

# ПРОГНОЗИРАНЕ НА ЦВЕТОВЕТЕ В МОДНИТЕ ТЕНДЕНЦИИ

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## PREDICTION OF COLORS IN FASHION TRENDS

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### ABSTRACT

*The collection, processing and analysis of data on fashion trends associated with the prediction of colors, fabrics, structure, style of clothing. The purpose of this activity is to predict the choice of consumers. The output data from such projections are needed by manufacturers and retailers specializing in fashion field. The purpose of the paper is to investigate the colors chosen over the years to analyze available literary sources on predicting color trends in fashion. It has been found that the choice of colors by the consumer is based on the internal psychological process that is associated with the perception process. The user selects on which type of products to pay attention, organizes information about them and interprets it in a way that is profitable. The direct use of color components to predict color trends is inappropriate, because the influence on color choices has many other factors. Complex software and analysis methods are used to predict color trends. A trend in the colors chosen by users can be established by decades.*

**Keywords:** Fashion trends, Colors, Prediction.

### 1. INTRODUCTION

The collection, processing and analysis of data on fashion trends are associated with the prediction of colors, fabrics, structure, style of clothing. The purpose of this activity is to predict the choice of consumers. The output data from such projections are needed by manufacturers and retailers specializing in fashion field [2,8,10]. The ultimate goal of this activity is to meet human needs.

According to the theory of consumer behavior embodied in Hoffmann's model [7], the main stages of consumer choice are:

- ✓ Occurrence of need;
- ✓ Awareness of the problem;
- ✓ Searching for commodity alternatives by gathering information;
- ✓ Assessment of the alternatives and choice of one of them;
- ✓ Making a specific purchase decision
- ✓ Act of purchase;
- ✓ Behavior and impression after purchase.

The choice of the user is based on the internal psychological process that is associated with the perception process. In this process the user

receives, selects, organizes and interprets the accepted data for the products offered for reasoning. This indicates that the user chooses what kind of products to pay attention to, organize information about them and interpret it in a way that is profitable.

At the modern level of science development of forecasting and even influencing consumer opinion and behavior rely on financial and statistical methods of analysis is used, not just the intuition of the designer or trader.

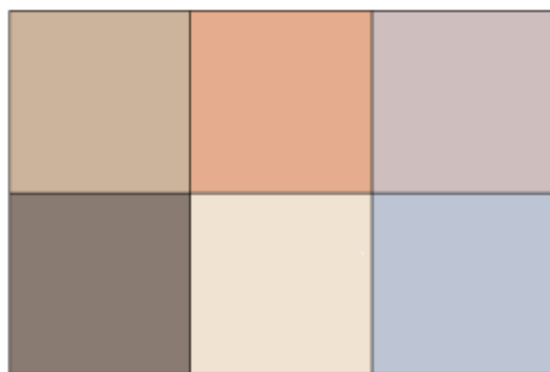
Color is a basic element in clothing that affects the choice or rejection of a garment [6]. Designers and fashion agencies, such as Pantone, work and publish results on color trends. Mainly the publications available on the World Wide Web are related to forecasting color trends for the next season or year. Few are available publications on the development and forecasting of colors in fashion.

**The purpose** of the paper is to investigate the colors chosen over the years to make an analysis of available literary sources on the prediction of color trends in fashion.

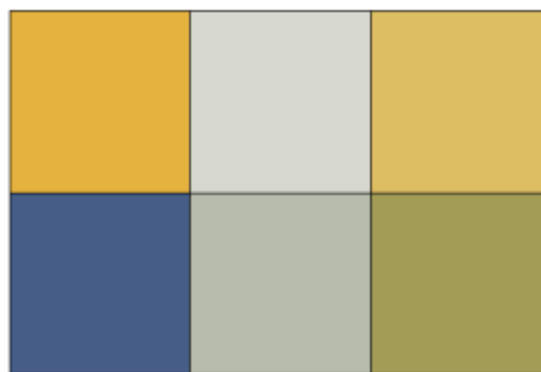
## 2. EXPOSITION

Research was conducted for the period 1880-2000 actual colors. The data found in the literature are by decades (in 10 years). An analysis of the factors influencing the choice of colors for the particular period considered is made. Verification of the ability to predict color trends by color model components has been made. Examples of publications related to the use of methods to successfully predict color trends are outlined.

