

A Study of the Visual Presentation of Sensory Impressions

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Abstract

This study highlighted the importance of linking colour used in design to sensorial impressions represented. These links induced are based on the kind of sensorial impression. This is related to cross modal concerned with stimulation of one sense using another one. Four sensorial impressions namely texture, odour, sound, flavour were investigated. The significant purposes of visual representation of sensorial impression are to maximize the added value of a design, engage the audience or consumer in the design, provide entertainment, imitate nature and deliver a message. Texture has been represented in design products such as graphic and fabric design. This is in order to represent natural materials, attract attention, and strike the viewer. Sound and music depiction using colour are evidently the concern of audio package designers and audio software designers. It is essential to listen to the piece of music or sound to represent it visually on an album cover. Colour, shape and motion are used in depicting the played audio in order to entertain the listener. Generally, common specifications between music and colour namely frequency, amplitude and overtone were found and recommended by previous researchers. For flavour and aroma, indicators of colours representing main flavours could be inferred. These are red and orange for sweet, green and yellow for sour, white for salty and violet and black for bitter. Aroma and odour intensity were found highly linked to colour saturation rather than hue and brightness. This could be different according to aroma source. Light and dark colours were used respectively for women and men fragrance package design.

Keywords: colour, texture, odour, sound, flavour, art, design, impression

1. Introduction

Colour is one of the design elements used by designers to communicate with audience giving targeted impression or feeling and emotion. Marketers in creating a marketing strategy should consider colours used in advertisement process. Sometimes marketers use traditional associations between colour and product. Other times, marketers in collaboration with designers would develop niche associations. Colour plays an effective role in creating brand identity of different companies. It helps consumer locating a product on the shelf. It was reported by previous research studies that colour associations are context dependent. A designer works on presenting and delivering sensory impressions to consumer. This means that the designers employ the phenomenon called “synaesthesia” defined as stimulating one sense using another one. The five human senses are sight hearing, taste, touch and smell. These could be reflected in the following sensory impressions: lightness, sound, flavour, texture and odour.

This study is concerned with the role of colour design in delivering these sensory impressions. Moreover, the impact of this role on marketing different product categories is the aim of this study. Colour association to sensational impressions used in marketing a product is studied. This is because impressions created by colour are dependent on the characteristics of marketed product or service. In marketing a product or service, potential generated sensational impressions could be: texture, odour, sound and flavour. This study goal is to provide artists, designers and marketers with information enabling them to make, edit and transform colour specifications conforming to impact or impression required and targeted in their marketing strategy.

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Another goal is to come up with a clear guide reporting and informing links between colour and different senses and impressions. In this study four sensory impressions are investigated. These are texture, flavour and taste, sound and odour.

2. Colour and texture in design

Texture is the feel or handle of a surface perceived when it is touched. Colour is the main visual attribute of an object and it is specified by the light wavelength reflected by an object. Although, texture is an attribute presenting the degree of roughness or softness of a material when touched, designers have been concerned with the inclusion of texture in the visual appearance of an object or material in addition to colour. This is because presenting and delivering texture to audience or consumer has been the concern of designers.

Mäenpää, T. and Pietikäinen, M. studied the relation between colour and texture. They reported that previous studies stated that colour and texture are consolidated constitutes of object's visual appearance. They compared measurement results from coloured texture with grayscale texture. Their experimental results indicated an increased accuracy in measuring colour with the texture taken into consideration rather than separating both visual attributes. This means that colour and texture are recommended to be used in parallel.(Mäenpää & Pietikäinen, 2004)

Graphic design is a branch of design related to designing print and advertisement designs. Visual texture could be employed in this kind of design in different ways. This includes using natural and organic materials representing organic life (Figure 1), feel of surface bringing interest and attracting attention which could be reflected into physical exploration of design (Figure 2), immersing and striking the viewer in the design (Figure 3) and giving 3 D impressions (Figure 4).(Theodor., 2018)



Figure 1 a poster by Dawid Sieradzki representing natural texture(Theodor., 2018)



Figure 2 Gallery opening poster (Theodor., 2018)



Figure 3 Immersing the viewer in design (postre by PKG Branding)(Theodor., 2018)



The design of Album cover is one of the applications concerned with presenting audio tracks employing design elements including colour. The cover is the package design aiming at presenting the product (audio product in this case) and communicates with the purchaser telling the kind of music inside the album. Jacob Cass is a graphic designer discussed his university project aiming at designing CD covers by listening to music. Visual responses were created after listening to different pieces of music. He passed through several stages including sketch making (abstract response), developing computer graphic software skills, and inspirations. In terms of colours used, these were blue and green for ocean type feel (in smooth design). However, red colour was used reflecting the anger and chaos perceived and sensed from his original piece of music (in rough design). Bright colours of high energy were used for the digital design (in digital design).

