Design Course

Packaging Design - An Introduction

Basic Elements and Principles
by
Prof. Ravi Mokashi Punekar, Prof. Iko Avital and
Ms. Moumita Lashkar
DoD, IIT Guwahati

Source:
https://www.dsource.in/course/packaging-design-introduction

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Introduction

Packaging Design is a multi-disciplinary field which considers functional aspects such as holding and protecting its contents from damage; transportation, manufacture; distribution and graphic design elements on the surface of the package that result in compelling communication. This introductory course will address the basic elements and principles of packaging Design. The emphasis is on understanding aspects of form and structure; the fundamental design considerations of graphic design elements on the surface of the package. It will include the study of package construction – primary and secondary package – and how products are effectively designed and presented on the shelves.

This course has been developed for a person interested and self motivated in the area of Package design. It encourages learning by doing.

The course is divided into the following two parts comprising of four modules:
• Module 1 - Design Considerations in Package Design
• Module 2 - Packaging and Branding of Assam Tea

Module 1 - Design Considerations in Package Design:
a) Design Checklist in Package Design – An overview
b) Package Design Principles
c) Primary Display Panel
d) Typography for Package Design
e) Color Studies in Package Design
f) Image and Imagery in Package Design
g) Understanding Corrugated Packaging

Module 2 - Packaging and Branding of Assam Tea:
a) Introduction to Teatime Workshop by Prof. Iko Avital
b) Examples of Tea Time Workshop by Students of IIT Guwahati

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Design Considerations

The package forms the first interface between the consumer and the product. Communication considerations become one of the important considerations in the design and development of any package. The package is expected to communicate what it contains. It is expected to attract and entice the consumer. For a designer, Elements of Visual Design in Packaging offers challenges in integrating form and function on the one hand and on the other ensuring that communication aspects are effectively designed on the package.

Design Checklist

Principles

Primary Display Panel

Typography

Colour Studies

Image and Imagery

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Corrugated Packaging

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Design Checklist

A brief outline:
It would be good practices to identify the design requirements in the design and development initiatives of most Packaging by raising some basic enquiries using the following checklist.

The checklist:
What is the physical form?
  - Powder / Granular / Solid / Viscous / Oily or greasy / Liquid / Gaseous.

What protection will it require?
  - Water vapor condition or
  - Requirement: At time of manufacture/ at time of use/ under marketing conditions.

Do the seals on the package material:
  - give the same protection as the package material?

If contents are not used after opening the package:
  - is re-closure needed to protect the unused portion?

How do product and package material
  - react chemically with respect to each other?

Will the package prevent:
• **The Loss of -**
  - Aroma, flavor or volatile components?
  - Colour?
  - Physical shape (breakage of tablets, etc.)

• **Ingress of -**
  - Foreign odors?
  - Oxidation or other chemical reaction?

Is it appropriate -
• In structural strength, is it inconsistent with the usage for which it is intended?
• In 'producibility', will it lend itself readily to the processes of fabricating, graphic arts, etc. that give it form and identify?

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• Is it a material which is familiar to consumers in form, shape, texture and therefore suitable; or will it require 'selling'?

Is it structurally adequate?
• Will it go through mechanized production at high speeds?
• Can it withstand extremes of temperature and/or refrigeration conditions in carriers?
• Will it stand up under storage conditions in warehouses and retail stores?
• If vacuum, gas or hermetic packing is required, is package structure most advantageous for such equipment?
• If necessary, can package and contents be sterilized?

Availability:
• Is a reasonable steady supply assured?
• What is the time of delivery dates?
• Are prices subject to fluctuation?
• Are prices in line with this particular purpose?
• Have you checked all possible sources of supply?

Equipment:
• Can the package be formed, filled, and closed on existing equipment or will new equipment be required?
• Would it be advisable to change package sizes or forms (and selling prices) rather than to buy new equipment?
• Would modifications in package structure make it possible or advisable to utilize new types of equipment to good advantage in speed, efficiency or economy?
• If code marking is needed, is the method provided?

Personnel:
• Will the package involve standardized operations, or will it require special personnel?
• Does this package impose unusual difficulties with respect to breakage, inspection, etc?
• Will operations be fully mechanized,, semi-automatic, or mainly by hand?

Design:
• Is the container of the right size and shape to move properly through packaging machines and on conveyor lines at required speeds?
• Is the closure suitable for product and production, as well as serving consumer convenience?
• Are openings adapted to filling devices?
• If labeling operations are required, are there suitable label spaces or surfaces?
• Is the design 'engineered' for greatest shock resistance during machine handling?

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• Does the design permit of proper storage and shipment?

Preparation, prior to use:
• Does fabrication involve standard practice, or are unusual methods and equipment required?
• Can the package be shipped and stored conveniently prior to delivery to the production line?
• If there are several parts to the packaging materials, can the component parts be conveniently and easily assembled for packaging?
• Can the package be adapted conveniently for shipment to the user by the manufacturer or fabricator in final shipping cases?
  (e.g. shipment of glass bottles by glass manufacturer in cases again used to ship filled containers)
• Does the package have proper weight or capacity in relation to the bulk container?

Packaging and shipping considerations:
• Is there an accepted method for packing goods of this character for shipment? Can that method be used?
• Is the unit package properly adapted for convenient bulk packaging?

Distribution channels:
• Is the package of proper size and shape for the convenience of wholesaler and retailer?
• Is the package convenient for (a) storage, (b) display and (c) sales handling and delivery?

Is it convenient for the consumer?
• Is the size of unit package proper for the consumer?
• Should the package be provided for inspection of contents prior to sale?
• Can the package be opened easily and, if necessary, effectively closed for further use?
• Could a dispensing device (such as a pouring spout, etc.) be used effectively?
• Can the consumer measure out the correct quantity conveniently?
• Is there a disposal problem?
• Is there a re-use possibility for empty containers?
• Has consumer convenience been considered in the matter of hand grip features, ease of grasping, dispensing, etc.?
• Is the packaging size appropriate and convenient for Refrigerator/ Pantry shelf/ Bathroom cabinet or other consumer storage place?

Considerations of Economy:
• Does the package use the minimum of material consistent, with proper packaging policy?
• Does the package comply with standardization practices that make for economy in
  - Manufacture?

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- Production?
- Handling?

• Is container cost in proper proportion with -
- The unit price of product?
- Available margin for packaging cost?
- Market desired?
- Class of merchandise being packaged?

• Does the price paid for packaging material ensure a low percentage of defects?
• With real economy in mind, does the package provide protection for the normal life of the product, plus a reasonable margin of safety?
• In weight size, and structure, does the package lend itself to economy in shipping?
• Does the cheapness or expensiveness of the package make the desired impression of the purchaser?

The Product:
• Is this a new product?
• What are its uses?
• What is its relative quality in its line?
• What are the special sales points or features?

The Market:
• Who are the ultimate consumers?
- Age and Sex
- Income bracket
- Social or cultural levels
- Races – geographical locations
- Export markets

• **How will it be distributed?**
- Regular channels (wholesale and retail); independent stores; chain stores; self service; or super markets
- Mail order
- Direct selling (house to house)

Buying habits:
• What are the retailer habits or practices with respect to products of this character
- Unit of purchase?

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- Storage prior to placing on sale?

Display facilities:
• Display on shelf, counter or window?
• Is the shape and size of the package adapted for mass display?
• Is the single unit attractive?
• Will the package be seen above and below eye level? Which panel displayed?
• Will the retailer support the product?
• Will supplementary or point-sale support be given?

Size considerations:
• Are package size properly adapted to
  - Distribution methods?
  - Consumer habits?

• How would changes of package size affect
  - Consumer convenience?
  - Quantity of purchase or use?

Competition:
• Have you compared the product itself with competition, direct and indirect?
• Have you compared packages
  - Material used?
  - Sizes and shapes?
  - Colours and designs?
  - Features-desirable or undesirable?

• Have you considered whether your package should resemble competing packages, or be distinctively individual from the view point of –
  - Manufacturer
  - Retailer
  - Consumer

Identity:
• Are all features present which ought to appear and are they treated properly with respect to relative position and emphasis?
• Is the brand name unmistakable as to position and style?

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• Does the package adequately feature a familiar trade name?
• Is name of the manufacturer given due prominence?
• Does it – or should it – use a family design?
• Is the product name (as distinguished from the brand) featured so as to afford immediate product identity?
• Does the package appearance reflect -
  - The outstanding qualities of the product?
  - Integrity and responsibility of the maker?

Information:
• Does the package carry all information required by law and in a manner acceptable for
  Federal, State and foreign distribution?
• Are instructions and uses legible and easy to understand?
• Is it possible to clarify, shorten, or improve the directions or instructions?
• Should a blank price panel be provided for dealer use?
• Do the illustrations serve to -
  - Instruct/ Interest? and/ or
  - Attract the consumer?

Inviting attention:
• Are colours and design
  - In good taste?
  - Appropriate for product, retail outlet and consumer?
  - Do they compare favorably with competition?