**Figure 1** shows the colors for 1880 and 1890 years. The colors of the 1880s are influenced by the Victorian period and glamor. The 1890s saw the impact of industrial innovation in this period, the novelties in art, the color of cobalt blue.



a) 1880

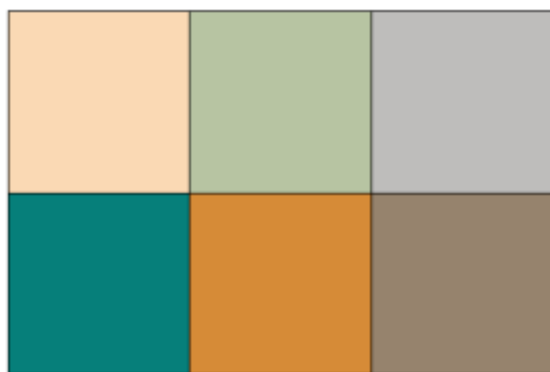


b) 1890

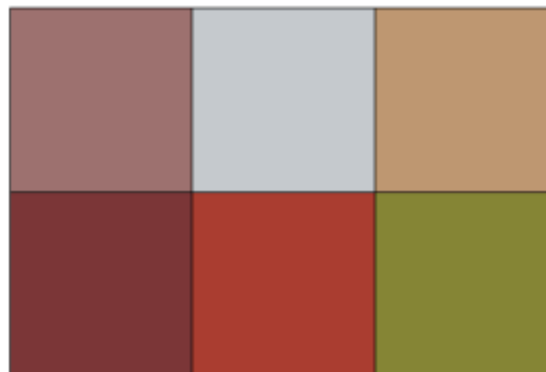
**Figure 1** Colors for 1880 and 1890

In **Figure 2** the colors for 1900 and 1910 are presented. In the 1900s, influence on the colors chosen by consumers influenced the new movements, the silent movies, the constant movement of immigrants to the more developed countries, the Cubism as a direction in art, the

books of Frank Lloyd. Factors influencing the choice of colors in the 1910s are the writings of writer and artist Norman Rockwell, World War I, craftsman style, new magazines for the hosts. Darker tones with white contrast are used in this period.



a) 1900

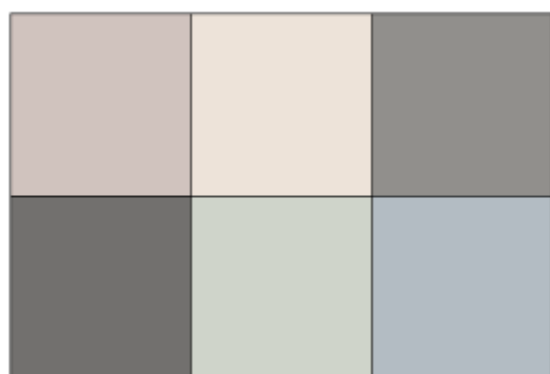


b) 1910

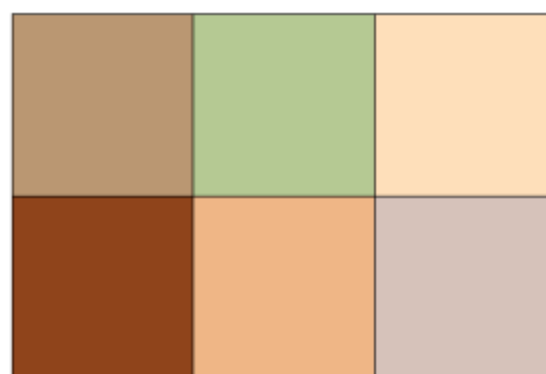
**Figure 2** Colors for 1900 and 1910

**Figure 3** shows the colors for the 1920s and 1930s. The influence of color choice in the 1920s was given by war-returning men who told about the places they fought, the clothing and culture there, the era of jazz music. The colors are soft and muted.

