



CURRENTS TRENDS IN PACKAGING -2017

K. Sivakumar (Research scholar), PG & Research Department of Management Studies, hindusthan College of arts and Science, Coimbatore.

Dr. D. Kalpana Professor, PG & Research Department of Management Studies, hindusthan College of arts and Science, Coimbatore.

ABSTRACT Packaging communicates brand personality through many elements, including a combination of brand logo, colours, fonts, package materials, pictorials, product descriptions, shapes.in focus in theoretical aspect of the study to provide the information about the packaging and new trends and new innovation and special focusing food packaging etc...,

KEYWORDS packaging ,information and new trends ,food packaging

INTRODUCTION INNOVATIONS

Invention is the creation of a new idea, concept, device or process, while innovation is turning a new concept into commercial success — the introduction of change via something new. It follows that it is not an innovation until a customer says it is!

IN SHORT, INNOVATION = INVENTION + EXPLOITATION.
While the patent literature is full of inventions, few ever qualify as innovations. Drivers for packaging innovation include invention, fastchanging social trends, profitability, differentiation, environmental awareness and sustainability.

In today's society, packaging is pervasive and essential. It surrounds, enhances and protects the goods we buy, from processing and manufacturing through handling and storage to the final consumer. Without packaging, materials handling would be a messy, inefficient and costly exercise, and modern consumer marketing would be virtually impossible.

The historical development of packaging has been well documented elsewhere and will only be touched upon here. Suffice it to say that the highly sophisticated packaging industries which characterize modern society today are far removed from the simple packaging activities of earlier times.

Packaging lies at the very heart of the modern industry, and successful packaging technologists must bring to their professional duties a wide-ranging background drawn from a multitude of disciplines. Efficient packaging is a necessity for almost every type of product whether it is mined, grown, hunted, extracted or manufactured. It is an essential link between the product makers and their customers. Unless the packaging operation is performed correctly, the reputation of the product will suffer and the goodwill of the customer will be lost. All the skill, quality and reliability built into the product during development and production will be wasted, unless care is taken to see that it reaches the user in the correct condition. Properly designed packaging is the main way of ensuring safe delivery to the final user in good condition at an economical cost.

Definitions

The Packaging Institute International defines packaging as:

- the enclosure of products, items or packages in a wrapped pouch, bag, box, cup, tray, can, tube, bottle or other container form to perform one or more of the following functions: containment; protection and/or preservation; communications; and utility or performance. If the device or container performs one or more of these functions it is considered a package.

The UK Institute of Packaging provides three definitions of packaging:
A. a coordinated system of preparing goods for transport, distribution, storage, retailing and end-use;
B. a means of ensuring safe delivery to the ultimate consumer in sound condition at minimum cost;
C. a techno-economic function aimed at minimizing costs of delivery while maximizing sales (and hence profits).

It is important to distinguish between packaging as defined above, and packing which can be defined as the enclosing of an individual item (or several items) in a container, usually for shipping or delivery.

GLOBAL PACKAGING MARKET

This market research report presents a detailed segmentation of the global packaging market by material (board, rigid plastic, metal, flexible, and glass packaging), by end-use (food packaging, beverage packaging, healthcare packaging, personal care packaging, and others), and by geography (APAC, EMEA, North America, and ROW). The leading vendors in the market are Amcor, Ball, Crown Holdings, International Paper, Mondi, Owens-Illinois, Reynolds, Sealed Air, Smurfit Kappa, Stora Enso, and WestRock

OVERVIEW OF THE GLOBAL PACKAGING MARKET

Technavio's market research analyst predicts the global packaging market will grow at a CAGR of more than 5% by 2020. Customer convenience is the top priority for the vendors in the global packaging market. Several packaging companies are focusing on new packaging designs or redesigning the existing packaging especially in consumer goods. Consumers prefer such packaging that requires minimum time and effort to open, carry, and store such as zippers reclosure, tear notches, peel-off lids, hang hole features, and microwavable pouches. Such packaging designs are being increasingly produced to meet the growing consumer demand for food and beverage products that offer higher convenience and portability.