• Does the package make a pleasing impression?
  - From a distance/ closer view?
  - On shelf, counter or in window?
  - In the consumer's home?

• Does it carry a self-selling story?
• Have all the pros and cons of visibility and package material been weighed?
• Does the package have remembrance or reminder value?
• Is the package a self sufficient advertising unit, or must it depends on other forms of advertising media?

The internal point of view:
• Have you sought the cooperation of various departments
  - Product development

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- Market research
- Purchasing, Production
- Legal, Sales, Advertising, Art

• In respect to package size, appearance and structure, have all possible conflicts been compromised?

• Have the complete specifications for this package been put into permanent form for future reference – exact colour identify, dimension, special fabrication instructions, and all possible sources of supply?

• Have you taken all possible steps to ascertain dealer attitudes?
• Are you fully satisfied that there will be, or that there can be developed, a reasonable consumer acceptance for this product and package?

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Principles

In packaging basic design principles are customized to meet the objectives of each design assignment. These guidelines help to define how color, typography, structure and imagery are applied within a design layout to create the right sense of balance, tension, proportion, and appeal. This is what makes the design elements form the communicative attributes of the packaging design.

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Source:
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These principles provide a framework for typographic decision making for packaging design. These are:
• Principle 1: Define the typographic personality
• Principle 2: Limit Typefaces
• Principle 3: Create Typographic Hierarchy
• Principle 4: Define the typographic positioning
• Principle 5: Define font alignment
• Principle 6: Vary typographic scale
• Principle 7: Choose to contrast
• Principle 8: Experiment with type
• Principle 9: Stack characters carefully
• Principle 10: Make it ownable
• Principle 11: Be consistent
• Principle 12: Refinement for typographic excellence

Principle 1: Define the typographic personality
The visual personality is what communicates how consumers perceive a design. Research, experimentation, proper type selection, and clear visual communication strategy provide the foundation.

Principle 2: Limit Typefaces
Three typefaces are general limit for any primary display panel in packaging design. Sometimes it is difficult to limit the number of typefaces because of the quantity of the copy required. In this case it is best to employ typefaces that offer a variety of styles within the same family; this provides a clear, consistent appearance and a unified message.

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Principle 3: Create Typographic Hierarchy
Typographic hierarchy, the organisation of the visual information, can be created by grouping related items together and spacing related items together and spacing unlimited items farther apart.

Principle 4: Define the typographic positioning
Typographic positioning is the physical placement of the typography within the primary display area: the individual location of the letters, words, and bodies of text in relation to other design elements.

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Principle 5: Define font alignment
Alignment defines the overall architecture of the layout. Basic typographic alignment can be :

• Centred: With each word or line copy centred within the primary display panel or specific area.
• Flush left: With each word or line of copy aligned on the left, used most often in western cultures, where reading is from left to right.
• Flush right - With each word or line of copy aligned on the right, can be an awkward choice when there is a significant amount of copy for consumers to read.
• Justified - With words or lines of copy stretched to the same width, but here letter and word spacing can be challenging.

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Principle 6: Vary typographic scale
The visual personality is what communicates how consumers perceive a design. Research, experimentation, proper type selection, and clear visual communication strategy provide the foundation.

Principle 7: Choose to contrast
Typographic contrast – light vs. bold, italic vs. roman, serif vs. san serif – allows the designer to organize information for the consumer and add interest to the layout.

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Principle 8: Experiment with type
Experimenting with type styles, characters, letters forms, ligatures, kerning, and layout is an important part of the design process. Experimentation is the part of the creative exercise that allows ideas to be visualized and take shape.

Principle 9: Stack characters carefully
The general rule in packaging design is not to stack type. Stacking characters on a packaging design can make shelf stocking confusing since the proper vertical or horizontal orientation for the product is unclear.

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Principle 10: Make it Ownable
The brand name or product name are what the consumer connects to both the mentally and emotionally, so the typography used should be unique to the brand as well as ownable.

Principle 11: Be consistent
Consistent use of type in personality, style, positioning, and hierarchy creates a unified look across a brand family or line of product, creating a strong shelf presence.

Principle 12: Refinement for typographic excellence
Typographic refinement is essential to the quality of the end result. Ultimately typographic excellence is achieved when the type has clear expressive power that impacts the packaging design in a way that makes an immediate impression on the consumer and sparks a transaction.

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Primary Display Panel

Hierarchy is emphasis to show order of communication. When hierarchy is correct, the eye follows the design through a comfortable logical sequence. The personality of the well designed, playful PDP effectively captures attention and communicates the products benefits.

• Communicates the marketing /brand strategy effectively
• Illustrates product information clearly
• Emphasizes information by hierarchy and uncluttered and easy to read
• Suggests the function, usage, and direction effectively
• Differentiates the product from the competition
• Distinguishes the product on the shelf and in relation to other varieties.

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Typography

Text and Typography:
In packaging design, typography is the primary medium for the communication of the product's name, function, and facts to a broad consumer audience. The typographic section, layout and treatment of the words and letterforms effect how the type is read. Ultimately the typography on packaging design becomes one of the most significant elements of the visual expression of the product.

Categories of Type:
A basic understanding of typestyle categories and their design attributes can facilitate the selection process.

• **Old styles fonts:**
  Include times new roman, Bembo, Palatino, Goudy, New Baskerville, Garamond and Janson. They:
  - resemble the hand lettering of scribes,
  - are graceful in appearance,
  - have a low contrast (the thick and thin strokes are not very different from each other),
  - have serifs on lowercase letters that are slanted,
  - have serifs that are bracketed,
  - have a main stroke that is curved, not sharp,
  - are a good choice for a lengthy body of text.

• **Modern/ Serif fonts:**
  Include Bodoni, Times, Fenice and Madrone. They have:
  - high contrasting thick and thins that are radically different,
  - thin parts of the letters as the vertical stresses,
  - serifs that are horizontal, no bracketed and meet the stroke with a sharp angle.

• **Slab serif/Egyptian/ Square serif fonts:**
  Include Clarendon, New Century schoolbook, Rockwell, Memphis and Anchen. They have:
  - little or no contrast between the thick and thin strokes,
  - vertical lines that are stressed,
  - serif that consists of thick horizontal slabs.

• Sans Serif fonts:
  Include Avant Garde, Gill Sans, Frankin Gothic, Frutiger, Helvetica and Futura. They have:
  - no serifs,
  - tall X-heights (lowercase letter heights),

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- no contrast or vertical stresses,
- no difference in stroke weight either vertical or horizontal.

• **Script fonts:**
  Include Zapf Chancery and Edwardian Decorative. They:
  - resemble handwriting or calligraphy,
  - have large initial caps.

• **Decorative fonts:**
  - have an aesthetic decorative style,
  - are not necessarily designed for readability.

Typography and Kerning:
Kerning is the adjustment of space between letters of a word to make them appear visually unified. The space between each letter should be adjusted to make the overall word have a more cohesive and visually appearing appearance. **Typographic Principles for Packaging Design:**
Typography for packaging design must be -
• Readable and legible from a few feet away,
• Designed to scale and shape of the three dimensional structure,
• Understandable by diverse audience,
• Credible and informative in the communication of product information.

The Principles:
• Principle 1: Define the typographic personality
• Principle 2: Limit Typefaces
• Principle 3: Create Typographic Hierarchy
• Principle 4: Define the typographic positioning
• Principle 5: Define font alignment
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For details about principles you can check:
Package Design Principles in Design Considerations for Packaging Design.

Choose to contrast

Define font alignment

Create typographic hierarchy

Define the typographic positioning

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Refinement for typographic excellence

Limit typefaces

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Experiment with type

Stack characters carefully

Stack characters carefully

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Key points about Typography:
• There are no straight forward answers to typographic design problems; it takes extensive experimentation to get the few appropriate and successful solution.
• Time is money: do not waste time looking through hundreds of typefaces. Find a few fonts that meet the design criteria.
• Take a typeface and tweak it to meet the packaging design criteria and create a unique, ownable, and exclusive brand identity.
• X-heights can be sized to create greater contrast.
• Kerning should always be examined: the computer does not have the eye to make the space between letter-forms perfect; this is the job of the designer.
• Proper spelling and the grammar is critical to communicate: use spell check, read copy silently and aloud and look at every word for errors.

