# A colour value framework for colour design of lifestyle products

Sudhakar Damodaraswamy and Nijoo Dubey*

*School of Design and Innovation, RV University, India*
**Discipline of Universal Design, National Institute of Design, India*
**Email: nijoodubey@nid.edu.in*

This study probes the association between the design of Colour, Material, and Finish (CMF) for lifestyle products and the perception of a product's value proposition. This paper details a survey conducted on the reasons for the use of colour on products and the analysis of the results for discernible patterns. Observed patterns are categorised, labelled, defined, inherent hierarchies identified, and validated through examples. The outcome of the analyses is the Colour Value Framework (CVF), presented as a hierarchically organised set of vocabularies representing the dominant patterns in the use of colour for coding value propositions into products. The applicability of the CVF in the CMF design process is discussed.

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## Introduction

Colour design for mass-produced products is a complex coming together of manufacturing processes, trends, marketing strategies, consumer preferences, and aesthetics [1]. The designer's challenge is to manage the above constraints together so as to achieve an appropriate colour offering. In the aesthetic of the product, the designer hopes to achieve an appearance that externalises the values a product carries within itself [2]. This in turn is expected to influence the perceived value of the product by the consumer [3-4].

The Colour Value Framework (CVF) is an outcome of a study done on the sidelines of a larger research on the CMF design process. The typical CMF Design Process is a multi-stage process involving research, deriving of narratives, defining of a CMF strategy, ideation, and design development [5]. The defining of the CMF strategy in itself is an objectives-driven activity that factors in a variety of requirements that flow in from multiple directions including, colour trends, consumer preferences, market positioning, brand identity, archetypal references and the expression of a product's attributes [6]. Developing and communicating value is an important prerequisite of a design activity [7]. Given the variety and choice of product alternatives available to a consumer, the CMF design is required to align, compliment, differentiate, express, communicate, and in effect offer a calibrated value proposition to its intended audience [8].

A study of the current colour research landscape reveals that while there is plenty of discussion on colour preferences, and colour and value perception, there has been little attempt at a categorical study relating specifics of colour application to product value propositions. This study aims to answer two significant questions, 1) What are the kinds of value propositions that a designer attempts to attribute to a product through the use of colour? 2) Can these value propositions be categorised into a structured framework to be used as a reference during the CMF design process?

## Methodology

The study began with a one-question survey in a social media forum for designers asking them to list:

1) up to three products for which they designed the CMF in the recent past,
2) the colours used in the CMF design,
3) the reasons for the choice of colours used in the CMF design.

The reasons provided by the design practitioners were considered to represent in essence, the value propositions coded into the products through the use of colours in the CMF design. Responses were received from 34 designers with a total of 75 CMF design cases. Interpretative Qualitative Case Study Analysis method [9] was used for the analysis of survey data. A final validation of the results was done through a simple sorting test involving a set of participants.

## Results and discussion

### *Survey and analysis*

The analysis of the survey data from the 75 design cases was done in two parts. First, the identification of dominant patterns in the data through the use of Interpretative Qualitative Descriptors. Second, the consolidation of the descriptors into a list of concise vocabulary labelled 'Value Categories'. Table 1 shows a short sample of the analysis done on the 75 design cases.

The final set of eight Value Categories derived from the analysis represents the categorical reasons for the use of colour to code specific value propositions in the CMF design of products (see Table 1).

| Product | Stated reasons for colour use | Interpretative Qualitative Descriptors | Value Categories |
|---|---|---|---|
| Fridge Stabiliser | Matching with the CMF of economy variant fridges in the market | Expresses an archetypal quality | Archetypal |
| Ground Control Station | Colours to match different materials such as MS, Aluminium, ACP, FRP | Aligns to a functional necessity | Pragmatic |
| Pedestal Fan | Matching with the elegant luxurious marble finish interiors | References an aesthetic category | Categorical |
| Frontloading Washing Machine | To cater to premium segment consumers | Directs a relative value perception | Relational |
| Kitchen Appliance | Giving highlight to food in the kitchen rather than appliances | Performs a performative function | Performative |
| Sport shoes | To give it a rugged forest feel | Invokes a metaphorical association | Associative |
| Walking stick | To evoke joy and playfulness | Evokes an emotional response | Emotive |
| Pooja Unit (Shrine) | As most customers would prefer that colour | References a symbolic association | Symbolic |

*Table 1: Samples of the design cases with derived Descriptors and Value Categories.*