An important trend gaining momentum in the market is the development of new lightweight glass packaging to enhance end-user usability and reduce wastage. These packaging designs are recyclable, cost-effective and easy to transport. Also, the manufacturers are focusing on the use of eco-friendly packaging materials and are producing 100% recyclable corrugated boxes which are water-resistant and eco-friendly. The growing usage of corrugated boxes will reduce the environmental pollution, and will provide sustainability to the environment.

SEGMENTATION BY MATERIAL AND ANALYSIS OF THE PACKAGING MARKET

- **BOARD PACKAGING**
- **RIGID PLASTIC PACKAGING**
- **METAL PACKAGING**
- **FLEXIBLE PACKAGING**
- **GLASS PACKAGING**

Rigid plastic packaging will be the fastest-growing segment of the market by 2020 and will register a CAGR of 6%. Rigid plastic packaging is gaining preference over glass and metal packaging because of its lightweight nature, comparatively lower costs, and its availability in various designs. Several manufacturers are shifting towards the use of bioplastics that are derived from plant sources. With an increase in the use of high barrier solutions, improved resin formulations, and highly efficient machinery solutions for filling of plastic packaging, the utilization potential of rigid plastics will increase in the coming years.

GEOGRAPHICAL SEGMENTATION AND ANALYSIS OF THE PACKAGING MARKET

- APAC (Asia Pacific)
- EMEA (European Medicines Agency)
- NORTH AMERICA
- ROW

APAC will continue its dominance in the market during the forecast period and is expected to occupy 39% of the total market share by 2020. Much of this region's growth is because the packaging film manufacturers are shifting their manufacturing facilities to countries such as India and China to reduce their operational costs. The surging demand for various retail products and the growing use of plastic packaging will drive the growth of the market in this region.

Competitive landscape and key vendors

This market comprises companies that manufacture and distribute board, plastic, metal, and glass packaging products. The manufacturers are focusing on expanding their geographic reach and realigning their product offerings to reduce operational costs. They are targeting on high growth segments to strengthen their financial position in the market. At present, the market is witnessing intense restructuring and consolidation because of the overcapacity. The preference for value-added services and customized packaging solutions to provide convenience, safety, durability, and freshness protection will boost the growth of the market.

Key vendors in the market are -

- Amcor
- Ball
- Crown Holdings
- International Paper
- Mondi
- Owens-Illinois
- Reynolds
- Sealed Air
- Smurfit Kappa
- Stora Enso
- WestRock

Other prominent vendors in the packaging market include Bemis, Berry Plastics, Coveris, DS Smith, Graphic Packaging, Packaging Corporation of America (PCA), Rexam, RPC, Silgan, and Sonoco.

ASIAN MARKETS DRIVING GROWTH IN GLOBAL PACKAGING

Growth in packaging consumption has remained positive and reliably strong for the Asian region, according to new report

The definitive study on the global packaging industry, The Future of Global Packaging to 2020 examines current market sizes, market and technology trends and forecast demand over the next five years.

Packaging is an essential everyday item in developed markets and this is increasingly becoming the case in the emerging markets.

The market for global packaging amounted to \$812 billion in 2014, with an annual growth rate of 4.2% over the period 2010–14. The industry is forecast to grow at an annual rate of 3.5% over the period 2015–20, and is expected to reach \$998 billion at today's prices. This forecast growth is expected to be driven by Asia and stronger growth in regions that have struggled in recent years, particularly Western and Eastern Europe.

Asia accounted for the largest share of the packaging market in 2014, followed by North America and Western Europe. Growth in packaging consumption has remained positive and reliably strong for the Asian region and there is still much potential for growth as the consumer class becomes more fully realised and consumption of cosmetics and other fast moving consumer goods – as well as healthcare – grows.