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Colour Studies

Colour and Colour Palette:
Basics of colour:
The human eye sees colour before the brain recognizes imagery in the form of shapes, symbols, words, or other visual elements. Seeing colour is a complex process. The National Bureau of Standards estimates that the human eye can distinguish more than 10 million different colour.
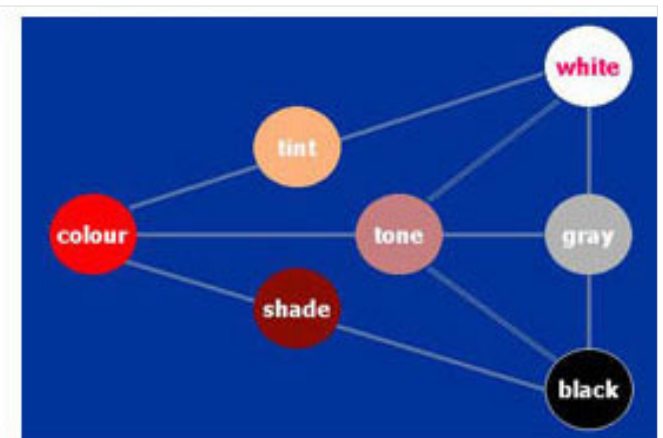
Colour Interaction:
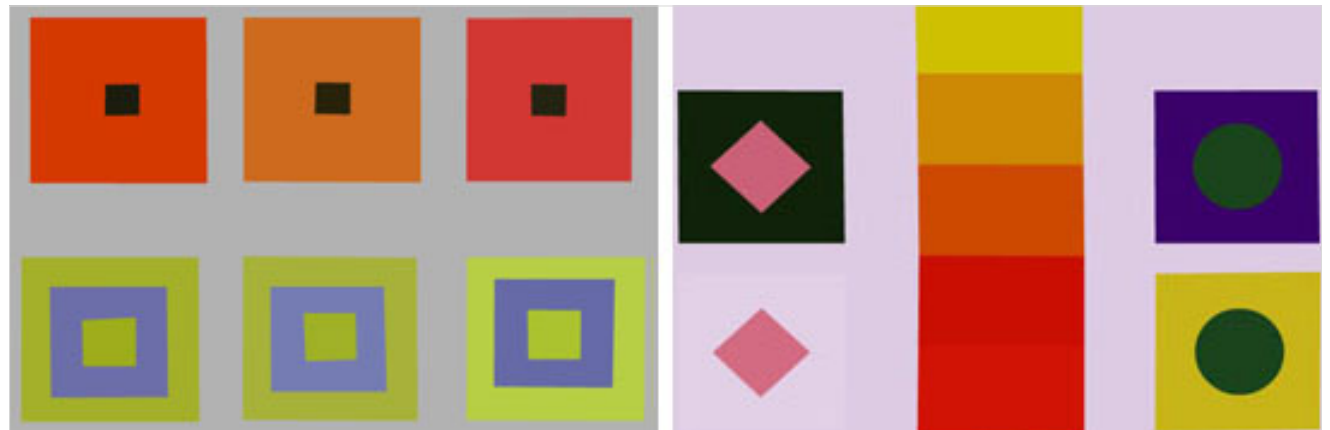
Colour (Tin tone Shade):

Colour - Hue:

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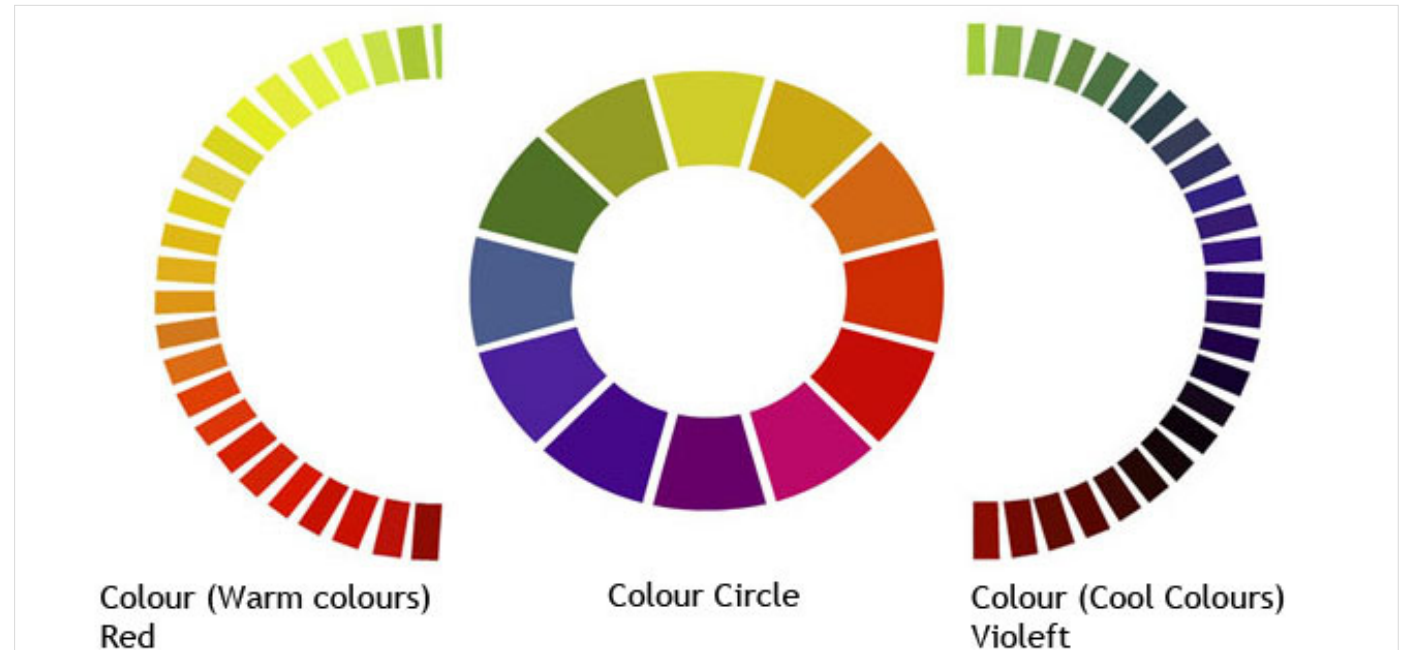Prof. Ravi Mokashi Punekar, Prof. Iko Avital and
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Source:
https://www.dsource.in/course/packaging-design-introduction/design-considerations/colour-studies

Colour wheel:
The traditional colour wheel is divided into three primary colours and three secondary colours. This colour continuum includes all the intermediate hues produced as each one overlaps the adjacent hue. Colours opposite each other on the colour wheel are complimentary.

Colour (Warm colours)
Red

Colour Circle

Colour (Cool Colours)
Violeft

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Colour terminology:
Understanding colour terminology helps to effectively communicate about colour. Colour communicates psychologically by creating mental association. This mental association with colour is what determines an individual's perception of an object or its surroundings. Although colour connotations change over time, for consumers from similar cultural and geographic backgrounds fundamental meanings remain consistent.

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Colour associations vary:
Colour connections are both product and category specific, however an understanding of colour associations is an important factor in the design process.

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Brand building and colour:
Many brands that once had as few as ten products in their family may now have has as many as few thousand. With this explosion of brand families comes the need for more colours to differentiate between product varieties and to distinguish product from the competitors.

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Packaging design and colour association:
Scroll through the marketplace and determine which packaging design and colours best match the following characteristics:
• Appetizing, Fun, Strong, Bold, Original, Trendy, Efficacious, Serious, Urban,
• Energetic, Sophisticated, Youthful

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Key points about colour:
• Consider colour as it communicates the designer's personality.
• Apply colours across product lines in a coordinate colour scheme and across the packaging structures, materials, and substrates of a brand.
• Match colour from the computer to the specified colour for the final printed material.

A course in Design of Packaging:
• Basics of colour
• Colour Associations
• Brand Building
• Design Tips in Packaging Design

A course in Design of Packaging

Target Audience :

Curiosity Mongers
Fascinated Students
Marketing / Engineering/ Advertising / fine-arts graduates who are into packaging

Professional Designers

Design of Packaging

Considerations in Design of Packaging:

• Understanding User considerations like functional use of the product, demographic, economic, social and Psycho-graphic factors

• Understanding Business and Manufacturing aspects like Materials selection, Printing, Manufacturing Processes, Transportation

• Marketing and Packaging

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A Course in Design of Packaging

Managing Design :

- Firm & Strategy
- Strategy and Packaging Design
- The Practical Management of Packaging Design Process

A Course in Design of Packaging

Contemporary and Allied Issues in Packaging Design :

- Packaging Design and Law
- Ecology and Design
- Trends in packaging Design
- Globalization, Convergence and Packaging Design

Design Methods in Packaging Design

Processes/Steps for Package Design

- Information Collection
- Analysis
- Synthesis
- Redefinition of the Problem
- Design Ideation
- Detailing Design
- Design Evaluation
- Design Finalization
- Design For Production

Graphic Design Consideration in Packaging

Elements of Visual Design :

- Point, Line, Plane, Volume
- Composition
- Texture , Pattern etc
- Typography
- Color, color Interaction and Color Psychology

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Design Module

Course Content

- Introduction to Design
- Introduction to Packaging
- Fundamentals of Visual Design
- Design Considerations in Package Design
- Creative Problem Solving Techniques
- Management Issues in Design of Packaging
- Design Project

Introduction to Packaging

- What is Packaging ?
- Why Packaging ?
- Design Considerations in Package Design

Packaging is the art, Science and Technology of preparing products for transport and sale

What is Packaging ?

