"RECENT TRENDS IN FOOD PACKAGING"

Dr Trilokchandran B

Asst.Professor,
Department of Biotechnology
R V COLLEGE OF ENGINEERING
BENGALURU-560059

R V INSTITUTIONS

Agenda

- Introduction
- Theory of packing
- Smart packing
- Creative packing
- Conclusions

Introduction to packaging

Packaging means the wrapping or bottling of products to make them safe from damages during transportation and storage. It keeps a product safe and marketable and helps in identifying, describing, and promoting the product. "Packing is the preparation of product or commodity for proper storage and/or transportation.

Packaging FACTORS considered

1960...convenience

1970...light weight

1980...source reduction, energy saving tamper evidence

1990 onwards...environmental impact is considered





Art, Science and Technology involves in Packaging









Packaging exists at different levels

Primary packaging includes not just the materials in direct contact with the product, but all of the packaging which surrounds the product when the consumer takes it home. For a multipack of crisps, for example, the primary packaging will be the individual bags and the large bag into which the separate packs are packed.

A useful way to define primary packaging is to think of it as all the packaging which eventually finds its way into the domestic waste stream, once the product is used up.





Secondary packaging is used to group packs together for ease of handling.

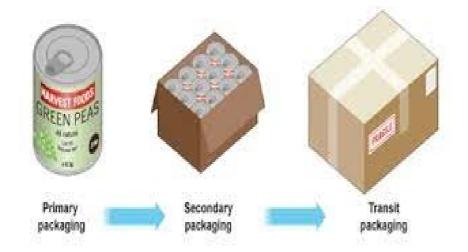
In the example above of the crisps, several multipacks are packed into printed corrugated cases. The case is the secondary packaging. Other examples of secondary packaging are shrink-wrap film, and the corrugated board and thermoformed plastic trays used for shelf-ready packaging.



Tertiary packaging is used to collate secondary packs for ease of transport.

One of the most common forms of tertiary packaging is the pallet, along with stretch wrap film and a label, to secure the secondary packs to the pallet and provide a ready means of identification. Roll cages and crates are also examples of tertiary packaging.







Poor basic packaging design significantly increases the risk of shrinkage.

Badly designed packs are more likely to:

- allow their contents to become damaged in transit
- cause contamination through leakage
- experience product spoilage or damage
- contribute to product loss through misidentification
- lose of contents
- become too ugly to sell
- suffer decreased shelf life and consequent reduced sales.







Some consequences of poor packing

- **Spoilage**: products that have reached their expiry date or gone beyond agreed temperature parameters and are no longer safe to sell to consumers or staff.
- **Damages:** refers to products that have been damaged during the journey to the shelf and in the general store environment.
- Data errors: errors in the recording of product details on company systems.
- **Pricing errors**: losses caused by errors in the way in which goods are priced and sold in the business.
- **Delivery errors**: losses caused by incorrect quantities booked to the store inventory but not physically delivered or transferred.
- Scanning Errors: errors occurring at the point of sale leading to a discrepancy in the store book stock.



SMART Food Packaging



Kiryukhin, M. V., et al.: "A membrane film sensor with encapsulated fluorescent dyes towards express freshness monitoring of packaged food," Talanta (2018)



New film membrane sensor:

- can check food freshness without opening
- detects bacterial growth through pH changes
- is easily integrated in food packaging
- is safe in direct contact with food

SMART FOOD PACKAGING



- Retain integrity and actively prevent food spoilage (shelf-life)
- Enhance product attributes like look, taste, flavor, aroma etc
- Respond actively to changes in product or package environment
- Communicate product information, product history or condition to user
- Assist with opening and indicate seal Integrity
- Confirm product authenticity and act to counter theft.

MOST SOPHISTICATED CONSUMERS







INCREASED WORKING WOMEN







SINGLE PARENT, DUAL INCOME HOUSEHOLD







LIFE STYLE CHANGE





HEALTH CONSCIOUS





AGING POPULATION











EDUCATED AND KNOWLEDGEABLE CONSUMERS











NUTRITION, FOOD SAFETY,

LABELLING





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Technology-Enabled Solutions

Fibre-based materials Robotics Smart packaging 3D printing







Al solutions in Packaging







Emotional Engagement







Emotional Engagement



Paper Boat images evoke nostalgia. Image Courtesy: www.tetrapak.com



Vintage-Inspired Designs













Transparent and Clear Labelling











Increased Portability









Personalization















Minimal Designs













Gradient Colouring



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Sustainability













Creative food packaging

















Creative food packaging

How creative packaging design can elevate a product and make even everyday foodstuffs extraordinary.

Directly correlate to increased sales and brand buzz.

Creative packaging designs for rice and pasta Rice packaging







Fresh meat packaging





Creative packaging designs soft drinks Seltzer packaging





Creative packaging designs for dairy products Milk packaging



Butter packaging



Mousegraphics of Greece also succeeded in differentiating a dairy brand in a visually overloaded market, but they did it in the opposite way – by stripping away design elements.

They were inspired by the brand's name **smör** (which is the Swedish name for 'butter'), creating a logo that transcribes the initial S to a visual reference to the rolling spires made by a knife on the butter surface. The packaging itself imitates a block of butter with a knob cut off.



Creative packaging designs for fast food

Burger packaging





Pizza packaging





Creative packaging designs for cereal Cereal multipack packaging





Creative packaging designs for food on the go

Salad packaging





Creative packaging designs for alcoholic beverages Wine packaging





Creative packaging designs for snacks

Nuts packaging Dried fruit







Oxygen Scavengers

Carbon Dioxide (CO₂) Generators and Scavengers

Ethylene Scavengers

Conclusions













THANK YOU