Flexible plastic packaging was the fastest growing market globally in 2014, followed by rigid plastic packaging and board packaging as the third fastest growing sector. Looking ahead, flexible plastic packaging is predicted to continue as the fastest growing packaging category.

Sustainability has become an increasingly prominent issue in the packaging industry. One of the main packaging developments in recent years is the increased incorporation of bio-based PET into brands packaging supply chain. Coca-Cola is one of the most recent brands to release a bio-based PET bottle on the market, named the PlantBottle, which is made from 100% bio-based materials.

Sustainability issues have enhanced the focus and presence of lightweighting upon the industry. It has become a common trend for packaging converters to reduce the weight of their products in order to reduce costs associated with transportation, reduce CO2 emissions, and to help create a more sustainable supply chain. In the last 20 years, the weight of an average 50cl plastic bottle has come down by around 50%. Lightweighting is also occurring in other markets such as metal, glass, and board.

The Future of Global Packaging to 2020 is a comprehensive insight into the key drivers and trends affecting the global packaging industry. The report examines the specific growth sectors and crucial factors driving change over the next five years.

TYPES OF PACKAGING

VACUUM PACKAGING

Vacuum packing is a method of packaging that removes air from the package prior to sealing. This method involves (manually or automatically) placing items in a plastic film package, removing air from inside, and sealing the package.[1] Shrink film is sometimes used to have a tight fit to the contents. The intent of vacuum packing is usually to remove oxygen from the container to extend the shelf life of foods and, with flexible package forms, to reduce the volume of the contents and package.

For delicate food items which might be crushed by the vacuum packing process (such as potato chips), an alternative is to replace the interior gas with nitrogen. This has the same effect of inhibiting deterioration due to the removal of oxygen.

MODERATE VACUUM PACKAGING :



Food preservation method in which all the air (specifically oxygen which causes degradation) is removed from a (usually sterilized) container or package before sealing. Vacuum packaging is another way to increase the shelf life of food products. Here the product is placed in an air-tight pack, the air sucked out and the package

sealed. By removing air from around the product, the levels of oxygen in the packaging are reduced, impeding the ability of oxygen-breathing microorganisms to grow and spoil the product. The lack of oxygen also reduces the amount of spoilage due to oxidation – the process that causes apple and bananas to turn brown, for example.

A certain amount of oxygen will remain, however, because it is not possible to create a total vacuum. Air contains around 21 per cent oxygen at normal atmospheric pressure – 1000 millibar. As the air is withdrawn during the vacuum packaging process, the pressure inside the package is reduced.

ACTIVE PACKAGING EDIBLE COATINGS AND FILMS MODIFIED ATMOSPHERE PACKAGING



Unlike most food products, fresh fruits and vegetables continue to 'breathe' or respire after they have been harvested. This process consumes oxygen and produces carbon dioxide and water vapour. The key to keeping these packaged products fresh for as long as possible is to reduce the respiration rate without harming the quality of the product – its taste, texture and appearance. In general, the rate of respiration can be reduced by keeping the temperature low, having lower levels of oxygen in the packaging atmosphere and increased levels of carbon dioxide. However, things are not straightforward. For example if there is too little oxygen in the packaging atmosphere, a process called anaerobic respiration will kick in. This produces unwanted tastes and odours in the product and will cause the food to deteriorate. Furthermore, excessively high carbon dioxide can damage some varieties of product.

As well as these considerations, the high water content of this class of food, plus the fact that fruit are intrinsically acidic, can lead to spoilage from yeasts and mould. Also, the flesh can become soft because of attack by enzymes from microbes, eventually resulting in rotting.

The packaging material used for fruit and vegetables is especially crucial and in particular how permeable or breathable the material is. If the products are sealed in an airtight package, oxygen will soon become depleted and undesirable anaerobic conditions could develop. On the other hand if the material is too porous, the modified atmosphere will escape and no benefit will be derived.