4. Colours representing products related to taste, appetite and flavour

Colour is one of the factors affecting consumer appetite and inclination for selecting and having a kind of food or over shelf medication. There are different reported cases for food companies edited their colours used in brand identity or product design. Research studies indicated that miss matching a product with its package because of colour used in making the package could affect marketing a product negatively. A food packaging contains shapes, text and colour. Shape and colour were found the most effective factors on marketing a food packed product.(Spence & Ngo, 2012)

In the medicine industry, it was reported that a company changed its vitamin package's colour from black with white text into beige in order to change consumers mind and perception of original package as poison.(Priluck Grossman & Wisenblit, 1999) In the food industry, matching between colour and taste has been the interest of researchers, designers and marketers. In the American culture, the following matches were found, red – sweetness, yellow-sour, white-salty, bitter-black and green. Another study in America showed association between sweet taste – red and orange, green and yellow-sour, white-salty. In Germany, the four main tastes sour, sweet, salty and bitter were associated with (green, yellow), (pink, orange, red), (white, grey, blue), (violet, black, brown) respectively. A study used participants from different countries across the globe reported these crossmodal associations red and orange-sweet, yellow and green –sour, blue-salty, violet-bitter. Subjects from China, India, Malaysia, and the USA were employed assessing colour association with tastes. Black – bitter, green sour, pink-sweet, white-salty.(Spence et al., 2015)

In a study carried out across different countries namely China, Korea, Japan and the USA. The green colour was selected by participants for labelling vegetables' cans and Yellow was chosen for candy packages. Soft drinks were linked to red colour in the American culture. However, this wasn't the case in Korea and Japan as yellow was more preferable for this kind of packs.The impact of cup's colour on hot chocolate flavour was tested. Four colours were used namely white, cream, orange and red. The orange cup gave the hot chocolate more intensive flavour than white and red ones. The sweetness of the hot chocolate was not significantly affected by the colour of the cup. The sweetest cup was of the dark cream followed by white and then red cup.(Piqueras-Fiszman & Spence, 2012)

5. Relationship between colour and odour/aroma

Smells including fragrance and cologne would be presented using colour. This is to enhance consumer perception and emotion. Colour specifications (i.e. brightness, saturation, hue) affecting odour perception and presentation were investigated by Schifferstein and Tanudjaja in 2004. Brightness was found the most affecting colour attribute rather than saturation and hue. This is because blackness reflects differences between odour samples. Dark colours were found enhancing odour perception than light colours. Colour appropriateness for fragrance could be a useful cue for designers of fragrance packages. Ranges of odours and colours were rated on emotion scales. (Schifferstein & Tanudjaja, 2004) Black was found effective in making men's fragrance package design giving strength and masculinity.(Priluck Grossman & Wisenblit, 1999)

An Experiment was carried out in order to name the colour of 20 different odours. In other words, it aimed at studying the association between odour and colour. Colour intensity was related to odour intensity. Nevertheless, this relation was still unquantified. (Gilbert, Martin, & Kemp, 1996)According to Gilbert et al., Marks in 1978 showed that colour and odour are linked and consistent.

Gatti et al. in 2014 studied the impact of packaging colour on fragrance intensity of soap bottles. Three colours were used and ranked from the highest to least intensity of same soap intensity as follows: red, pink and white. From, the three colour attributes (i.e. hue, brightness and saturation), saturation was the most effective factor on perceive intensity. This study indicated previous research studies linking strongly fragrance to colour.

This means that colour of packaging design is more affected by colour saturation rather than hue and brightness. It is noteworthy that the impact of bottle colour on fragrance perception outweighed the bottles weight. (Gatti, Bordegoni, & Spence, 2014)

A study conducted comparing between four colours (i.e. white, cream, orange and red) of beverage (i.e. hot chocolate) containers and their impact on its perceived aroma. Cream colour was found delivering more intense of aroma than red cups. (Piqueras-Fiszman & Spence, 2012)

Regarding packaging designs of fragrances, a visual research was carried out using google search engine. Dark colours was found employed in the packaging design of men's fragrance mainly black. However, lighter colours were used for women's fragrances packaging design.

6. Conclusions

It can be concluded that designers have been interested in representing visually different sensorial impressions including texture, sound, flavor and Odor. The main motives and aims in this issue are maximizing the added value of a design, engaging the audience or consumer in the design, providing entertainment, imitating nature and delivering a message. The texture has been represented in design products such as graphic and fabric design. This is in order to represent natural materials, attract attention, and strike the viewer. In the fabric print design, texture has been a main source of design inspiration. Color and texture were found consolidated parts to be studied jointly. Sound and music depiction using color are evidently the concern of audio package designers and audio software designers. For the first, it is important to listen to the piece of music or sound to represent it visually on an album cover. In the second, color, shape and motion are used depicting the played audio in order to entertain the listener. Generally, common specifications namely frequency, amplitude and overtone between music and color were found. For flavor and aroma, indicators of colors representing main flavors could be inferred. These are red and orange for sweet, green and yellow for sour, white for salty and violet and black for bitter. Aroma and odour intensity were found highly linked to design saturation rather than hue and brightness. This could be differing according to aroma source. Light and dark colors were used respectively for women and men fragrance package design.

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