than familiarity in the different ways that Finnish and Spanish participants appraised and mentally represented the objects. Further research with unfamiliar items should try to dissociate the role of familiarity from other cultural dimensions.

SOLUTIONS, RECOMMENDATIONS AND FUTURE DIRECTIONS

The main focus of our study was to answer the question of whether the way of experiencing commercial videos depended of the cultural background of the viewers. Our results seem to suggest that it does. However, some limitations of our study force us to be cautious with our conclusions. First, although we have selected culturally different countries (according to Hofstede's [2010] dimensions) to conduct our observations, these countries come from occidental cultures where many values and forms of life are similar. Hence, an obvious line of research from our data is to directly compare emotions from many more different cultural orientations and larger variations in values, habits, and forms of life. Second, a similar reasoning can be applied to the selected videos since they all come from the same brand, with highly shared values and aesthetics. Additionally, in our attempt to control the selection of videos, we have picked videos depicting similar objects and using similar aesthetic elements and it is possible other styles and products are more open to cultural differences. Third, individual differences in cultural background, age, and expertise might provide better insights into individual and social factors influencing emotional experiences with films. Expert studies in many fields have been highly influential in revealing mental representations that differ for knowledgeable individuals. Reports involving radiologists or chess experts show that perceptions (apperceptions) of objects change with experience. Similarly, cultural background, openness to new experiences, educational level, and age yield different results (Saariluoma

et al., 2016). Cultural globalization is a relatively new phenomenon that unevenly impregnates people's lives. Future research should explore the roles of these individual factors in film experience.

CONCLUSIONS

The results of our study suggest that cultural factors related to global versus local perception and emotions modulate the mental contents of video viewers, and therefore influence how users experience culturally designed products. Different elements composing the overall impression of the video, and the emotional perceptions of music aesthetics seem to impact differently Spanish and Finnish viewers. Thus, the elements of the medium in which the product is presented affects viewers in different ways and could be utilized in providing guidelines in designing product advertisements or web applications. An essential contribution of this paper to user psychology is that results clearly show that there are relevant cultural differences in the way the video elements are apperceived. Thus, this study builds a bridge between the field of user experience, user psychology, and cross-cultural psychology.

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ADDITIONAL READING

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KEY TERMS AND DEFINITIONS

Audiovisual Experience: People cognitive and emotional impression of audiovisually presented products and materials.

Audiovisual Representation: Mental representations that incorporate visual and audio elements of the perceptual stimuli.

Cross-Cultural Factors: Dimensions in which cultural differences impact the type of relations and the types of communication. In this context, these dimensions may influence the way usability and aesthetics are perceived.

Global Aesthetics: Subjective quality of objects, related to subjective [sensori-emotional values](#) and judgements of [sentiment](#) and taste.

Mental Representation: Symbolic mental contents that people have of their actions, environment and their own internal states.

User-Centered Design: A model that seeks to satisfy the user's needs when interacting with artifacts by providing a good experience of this interaction without investing larger efforts.

APPENDIX A

Still-images of the videos used in the experiment and links to videos on YouTube.

Figure 1. YouTube link: <https://www.youtube.com/watch?v=gCqw-NTVjT4>

Figure 2. YouTube link: <https://www.youtube.com/watch?v=YXiKgElEulg>

Figure 3. YouTube link: <https://www.youtube.com/watch?v=bl9LsiQpcl4>

APPENDIX B

Mean percentage semantic units within the categories and sub-categories produced by the Finish and Spanish groups after presentation of the videos (significant differences in bold).

Table 1.

Category and sub-categories	Finnish	Spanish
Overall impression of the video		
Aesthetic persuasion	1,05	1,05
Aesthetic emotion	2,55	3,40
Aesthetic Quality	2,00	4,20
Memories & Associations	0,9	2,70
Desirability	0,40	0,20
Rhythm & Length	0,30	0,60
Total	7,20	12,15
Narrative Structure		
Aesthetic persuasion	0,95	0,85
Aesthetic emotion	0,10	0,00
Aesthetic quality	0,30	0
Overall idea	1,45	1,7
Plots aspects	2,70	4,25
Characters	0,60	1,35
Context	0,20	0,45
Product presentation	1,50	0,85
Total	7,85	9,30
Visual Design		
Aesthetic persuasion	0,20	0,30
Aesthetic emotion	0,10	0,25
Aesthetic Quality	0,75	0,25
Product presentation	9	0,45
Composition	0,70	1,15

Text	0,20	,10
Shapes	0,60	1,70
Materials	0,20	,70
Light	0,60	,75
Colors	0,30	,55
Total	1,80	2,15
Audio Design		
Aesthetic persuasion	0,20	0,10
Aesthetic emotion	0,10	0,55
Aesthetic quality	0,70	0,65
Narrator / off voice	0,55	0,30
Congruency with video	0,25	0,55
Total	4,1	6,2

APPENDIX C

Figure 4. Number of verbalizations as a function of Nationality, Category.