In the 1930s, the colors were influenced by America's "Great Depression", "The Wizard of Oz", and in that period Frank Lloyd published the book "Home Over the Waterfall." Colors are practical, simplified, partly mixed, a trend towards so-called "Game with colors".



a) 1920

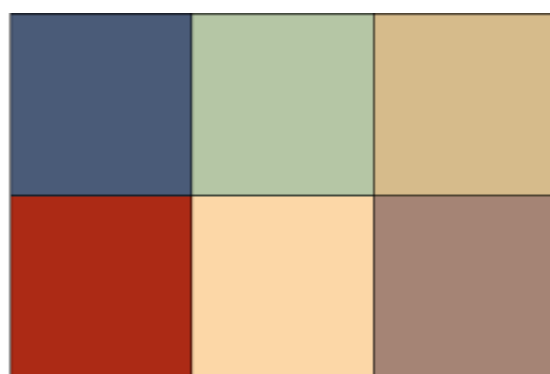


b) 1930

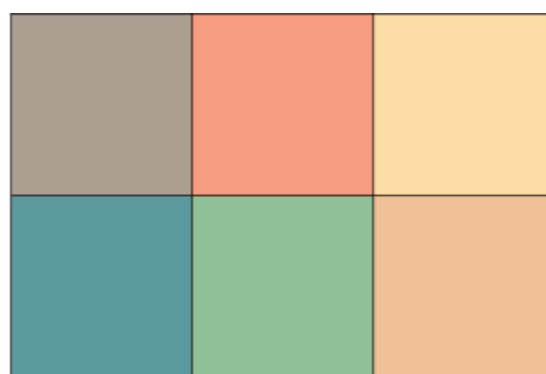
**Figure 3** Colors for 1920 and 1930

**Figure 4** shows the colors for the 1940s and 1950s. In the 1940s, World War II, the propaganda, the emergence of home telephones, influenced the choice of up-to-date colors, Dorothy Draper published the book "Fun Decorations". In the

1950s after the end of the Second World War, the choice of colors was influenced by the music of Elvis Presley, the Barbie doll, the "Do it yourselves (DIY)" principle emerged, prompting people to seek inspiration for creativity and design.



a) 1940



b) 1950

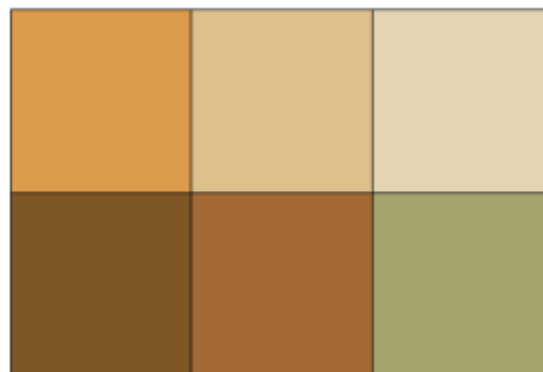
**Figure 4** Colors for 1940 and 1950

**Figure 5** shows the colors for the 1960s and 1970s. In the 1960s, the choice of colors was influenced by the movement of people's rights, youth culture, alternative fashion, new hairstyles, Beatles group music. These new currents lead to penetration of psychedelic colors. In the 1970s, the

choice of colors was influenced by the Watergate affair, the end of the Vietnam War, the emergence of computer games such as Atari, the advent of videocassettes in the home. Colors in this period are darker, organic.



a) 1960

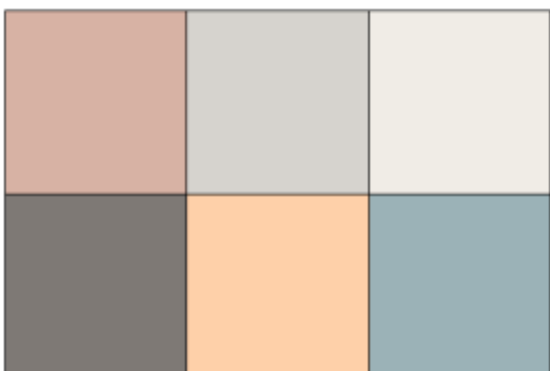


b) 1970

**Figure 5** Colors for 1960 and 1970

**Figure 6** shows the colors for the 1980s and 1990s. The choice of colors in the 1980s was influenced by television ads, Jupiter, Michael Jackson's music, MTV television, the "Me, money

and materialism" [9]. In the 1990s, colors were influenced by Internet penetration, Bill Clinton's choice for president, natural materials and fabrics, the 2000 problem.