- An integral part of production
- Part of physical distribution
- A tool for marketing

Packaging may be defined as the means of ensuring the safe delivery of a product to the ultimate consumer in sound condition at the minimum overall cost

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Package Design Considerations

Functions of package

- Contain
- Preserve
- Protect
- Present
- Dispense

Design Considerations

- User Considerations
  Function, Ergonomics, Visual Appeal, Economics

- Manufacturing Considerations
  Structure, Materials, Technology

- Business Considerations
  Marketing, Profitability

- Environmental Considerations

- Legal Considerations

Package must sell what it protects and protect what it sells

Packaging and Mass Manufacture
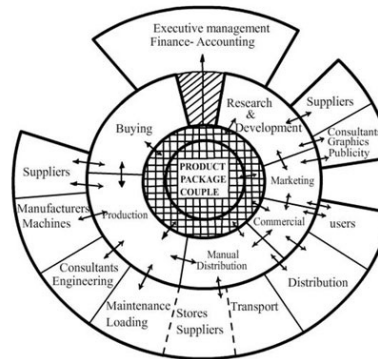
General Design Methodology

- Information Collection
- Analysis
- Synthesis
- Redefinition of the Problem
- Design Ideation
- Detailing Design
- Design Evaluation
- Design Finalization
- Design for Production

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Case Study

Case Study

Examples of Packaging

FMCG

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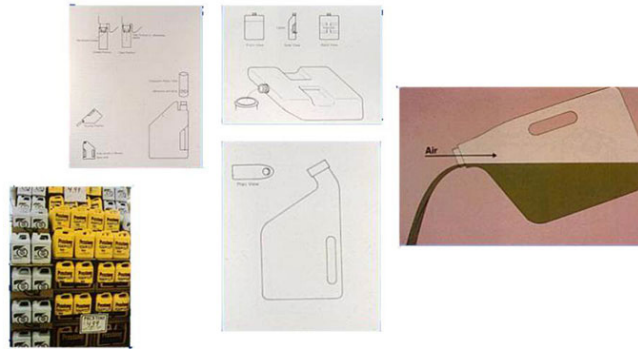Prof. Ravi Mokashi Punekar, Prof. Iko Avital and
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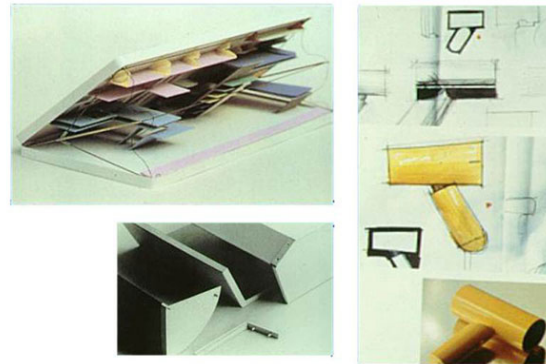
FMCG

GIFT

Model Making

Design Attributes

- Appearance
- Associations
- Fashion
- Products
- Recognition
- Reflectance
- Industrial plants and Equipments
- Merchandising
- Safety
- Signs

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Contemporary Issues in Packaging

- Packaging Design and law
- Ecology and Design
- Trends in Packaging Design
- Globalization, Convergence and Packaging Design

Management Issues in Packaging

- Firm & Strategy
- Strategy and Packaging Design
- The Practical Management of the Packaging Design Process

Reading Materials

- Design Council UK, Publications
- Why Design
- Color in product Design
- Package Design
- Visual Studies
- Lateral Thinking/Creativity
- Package and law
- Ecology and Package
- Management and Packaging
- Packaging Strategy
- Brand and Packaging
- Case Studies

Fundamentals of Visual Design

- Elements of Design
- Principles of Design
- Attributes of Design

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Elements of Graphic Design

- Point, Line, Plane, Volume
- Shape, Form, Space
- Composition
- Texture, Pattern
- Typography
- Color

To design is to endow optical sensation or images – with meaning

Colour

- Fundamentals of color
- Physiological Aspects of color
- Psychological Aspects of color

Colour motivates people in a way that is largely subconscious and it is difficult to say where physical – visual processes end and mental processes begin.

Colour imposes itself on the eye and the brain and the senses and triggers off reactions which are both physiological and psychological in nature.

Colour

There are basically three pigment colours

Red   Yellow   Blue

- The richest in this is known as **Hue**.
- The colour of the colours is a **Chroma**.
- Greenness of Green depends on the chromatic value of a colour.
- Richest in chroma is **Hue**.
- Change in chroma is brought about by adding mid-gray in hue.
- Maximum mid-gray in a hue gives poorest in chroma

Colour Circle

- Primary colours
- Secondary colours
- Tertiary colours

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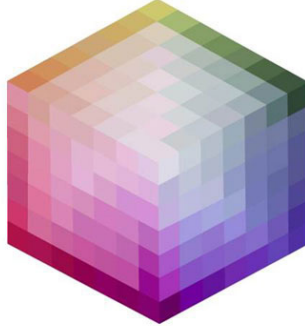by
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Colour
Tint   Tone   Shade

- Tint is created by putting a dab or hue in lots of white.
- Tone is created by adding mid-gray in a hue.
- Shade is made by adding black in a hue.
- Value is defined as the amount of light it reflects. White has more reflection than black. Blue has lower light value than yellow.

Colour
Hue   Chroma   Value

Colour
Physiological reaction

- Brightness Dimness
- Lightness Darkness
- Warmth Coolness

Colour
Psychological reaction

Psychological reactions includes the way in which colour affects the mind and emotions

- Physical reactions
- Interpretations
- Past experiences
- Association
- Perception

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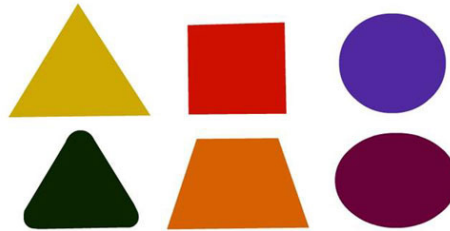Prof. Ravi Mokashi Punekar, Prof. Iko Avital and
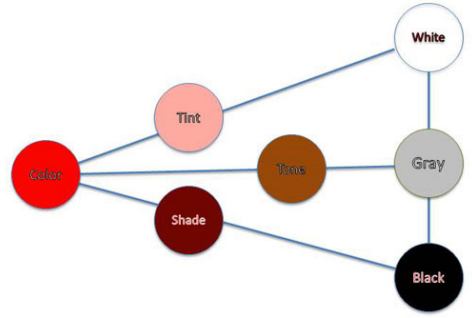Ms. Moumita Lashkar
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Colour Interaction

Colour Interaction

Colour Interaction

vw xyz vw xyz
vw xyz vw xyz

Colour (Warm Colours)
Red   Orange   Yellow

Have maximum brightness in pure form Focus at a point behind the retina of the eye, thus making objects look nearer.

Always dominate soft colours because of their effect on the retina of the eye (e.g. red letter on a blue ground are better than the reverse)

Are easier to focus; red is only slightest refracted by the eye.

Are more visible because they are brighter; Visibility is dependent on brightness differences between two colours.

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Colour (Cool Colours)
Blue   Green   Violet

- Are more retiring colours
- Focus at a point in front of the retina of the eye, thus making objects look further away.
- Are dominated by hard colours
- Recede into background
- Are retarding, not inviting to the viewer
- Are difficult to focus and often appear blurred
- Tend to make objects look smaller

Colour
Visibility
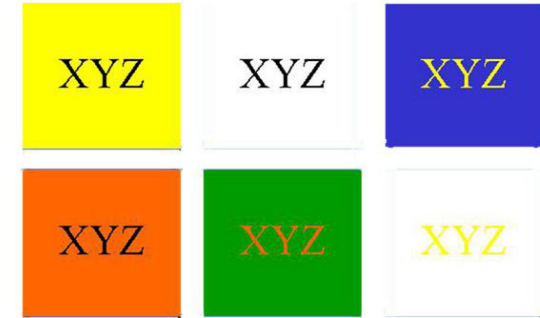
Colour
Association
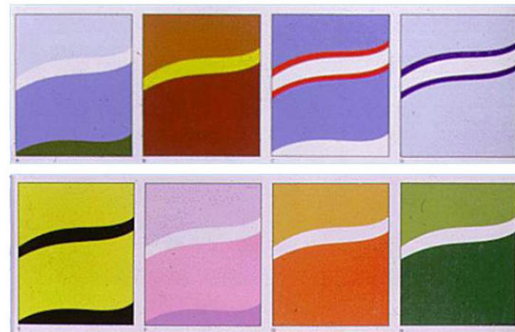
Colour
Association
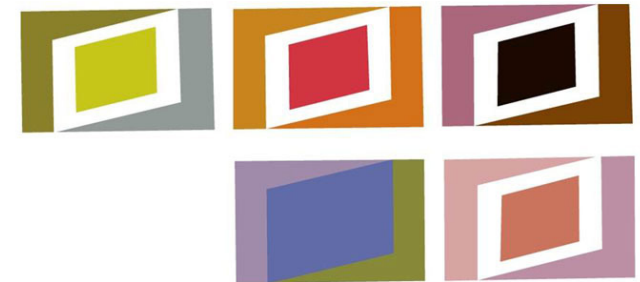
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Colour
Visual Impact

Colour
Repetition & visual images

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Image and Imagery

Imagery and Cultural Perception:
The perception of imagery differs from culture to culture. Unlike color, images have fewer standard interpretations and represent different things to different people. The visual image of the bottom of a character's shoe is considered rude in many Asian cultures, while in Western cultures has little significance.