ASEPTIC PACKAGING



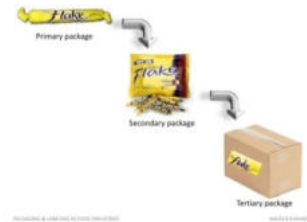
Aseptic Packaging Systems The aseptic packaging system must be capable of filling the product produced by the HTST or UHT system in an aseptic manner and sealing the container hermetically so that sterility is maintained throughout the handling and distribution processes. Any aseptic packaging system should be however capable of meeting following four criteria.

- It should be able to be connected to the processing system in a manner that enables aseptic transfer of product to take place.

- It could be able to effectively sterilize before use.
- It could be able to carry out the filling, sealing and critical transfer operations in a sterile environment.
- It must have ability to be cleaned properly after use.

The type of packaging material used is influenced by the nature of the product, the cost of both the product and the Package and the Preferences of the consumer' The most widespread consumer Package for aseptic products is the paper-based carton, which is used for many dairy products, fruit juices and other beverages. In addition to retail or consumer aseptic products, bulk-packaging systems are in use-for. products, which are then further processed and/or rePacked into consumer-sized Packs.

PRIMARY, SECONDARY AND TERTIARY PACKAGING



Primary packaging is the layer of packaging that comes in direct contact with the product. Secondary packaging is the layer of packaging that surrounds groups of pre-packaged parts that are enclosed in the primary packaging. Each layer of packaging serves a specific function

Primary packaging is designed around the specific dimensions of the product and the secondary packaging layers. The main role of primary packaging is to protect the product from damage during storage and transportation. Often, products sit in storage for extended periods, and the primary packaging ensures that the product is not exposed to the external environment. Easy handling for consumers is another facet of primary packaging. Clamshells, shrink-wrap, paperboard and blister packs are common primary packaging styles.

COMBINATION MATERIALS



One or more inner packaging's (such as a glass bottle wrapped in a bubble pack or cushioning sheet) secured by an outer packaging (such as a stiff corrugated sheet or metal box). See also composite packaging.

NEED FOR PACKAGING:

Even after a product is developed and branded, it is important to adopt strategies for other product-related aspects of the marketing mix.

One such product feature — and a strategic one for some products is packaging, which consists of all the activities of designing and producing the container or wrapper for a product.

A package is the actual container or wrapper. Thus packaging is a business function and a package is an item.

A package is basically an extension of the product offered for sale. In many situations the packaging may be more important than the product it contains.

Packaging involves decisions about labels, inserts, instructions for

product use, graphic design, as well as decisions about the sizes and types of physical containers for individual product items with the outer package.

NEW TECHNOLOGY IN PACKAGING

6 futuristic food packaging technologies that could change everything

Food packaging could be a very different world in the near future. From "electronic tongues" that can "taste" products to bacteria-battling nanoparticles that are 50,000 times thinner than human hair, researchers are hard at work on some mind-blowing innovations.

The following six technologies won't just protect food from contamination or make eating easier; they stand to change the way food and beverages providers operate. So what does the future have in store? Let's have a look:

1. EDIBLE PACKAGING

In the future, you will eat your dinner and, instead of tossing the packaging in the trash or recycling bin, you will eat that, too.

2. MICRO PACKAGING

Using nanotechnology, a research team at Texas A&M University has developed what may possibly be the next food packaging miracle: micro-film. The material, which is thousands of times thinner than human hair, consists solely of water, a soluble polymer and 70% clay particles. While Jaime Grunlan, the associate professor who led the endeavor, asserts that the film is "basically dirt",

the packaging is significantly more eco-friendly than plastic, has the preservation qualities of glass and could hold the fizz in a soda better than anything currently out on the market.

3. SMART PACKAGING

What if food packaging could tell consumers whether and when it's good or bad to eat? A team of researchers at the University of Connecticut, Rutgers University and Kraft Foods are looking into something called the "electronic tongue", an innovative technology that can effectively "taste" food through sensors embedded in the packaging. If the food is contaminated or spoiled, the packaging will change color, alerting the consumer whether it can still be cooked or needs to be thrown out.