### *The Colour Value Framework*

Lifestyle products tend to be positioned at varying levels of the market depending on the product's value proposition [10]. For the CMF designer, this implies varying levels of ambitions in a CMF design objective, ranging from something basic at one end of the scale, to something novel and imaginative at the other end. This range can be likened to scales used to typify the level of innovation in the design of products or services [11]. Borrowing from such references a hierarchical scale was developed with four levels as: 1) evolutionary, 2) progressive, 3) radical, and 4) experimental. This scale which we will call Value Frames, essentially expresses the level of conceptual 'stretch' applied in the creation of CMF designs in order to meet the design ambitions. It is found that the ordering of the Value Categories in relation to the Value Frames produces a convincing hierarchical alignment between the Value Categories and the Value Frames, shown in Table 2 below.

| Value Frames | 1. Evolutionary | 2. Progressive | 3. Radical | 4. Experimental |
|---|---|---|---|---|
| **Value Categories** | 1. Archetypal<br>2. Pragmatic | 3. Categorical<br>4. Relational<br>5. Performative | 6. Associative<br>7. Emotive | 8. Symbolic |

*Table 2: The Colour Value Framework - Value Categories mapped to Value Frames.*

With reference to the initial questions triggering this study, Table 2 offers the final consolidation, mapping the eight Value Categories against the four Value Frames to create the Colour Value Framework (CVF). As established, the eight Value Categories represent the different value propositions attempted in the course of a CMF design process. The four Value Frames offer a hierarchical basis to the conceptual stretch required, to generate different value propositions.

### *Applicability of the Colour Value Framework*

The CVF has the potential to perform two important functions in the CMF design context, 1) serve as a vocabulary for precise articulation, and 2) serve as a referenceable framework for precise positioning. In the first instance, the vocabulary derived as part of the CVF, namely the Value Frames, and the Value Categories, can help in the precise articulation of the target value proposition to be achieved through the CMF design. In the second case, the CVF can help provide a referenceable structure to deliberate on the precise positioning of a product's value proposition.

### *Validation study*

The performance of the Value Categories as effective labels was validated in two parts. In the first part, Refrigerator images were used as samples to validate and create definitions for the Value Categories (see Table 3). Following this, a Sorting Test [12] using preselected Coffee Makers was conducted with seven invited participants to test for percentage conformity in the understanding and relatability of the Value Category labels with their intended meaning (see Table 4). The success rate in both the validations strongly attests to the reproducibility and effectiveness of the Value Categories as representative labels for value propositions attempted in the CMF designs.

1 2 3 4 5 6 7 8

**1. Archetypal value**
Use of colour to conform to prevalent palettes existing in the marketplace to suggest standardisation as a value proposition
**2. Pragmatic value**
Use of colour to suggest that practical considerations have been applied (e.g., dual colours) as a value proposition
**3. Categorical value**
Use of colour to conform to existing aesthetic categories with stylistic orientation (e.g., Art Deco) as a value proposition
4. **Relational value**
Use of colour borrowed from stereotypical references used to suggest a market value (e.g., premium value) as a value proposition
**5. Performative value**
Use of colour to perform a specific aesthetic role relevant to their contexts of use (e.g., décor) as a value proposition
**6. Associative value**
Use of colour to suggest expressive metaphorical associations as a value proposition
**7. Emotive value**
Use of colour to evoke emotional references as a value proposition (e.g., the colour tone above is used to indicate a relaxing, informal atmosphere)
**8. Symbolic value**
Use of colour with symbolic associations (e.g., SMEG UAE uses the colours of the flag) as a value proposition

*Table 3: Value Categories with examples drawn from current refrigerator models.*

| | Archetypal | Pragmatic | Categorical | Relational | Performative | Associative | Emotive | Symbolic |
|---|---|---|---|---|---|---|---|---|
| Design sample used |  |  |  |  |  |  |  |  |
| % Conformity | 86 | 86 | 71 | 100 | 57 | 71 | 71 | 86 |

*Table 4: Results from validation of Value Categories using coffee makers.*

## Conclusions

This study probes the fundamental association between colours and the value propositions coded into products through CMF design with a view to understanding if there are dominant categorisable patterns in the use of colour. The study was able to identify eight dominant categories that represent the dominant reasons for the use of colour to code value propositions in products. The clarity and unambiguity of the labels used to represent the categories were ascertained. The hierarchical progression of these categories in four levels representing the conceptual stretch required in the CMF design was arrived at.

The final consolidation of this study in the form of a CVF provides both a vocabulary and a structured basis to deliberate on the coding of value propositions during the CMF design process. We believe that the CVF can benefit the CMF design process in a number of ways: help recognise the value of colour use in coding value propositions into products; reduce ambiguity in the articulation of design objective statements; serve as a matrix for relative positioning of product value propositions; provide a referenceable vocabulary for discursive situations. It is felt that a stronger validation of the framework in application scenarios will help refine it further.

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