Effective use of imagery:

Illustration and photographs as medium for imagery:

Imagery can be used in packaging designs to:
• Show the product
• Depict the target consumer
• Set a mood (landscape, flower, scene)
• Provide credibility (celebrity image)
• Appeal to the appetite

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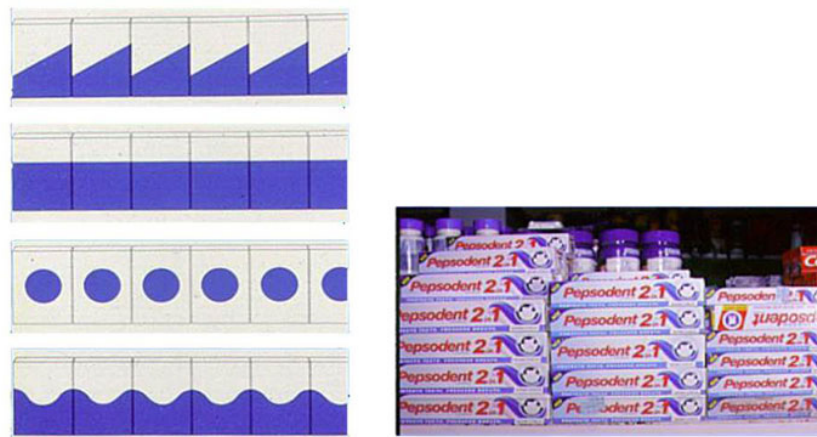Ms. Moumita Lashkar
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Characters:
Characters can be developed to support brand communication, promote product attributes, and become the embodiment of the brands personality.

Graphic Devices:
Graphic device can be used individually or in combination with other devices. When well designed these devices can be used to support the organization of the layout and provide for clearer and more immediate communication.

Symbols and Icons:
Symbols and icons can be simple graphic diagrams or elaborate layouts. In the development of symbols and icons for packaging design it is important to discern contradictory cultural meaning.

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Violators:
Violator is the term used for the visual device that is generally poisoned on top of packaging graphics and is used for the purpose of calling attention to or announcing a special feature of the product or package.

Common violators for food product claims:
• Fat free/ wheat free/ dairy free/ sodium free
• Cholesterol free / reduced fat/ low calorie
• Light/ fresh/ unsweetened/ unsalted
• Low fat/ extra lean
• Good source of (dietary fibre, vitamins)

Key points about Imagery:
• The perception of imagery differs from culture to culture.
• "A picture is worth a thousand words."
• Illustrations, photographs, icons, symbols and characters can be executed in a multitude of styles that each create a rich visual language and provide visual stimuli.
• Exploring design strategy through an array of imagery styles and colors is crucial.
• Imagery must be designed to fit within the context of the layout, not the other way around.

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Corrugated Packaging

Box Performance:
The performance of a corrugated box can be evaluated on the basis of its ability to protect the contents, its structural strength, appearance, user-friendliness, and finally, how cost effective it is.
• Functional Aspects
• Aesthetics

Chart:

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Functional Aspects:
Any product, structure or system has to have a design suitable to efficiently perform the function for which it has been conceived. A box should protect its contents from the various traumas it will face in its journey from factory to consumer. It should be strong enough to withstand the load of other boxes stacked on the top of it in the godown; its user-friendly design should minimize chance of mishandling, and it should not reflect on the overall cost of the product substantially.

Aesthetics:
In addition to being purely functional, a box has to help sell the product to potential customers. It is the aesthetics of the box, which strike the customer. With more and more products fighting for self-space, the box has to stand out to attract the attention of the customer. Its message, "buy me, buy me" has to be heard and understood. Good aesthetics can be generated by good graphics combined with good geometry.

Geometry:
Most boxes we see have a rectangular or square shape, which though suitable for palletizing, is monotonous to the customer. On a crowded shelf with similar looking boxes, a box with an interesting shape will attract the customer's attention. It will arouse his curiosity, create an urge to have a second look at the product and perhaps even influence the decision to buy it. A geometry matching the psychographic profile of the customer will give an added advantage. Imagine a "carry bag" type of box for detergent powder. Housewives may be attracted to it just because during long shopping hours, this box is very convenient to carry around.

Graphics:
Imagine two identical boxes with all other features same except that one box is colorful with sophisticated graphics and a high quality of printing while the other one has mediocre graphics and poor printing quality. Obviously, the box with better graphics and printing will attract the attention of the customer. Often people trend to purchase products packed in neat looking boxes with excellent surface design and a good finish because a good package creates an aura of a good product.

Board Characteristics:
For good printing, a smooth, even surface is necessary. During the printing, the flexo plates are pressed against the board with sufficient pressure so as to leave a good impression. It is easier to print on a smooth surface than on a rough one. The board should be strong enough to withstand the pressure of the printing plates and at the same time the outer liner should be perfectly horizontal between successive flute tips.

Wash-Boarding:
If there is too much gum applied over the flute tips, the liner follows the shape of the flutes, and consequently is not flat. When the plates are applied on this surface, the parts of the liner that are elevated get more ink, and

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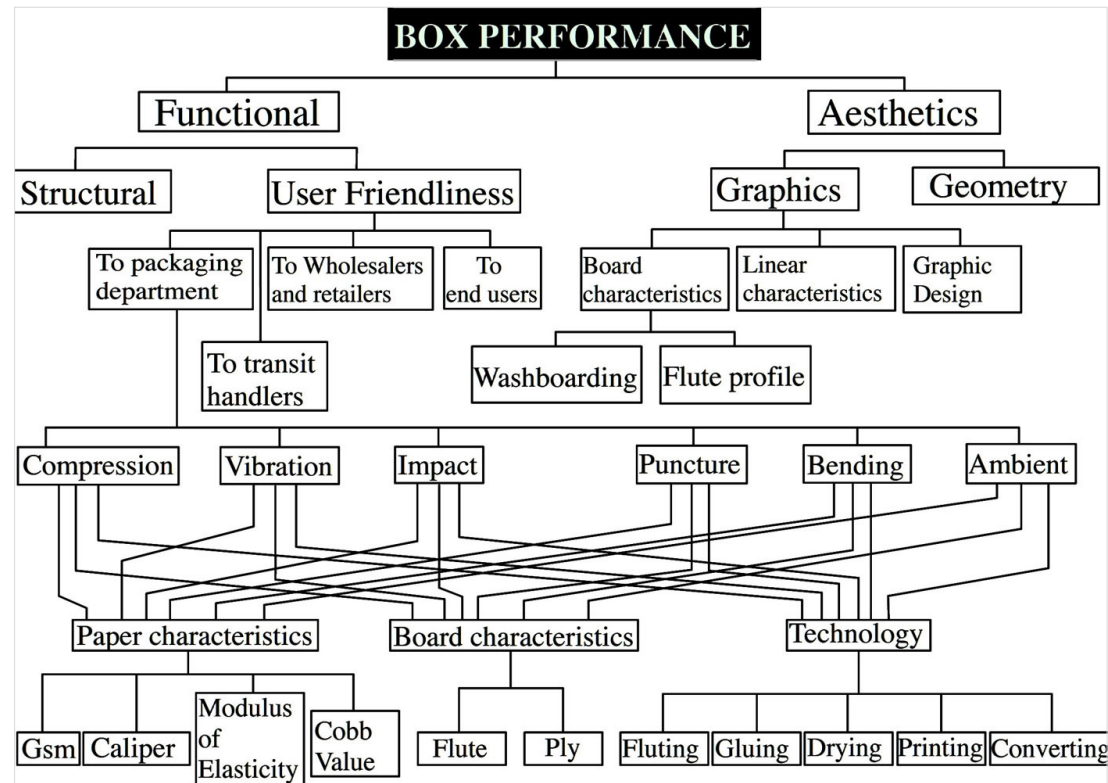https://www.dsource.in/course/packaging-design-introduction/design-considerations/corrugated-packaging

the parts that are depressed, get less ink, resulting in inconsistent printing. A good, non-wash-boarded board is essential for good printing.

Flute Profile:
Smaller flute profiles have a lesser distance between two successive flute tips. This makes the span of liner smaller which is very essential for good printing. Due to the pressure of the flexo plates, the liner tends to deflect between the flute tips. The deflection is proportional to the fourth power of the span! In order to reduce the deflection we reduce the span by making the flute profile smaller. Therefore, an E-flute board, which has a small distance between successive flute tips, is easier to print on than a C flute board, which has a larger distance between successive flute tips.