4. ANTI-MICROBIAL PACKAGING

Anti-microbial packaging does not just shield food from bacteria, it actively acts against it. An Israeli graduate student named Ronen Gottesman has produced "killer paper", an anti-bacterial silver nanoparticle-coated paper that can fight to keep germs out of food. Gottesman said, "The smaller the size of the particles, the more effective they are against bacteria." Similarly, Kodak (yes, the camera company) is generating anti-microbial packaging that can absorb oxygen and keep food fresh.

5. WATER SOLUBLE PACKAGING

MonoSol, a U.S. water soluble product manufacturing company, has created Vivos edible delivery systems, which are, essentially, food pouches that dissolve in water. The plastic film packaging, which dissolves faster under hot water, supposedly cannot be tasted when eaten. MonoSol claims its product is convenient for on-the-go consumers and could be used to package such liquid-friendly fare as drink powders, cereals, soups and sauces. While MonoSol contends they are fielding interest from multinationals, the technology would need to be customized to each individual product and currently still requires secondary packaging to protect against contamination.

6. SELF-COOLING, SELF-HEATING PACKAGING

While consumers and industry executives have long fantasized about self-cooling and self-heating food and beverage packaging, the reality is that there is no record of commercial success... yet. Two recent innovations aim to change that.

While Joseph Company International launched the Chill Can last year without too much global fanfare, the 19-years-in-the-making, EPA Stratospheric Award-winning "Microcool" technology adsorbs carbon dioxide from the atmosphere which is released when the activation button is pressed, causing the liquid inside the can to drop to 30 degrees Fahrenheit within a matter of minutes. Similarly, HeatGenie and Crown Holdings have developed a self-heating component called HeatGenie which can heat a product to 145 degrees Fahrenheit in two minutes and is to be embedded at the bottom of a product's packaging. While the success of these particular technologies is up in the air, the convenience and marketing potential for temperature-changing packaging technology is clear.

TRENDS IN PACKAGING IN FOOD INDUSTRY



The food packaging industry is vibrant and highly competitive, with food manufacturers always on the look-out for packaging that can provide consumers with increased convenience as well as longer shelf life at a lower cost than their existing packaging. The food industry is well aware that consumers want innovation and value novelty, and therefore the packaging industry must innovate or stagnate. Given the size and diversity of the food packaging industry, this brief overview can only touch on a few of the major trends and innovations.

1. MATERIAL SUBSTITUTION



Over the past few decades there have been significant changes in the relative proportions of the packaging materials glass, metal, paper and plastics used to pack food. Most noticeable has been the switch from glass (and to a lesser extent metal) to plastics with, for example, the majority of beverages nowadays packed in polyethylene terephthalate (PET).

2. LIGHTWEIGHTING



Lightweighting has been going on for decades, driven primarily by economics but in recent years it has always been trumpeted as being driven by environmental concerns. Just when you think the limit has been reached, a new low is achieved. For example, Kronen's new PET Lite 9.9 bottle weighs just 9.9 g for a 500 mL carbonated beverage bottle and is 30 to 45% lighter than comparable PET containers on the market. Direct printing onto the bottle means that no label is required and a special neck finish enables a tearoff ring-pull closure to be attached.

3. SMART LABELS

The Universal Product Code is a bar code symbology used for scanning packages at point of sale. It has been widely used on food and other packs since its launch in 1974 on a 10-pack of chewing gum. Now a variety of bar code symbologies that can be read by smartphones are appearing on packs. The QR (quick response) is the most common – it can launch exclusive content, update your Facebook status, download coupons, promotions and music and invite your friends to join you. Guinness has unveiled a product-activated QR code printed on a glass that only becomes visible when the glass is full of dark beer. When the glass is empty, or filled with a pale amber beer, it cannot be seen.