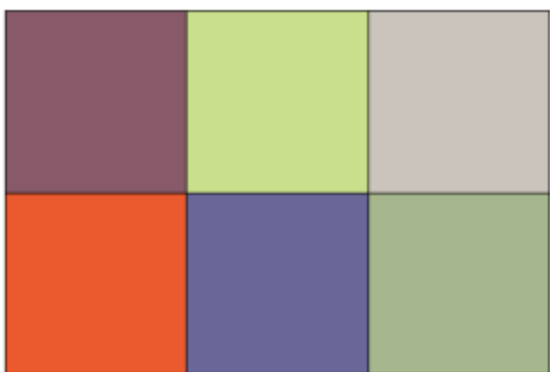
a) 1980



b) 1990

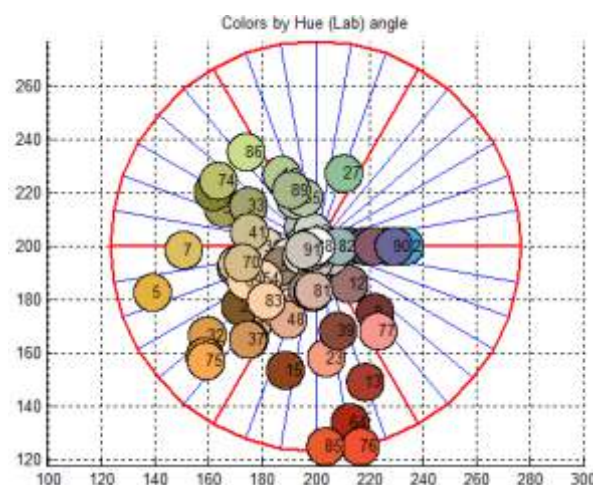
**Figure 6** Colors for 1980 and 1990

**Figure 7** shows the colors for the 2000s. The choice of colors is influenced by changes in countries' economic condition, electronic advertising, social networks, color inspiration preferred in previous years.



a) 2000

All decade colors are visualized on a four-color wheel. There is no clear trend in their change.



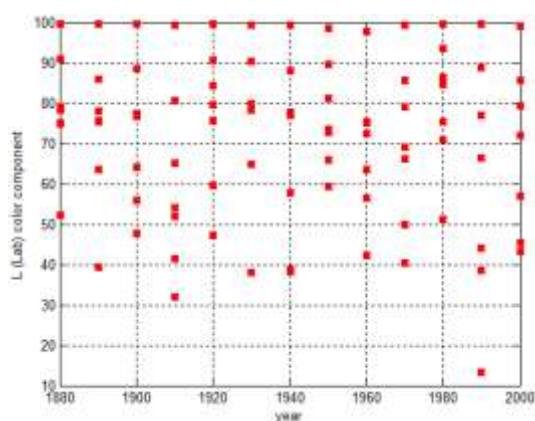
b) representation of all colors in decades in a color wheel

**Figure 7** Colors of 2000 and representation of all colors in decades in a color wheel

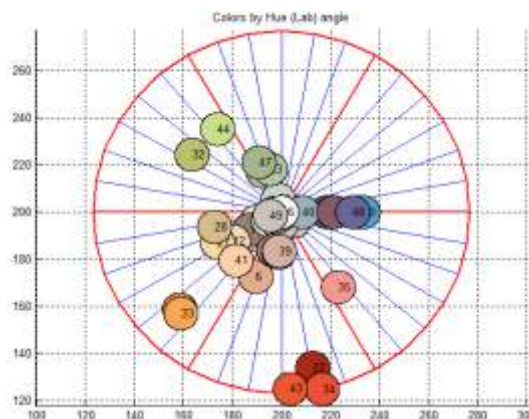
In Bulgaria until the initial period of 1880-1950, the colors were selected according to European and world fashion trends. In the period 1950-1990 the tendencies in colors and fashion in general were dictated by several fashion magazines such as "Slavyanka", "Lada" and "Women Today". In the early 1960s, a "Center for New Goods and Fashion" is created [5]. It centralizes the publication of newsletters, magazines and other propaganda materials, organizes reviews, exhibitions, conferences, fairs, which acquaints both traders and specialists, as well as ordinary citizens with the novelties in fashion and other areas of the household, thus forms a certain taste and attitude towards clothing. In the period from

the beginning of the 1990s to the present day, the choice of colors by the Bulgarian consumer is again influenced by European and world fashion trends that are accessible to everyone.