Liner Characteristics:
In addition to good quality of board, good quality of liner is also necessary. Good printing quality can be achieved by using better quality paper. The two main features of paper conductive to good printing are luster and smoothness.

Graphic Design:
Good graphic design is the creative combination of colors, texts and images on the surface of the box. This should be compatible with the image of the product. The surface design on the box should attract the customers while the texts should provide information about the product, advertise the product and persuade the customer to purchase the product.

Structural Features:
In an effective box, there is no waste either in the form of over packaging, which results in high costs, or inadequate packaging, resulting in product loss or damage. While over packaging is difficult to quantify and evaluate, inadequate packaging is always an area for improvement. The desired goal is to provide adequate protection, but at the lowest possible cost.

During its journey from the point of manufacture to the ultimate end user, the box is subjected to various traumatic conditions related to the logistics environment. During the process of handling (loading and unloading), transportation, warehousing and storage, the package is subjected to shock, compression, impact, puncture, bending and the ambient conditions of temperature and humidity.

User-Friendliness of a Box:
A box has several customers; the packaging department of the manufacturer, the transporter, the people who load and unload it, the wholesaler, the retailer, and finally, the end-user. Its design should satisfy the requirement of these customers.

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User-Friendly to the Packaging Department of the Factory:
A good box should easy to erect, easy to hold in position, easy to fill in, easy to close and easy to seal. It should reduce the men, materials and minutes required to dispatch each consignment. An efficient box may be costlier but could save more by reducing machine downtime and speeding up the packaging line.

User-Friendly to the Transit Handlers:
During its journey, the box has to satisfy the following requirements of the transit handlers:

• The box should be easy to handle manually.
• The box should make optimum use of available storage area.
• The box should be able to withstand any unprecedented external forces

Boxes with hand-holes or grips are easier to handle; however, these should in no way compromise the box strength or result in distortion in box-shape when stacked or filled.

An ideal box should have its internal volume just enough to accommodate the contents. It should snugly wrap the contents leaving minimal interstitial space. However, in practicality, the shape of a box is largely governed by its ability to be effectively stacked and stored in a limited space.

User-Friendly to Wholesalers and Retailers:
Wholesalers and retailers may use the box as a display item, a dispensing shelf for the primary package, in the godown as stock or lastly, as a selling unit on the retail shelf.

An ideal box, in addition to providing protection to its contents should also be able to display and dispense its contents, without the box itself losing any strength and without incurring any increase in cost. Such a box makes the life of a retailer easier by optimizing the use of valuable storage space.

User-Friendly to End-Users:
The end-user of the box is the end-user of its contents. The box should be designed in such a way that the end user can easily open or close the box, easily take out or put in the contents and easily dispose-off or reuse the box. The box style may incorporate special features for the convenience of the end user as well as to project the identity of the user group.

Compression:
Box compression loads are associated with stacking in warehouses. These static and compressive loads occur because boxes are stacked one on top of the other. The stacking height can vary considerably depending upon available headroom, storage equipment, stacking ability, or the historical practice. These are static loads and can

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readily be analyzed while designing and testing the package.

Vibration:
Given the conditions of the transportation system as well as the distance to which the box is to be sent, the box is likely to undergo a lot of vibration in transit. The duration of vibration, the amplitude and the frequency of the vibration vary, making this force extremely complex to understand. The mode of transportation, position of the individual box in the vehicle, road conditions, etc. have a determining effect on the container and its contents. Vibrations are low magnitude, repetitive type of loading which brings the box under fatigue stress, resulting in slow and gradual failure of fibers.

Impacts:
During loading and unloading of the box, it is thrown from the truck on to the ground. Sometimes it is accidentally dropped. In the truck, the box may collide with other boxes or with the body of the truck itself while the truck makes quick turns. These are examples of impact loads.

Puncture:
Puncture is a highly visible effect, but it is extremely difficult to quantify. In some respects, it is an indirect measure of other hazards. Puncture can be result from a box falling onto a corner of another box, or from the penetration of nails or hooks from a surface or from being improperly handled in equipment like forklifts, hooks, gang ropes, etc.

Bending:
In addition to withstanding all sorts of transportation loads, the box has to withstand the internal load exerted by its contents. This load is horizontal in nature and induces bending stress on the corrugated board, which may be additive or subtractive to the bending stress generated due to compression. The additive effect expedites failure and its overall compression capacity decreases drastically.

Ambient Conditions:
Temperature and humidity are important considerations for the efficient performance of corrugated board containers. The strength of the corrugated board is significantly reduced because of moisture. Temperature and humidity can usually be monitored and controlled in warehouses. It is difficult to control the ambient conditions while the boxes are in transit. Exhaustive data is available to describe cargo temperature and humidity both in terms of ambient conditions and response for specific applications of load. Data has shown that the cargo temperature and moisture can lag behind ambient conditions because of the thermal inertia of the cargo. The ambient relative humidity is the driving force which determines the moisture content of the base material. The rapidity with which the ambient moisture penetrates the board has a crucial effect on overall performance in compression.

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Paper Characteristics:
If a box is considered a structure, the corrugated board is the structural member and the paper is the raw material. It is the molecular formation of paper fibers from which the whole structure derives its strength. In this context, it becomes absolutely necessary to understand the properties of paper and the factors influencing them.

GSM:
Density of a material indicates the bulk of the material and in general the higher the density, the higher its strength. Since the paper does not have a significant third dimension, i.e. thickness, density is usually measured in terms of its weight per unit area, commonly known as grammage or gsm – gram per square meter. This parameter gives a reasonably fair idea about the relative comparison of two different types of paper. Generally, it is believed that paper with higher gsm gives more strength. However, one should keep in mind that it is the formation of fibers which impart strength, and therefore higher gsm does not necessarily give higher strength. Research is on to evolve stronger papers with lower gsm.

Caliper:
Thickness of paper is referred to as caliper. The general belief is that higher gsm means higher caliper and strength of the paper, which is not true. Paper with higher gsm will have fewer calipers if the formation of fibers is compact whereas paper with lower gsm may have higher caliper if the formation of fibers is hollow.

Modulus of Elasticity:
When a material is pulled by applying tensile load, it is elongated, and when compressed by applying an axial load, it contracts. The amount of tension or compression required for unit elongation and contraction varies from one material to another. This is due to the varying modulus of elasticity. A higher modulus of elasticity indicates that the material will take higher load for unit elongation. This is the parameter that governs the paper's strength. Even if gsm of paper is higher, lower modulus of elasticity will give a lower strength value.

Cobb Value:
This shows the moisture absorbency of paper. For a fluting medium, it determines the speed of glue penetration. For liners, the moisture absorbency should be suitable for printing with water-based inks.

Board Characteristics:
Board when evaluated in the context of a box, is a raw material, but when evaluated with respect to paper is a structure. To be precise, the board is a structural member for the box, but is a structure in itself made up of a stiffened geometry of paper. Paper has very less bending stiffness in its original condition, but when it is corrugated, the strength gets increased due to the corrugation depth. Liners on either side of this fluted paper add greatly to the overall bending stiffness. The entire set of papers work as a homogenous structure during load application.

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Flute:
Corrugation increases stiffness of paper. Corrugation can be done in varying profiles, depths and amplitudes. The profile of flutes formed by corrugation has direct effect on board performance. Flutes can be deeper, wider, with a triangular or with a sinusoidal shape. Each flute type has its own stiffness value. Bigger flutes have more depth, which means more stiffness.

Ply:
In a typical corrugated board there are three layers: a top liner, fluting medium and a bottom liner. This board is known as a 3-ply board. Sometimes, in order to increase the strength, one more fluting medium and liner is added making it a 5-ply board. There are 7ply boards and 9 ply boards available depending upon the strength requirement. The more the number of plies, more the thickness of board, more the paper and ultimately more strength.

Technology:
Everybody by now understands the importance of the corrugating; the flute profile, the thickness of the combined board etc. but then the challenge is to exploit the maximum strength that the corrugated structure offers. Paper, being a very delicate material, is very susceptible to external effects like various types of forces, ambient conditions, etc. If the manufacturing process is not well controlled, the paper and the flute, which imparts the strength to the structure, get damaged. Application of glue, which bonds the whole structure together, has to be carefully controlled.

Fluting:
Paper is passed through a pair of corrugating rollers in order to achieve the corrugation. The teeth of the corrugating rollers press the paper which is passed through them to impart the fluted profile to the paper. The pressure applied on the paper should be within the elastic limit of its fibers as beyond a threshold limit its fibers will get stressed so much that they will shift from elastic state to plastic state. Flute made of fibers in plastic state can no longer perform as an elastic structural member resulting in failure even on application of a small load.