4. SUSTAINABILITY

Although sustainable packaging is widely discussed at conferences and in the packaging media, there is no consensus as to what it is. Many in the packaging industry are confused; consumers are also very confused and the potential exists for unscrupulous companies to market packages as 'sustainable' when they are not and thus mislead consumers. However, a single definition of sustainable packaging is unfeasible, as the sustainability of a packaging material intrinsically depends on aspects specific to its life cycle, such as its manufacturing process, the length of its supply chain, its use and finally its disposal options.

5. BIOBASED BUT NOT BIODEGRADABLE PLASTICS

Sustainable means to maintain or keep going continuously and the word has been used in connection with forest management for over a century. To be sustainable, consumption of resources must match their rate of renewal and therefore the use of non-renewable resources, such as petroleum-based plastics (and metals), is unsustainable. This has led to a focus on renewable biobased plastics.

ETHICAL PACKAGING PROBLEMS DESIGNERS AND BRANDS FACE EVERY DAY

Packaging is more than just a container to provide protection for a product. In most cases it defines a **brand's identity**. As such, it's a very **powerful weapon** in the ongoing battle for the consumer. And herein lies its problem: some brands use packaging to mislead potential buyers and coerce them into buying something they might not really need. In this article we will explore 3 of the most common **ethical issues** a packaging designer or brand might face.

1) MISLEADING LABELS

Sometimes marketers use labels that are clearly misleading the consumer. They provide **information that is untrue** or is highly **exaggerated**. Labels that display nutrition information such as low fat, fat free, cholesterol free and 100% pure juice are common examples. If you think of fat-free milk for instance, one might think there are no calories in there whatsoever, when in fact that's not the case.

2) PACKAGING GRAPHICS

When brands use pictures in packaging they have the tendency to make things look more attractive than they actually are. When the discrepancy between the image and the real thing is too big, you might end up **misleading the consumer**. In addition, some store brands or other small brands try to imitate the way big brands package their products while selling discount products, often leading to **disappointed customers**.

3) ENVIRONMENTAL FRIENDLY PACKAGING PROBLEMS

Thriving on the success of **environmentally friendly products**, many brands label their products "green", when in fact the product itself often doesn't adhere to the same standards. For instance, degradable trash bags actually remain intact for decades in a landfill, while a lot of biodegradable packaging is gone in a matter of days.

Furthermore, packaging and labeling produce tons of **excess waste** that gets thrown out once the consumer has purchased the product. In other words, eco-friendly has to be taken with a pinch

of salt in some cases

CONCLUSION

A knowledge of the functions of packaging and the environments where it has to perform will lead to the optimization of package design and the development of real, cost-effective packaging. Despite the wide number of functions which a package must perform, this book focuses almost exclusively on the protective functions of the package and possible food package interactions in relation to the ambient environment. Package performance in the physical environment is usually considered under the heading of packaging engineering. The communication function of package performance in the human environment is properly the major concern of those with a primary interest in marketing and advertising. For those focusing on the convenience-in-use aspects of packaging.

Reference

1. Bidyut Ghosh- "Impact of Packaging on Consumers' Buying Behaviour: A Case Study of Mother Dairy, Kolkata" Parikalpana - KIIT Journal of Management, Vol-12(I), Jan-June 2016
2. Underwood, Robert L.; Klein, Noreen – "packaging a brand communication effort and product pictures on consumer response on packaging and brand" -M Journal of Marketing Theory and Practice; Fall 2002; 10, 4; ABI/INFORM Collection pg. 58-
3. Behzad Mohebbi University of Mohaghegh Ardabili, Ardabil, Iran "The art of packaging: An investigation into the role of color in packaging, marketing, and branding" International Journal of Organizational Leadership 3(2014) 92-102
4. Robertson, G.L. 1993: Food packaging, principles and practice. Marcel Dekker, Inc., New York
5. Anonymous. 1995: The functions of packaging. Packaging education news, 10, October.