**Figure 8** shows the changes of the color components L (Lab) and H (HSV) by years. There is no dependency in experimental data. Apparently they are chaotic. The same results are obtained using color components from RGB, HSV, Lab, LCH, CMYK color models. This indicates that the direct use of color components to predict trends is not appropriate because the influence on color choice has many factors such as culture, surrounding environment, historical events.



a) L (Lab) color component



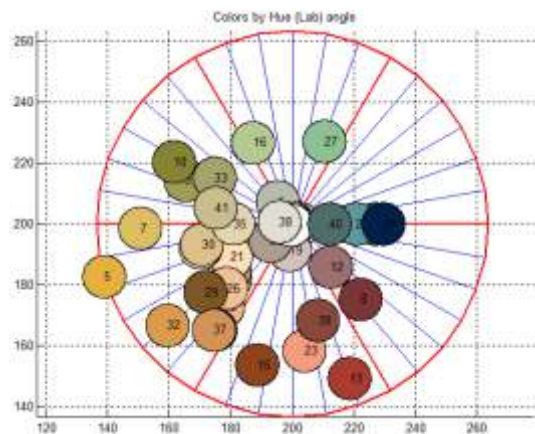
b) H (HSV) color component

**Figure 8** Changes of color components of actual colors by decades

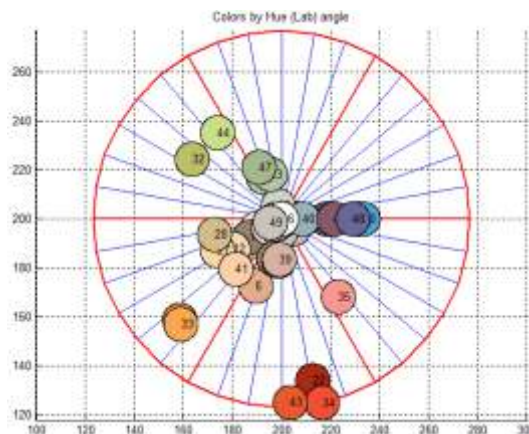
Solution for dependence on the actuality of colors over the years is offered by Benjamin Moore and Doty Horn [1]. In their webinar they point out that if the development of the actual colors is presented on even and odd decades, dependence is found. Without neglecting the fact that the rhythm of colors over the years has been influenced by wars, political changes, changes in innovation in industrial production, art and culture, the authors

point out that the even decades echo the warmer, softer, more organic colors.

**Figure 9** shows the colors in decades in a four-color wheel. Differences in even and odd decades of actual colors are observed. In the even colors are brighter, while in the odd they tend to the center of the four-color wheel as they tend to the darker colors.



a) even decades



b) odd decades

**Figure 9** Colors in odd and even decades



An enhanced prediction scheme for color selection trends has been proposed in [4], where the author points out that current forecasting methods are not fully effective. The proposed scheme is proven by a survey. An HSV color model is used for objective color representation.

An effective scheme for predicting color trends, but in architecture is proposed in [3]. The proposed scheme is implemented in an automatic search program on the Internet. The software system performs multiple relationships to detect coincidences and color trends depending on the search query.

### 3. CONCLUSION

The analysis of colors over the years and how to predict trends in their choice of consumers it is found that:

- ✓ The choice of colors by the consumers is based on the internal psychological process that is associated with the perception process. The user selects on which type of products to pay attention, organizes information about them and interprets it in a way that is profitable to him;
- ✓ The direct use of color components to predict color trends over the period 1880-2000 is inappropriate, because the influence on color choice has many factors such as culture, surrounding environment, historical events;
- ✓ In forecasting color trends use sophisticated software and analysis methods;
- ✓ A trend in the colors chosen by users can be established by decades.

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