Gluing:
Gluing is an operation to produce an adhesive bond between the fluting medium and the liners. The process of gluing has to be controlled with a great precision to achieve proper functioning of the board as a homogenous structure. The complete process of gluing takes place in four main stages: the application stage, the wetting stage, the penetration stage and the setting stage. These stages are influenced by glue properties such as concentration, viscosity, surface tension, etc.; and by machine conditions like temperature, pressure, speed, etc. Any one of these parameters, if not controlled properly may result in defects like poor adhesion, wash-boarding and warp

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Drying:
For effective bonding the glue has to set properly. There are two stages in the setting process: formation of wet bond and formation of dry bond. The formation of dry bond completes the gluing process. Excess moisture left in the paper due to application of glue must be eliminated or else it may result in a warped board due to uneven drying in the atmosphere. Good technology emphasizes controlled drying at very high speeds equally on either side of the fluting medium.

Printing:
During the printing operation the flexo plates are pressed against the board with sufficient pressure so as to have clear and uniform impressions. While the board is being applied with water-based printing inks which raise the level of moisture in the board, the plate pressure, if not controlled properly will result in flute crush. Importance of control on the printing process should never be underestimated, as the ideal pressure falls within a small range, on one side of which there is poor printing and on the other, damage to the corrugated board.

Converting:
Converting is the process of transforming the board into a box without reducing the structural strength of the board. It is important to control board caliper during the converting process. It has been proved that there is a relationship between the amount of caliper loss produced and the amount of damage permanently sustained. A 5% loss in caliper can result in loss of stacking strength of 8%. Furthermore, it has been shown that the boxes made out of uncrushed board. The caliper is therefore used extensively as a QC criterion in corrugated box plants.

Types of Construction of Boxes folder:
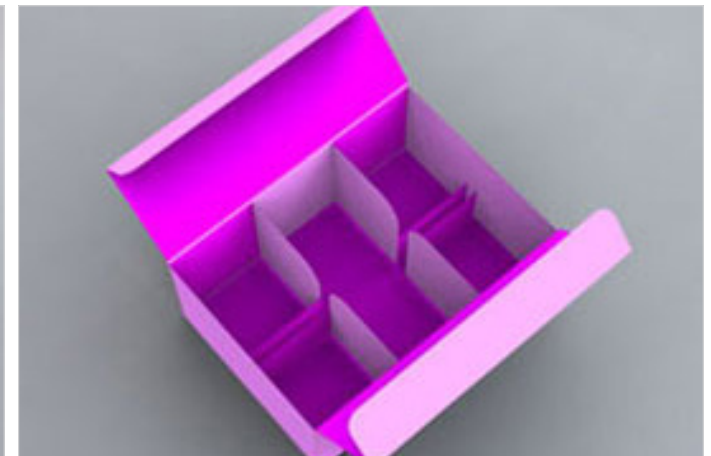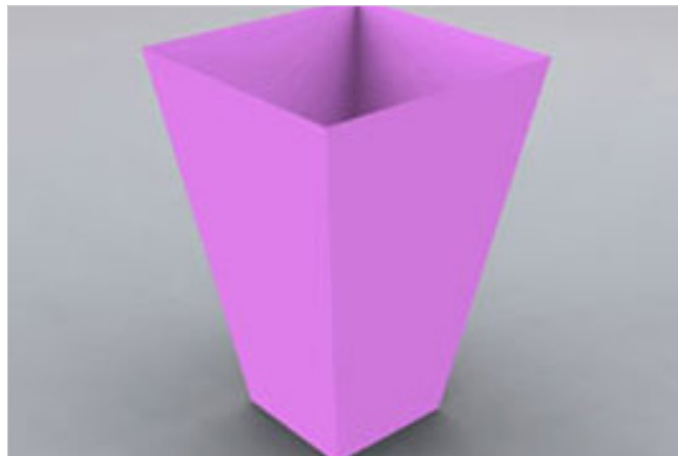
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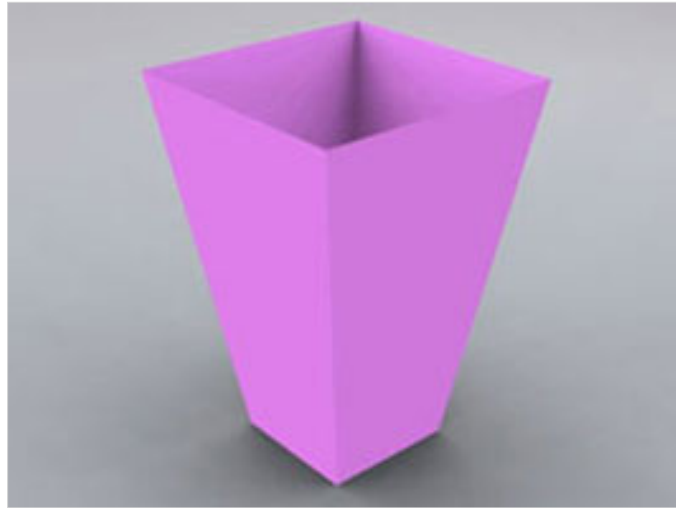Prof. Ravi Mokashi Punekar, Prof. Iko Avital and
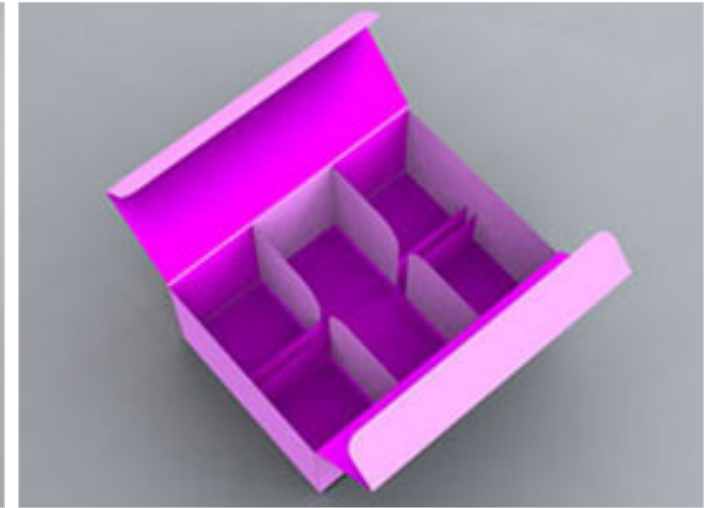Ms. Moumita Lashkar
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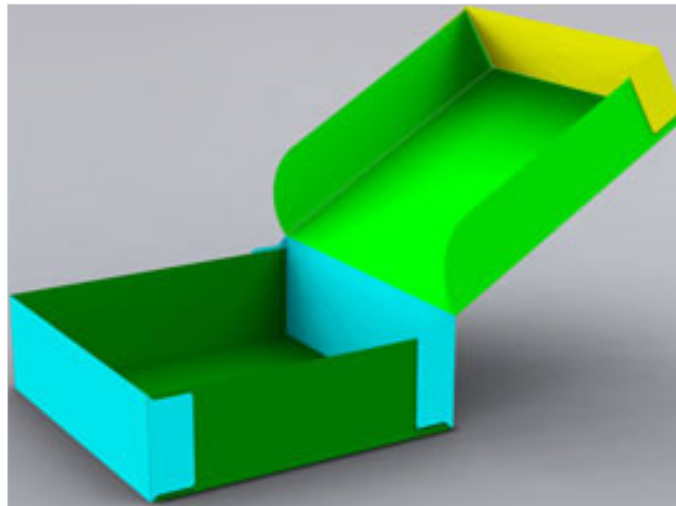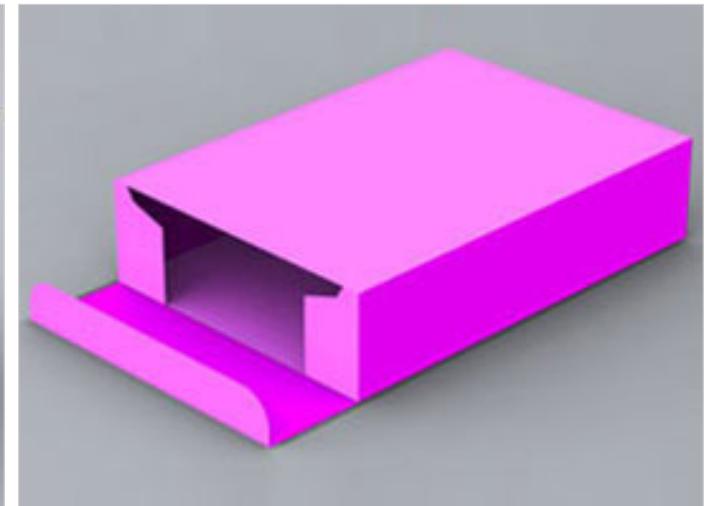**Types of Construction of Boxes folder:**

Open Box:

Cake box:

Suspended Display box:

Box with window:

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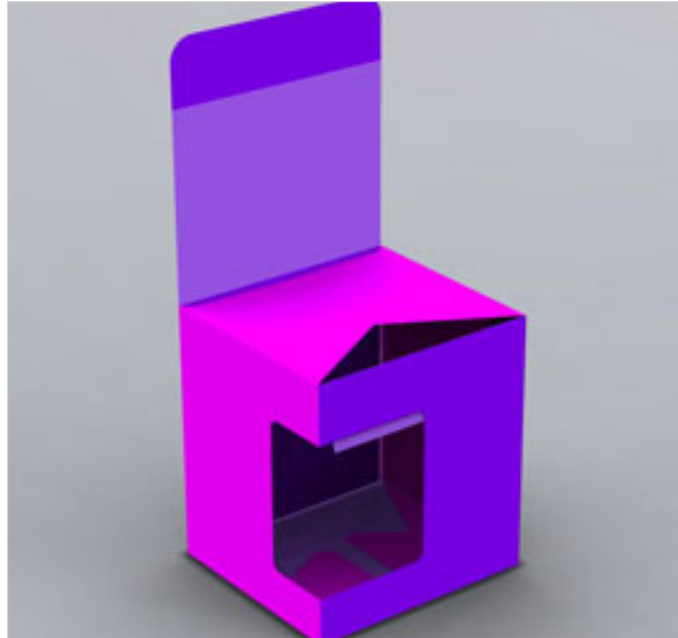by
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Partition Box:

Telescopic Box:

Envelopes:

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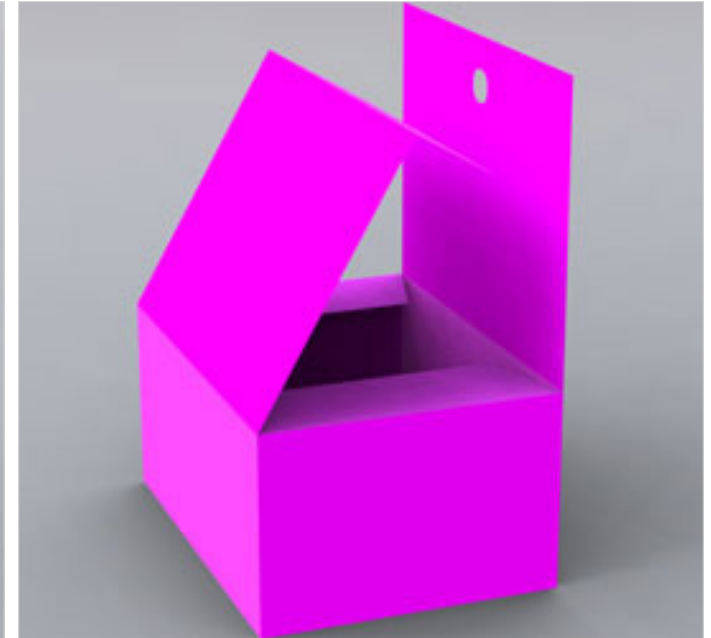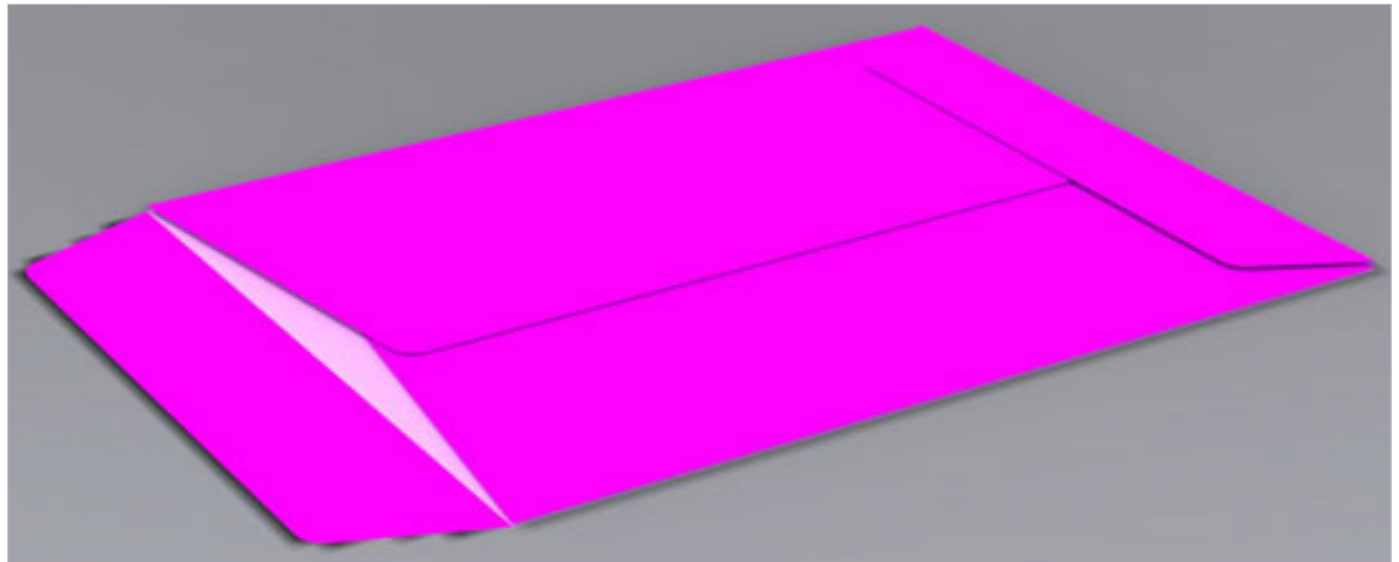Ms. Moumita Lashkar
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Packaging and Branding

A 10 day design workshop conducted by Prof. Iko Avital, Professor of the Holon School of Art and Design, Israel was done by the students Department of Design at IIT Guwahati shows the different ideas of Packaging and Branding.

Teatime Workshop

Examples-Case study

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Teatime Workshop

Teatime Workshop:
'Creativity, Packaging and Branding of Assam Tea' by Prof. Iko Avital

This creativity workshop, offered to the students of Design at Department of Design forms the outcome of a 10 day design workshop conducted by Prof. Iko Avital, Professor of the Holon School of Art and Design, Israel.

Studying the Assamese culture of tea growing, its cultivation, processing, packing and marketing, the students were introduced to the design process and approaches to creative ideation techniques in generating a graphic identity leading to branding of Assam tea.

The students worked in 4 groups choosing different themes as their design brief and worked in developing the complete graphic design identity, the packaging design and branding for each chosen area. Presented here are the results of the students work undertaken in this workshop.

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The talk by Prof. Iko Avital (Video) introduces the theme of the workshop and he shares his experience of working with the students in guiding them through this creative design workshop.

Video: Reflection on 'Teatime Design Workshop' by Professor Iko Avital

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Examples-Case study

Examples of Tea Time Workshop by Students of Design Department, IIT Guwahati:
1. Premium Tea Packaging
2. Shelf Packaging
3. Packaging For Children
4. Organic Tea Packaging

1. Premium Tea Packaging:
Design Process followed:
• What is premium?
• Brainstorming
• Form exploration
• Brand name and logo
• Concept development
Case study – Example download:
• Premium Tea Packaging......

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2. Shelf Packaging:
Design Process:
• Research
• Conceptualization
• Doodling - Explorations
• Packaging (Transformations)
• Brand Design
• Brainstorming
• Design Brief
• Decision Tree
• Brand Name
• Logo Design
• Process and Exploration
• Campaigning
• Poster for Promotion
Case study – Example download:
• Shelf Packaging......

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3. Packaging for Children:
Packaging for Children:
Design Process:
• Typography
• Brainstorming
• Form Exploration
• Mascot
• Branding options
Case study – Example download:
• Packaging For Children......

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4. Organic Tea Packaging:
Design Process:
• Market Research
• User Study
• Concept Generation
• Explorations
• Branding
Case study – Example download:
• Organic Tea Packaging......

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References

Reading List:

• Thomas Hine, The Total Package. (1995) Tomas Hine N. Y.

• Walter Stern, Handbook of Package Design Research (1981) Walter Stren, N. Y.

• Meyers Lubliner, The Marketer's Guide to Successful Package Design (1998), NTC Business Books.

• Ellicott & Roncarelli, Packaging Essentials:
  100 Design Principles for Creating Packages (2010).

References:

• Akabane, Package Form and Design:
  Encyclopedia of Paper-Folding Design (v.3) (2011).

• Grip, 1,000 Package Designs (mini):
  A Comprehensive Guide to Packing (2011).

• Denison & Cawthray, The Big Book of Packaging Prototypes:
  Templates for Innovative Cartons, Packages, and Boxes (2010).

• Pepin van Roojen, Special Packaging revised Edition (2011).

• Pepin Press, Complex Packaging (Structural Package Design), (2010).

• Wiedemann & Pentawards, Package Design Book (2010).

• Pepin Press, Advanced Packaging (Structural Package Design) (2010).

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Video

Iko Avital Talks - Part 1

Iko Avital Talks - Part 2

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