

EXPORT PACKAGING

PROBLEMS & SOLUTIONS

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Export Package Functions

- Containment
- Protection from distribution hazards
- Performance – aid in handling, storage, transportation , distribution and selling
- Communication

Export Package Objective

- Product Protection
- Ease of Handling and Storage
- Shipping effectiveness
- Manufacturing efficiency
- Ease of Identification
- Customer needs
- Environment Responsibility

Package Protection

- Retard product deterioration
- Retain beneficial effect of processing
- Extend shelf life
- Maintain quality & safety
- Protection from chemical, biological, and physical damage
 - Oxygen, moisture, light, microorganisms, insects, rodents, mechanical damage

Consumer Perception of Food Quality

- Sensory Attributes – appearance, flavor, texture
- Nutritional content
- Safety concern – microorganisms, residues
- Ethical issues – production method
- Price

Retail Product

- **OUTLETS AND DISPLAY**

- Retail chains Mini-markets Mom & pop
 Vending machine

- Mail order Other

- **Product display**

- Store location Shelf location Number of
 facings

- Single units Trayed Case cut Racks

- Pegboard Bulk bins Linear stack
 Vertical stack?

- POP display Retailer limitations? Retailer
 requirements?

Package Display

Dairy Product in Super Market
Display



Package Merchandising

Beverage in Super Market - Beer



Package Merchandising

Frozen Vegetable in Display



Display Shippers



Consumer Purchasing Decisions

- Taste
- Convenience
- Health
- Safety
- Others- environment & natural concerns
 - Water
 - Land
 - Energy
 - Social impact
 - Religious belief

Food Packaging - Convenience

- Easy of access
- Handling
- Disposal
- Product visibility
- Resealability
- Microwaveability
- Prepare & serving instructions
 - Oven safe trays, boil-in-bag, microwavable package

Package Design

Award Winner



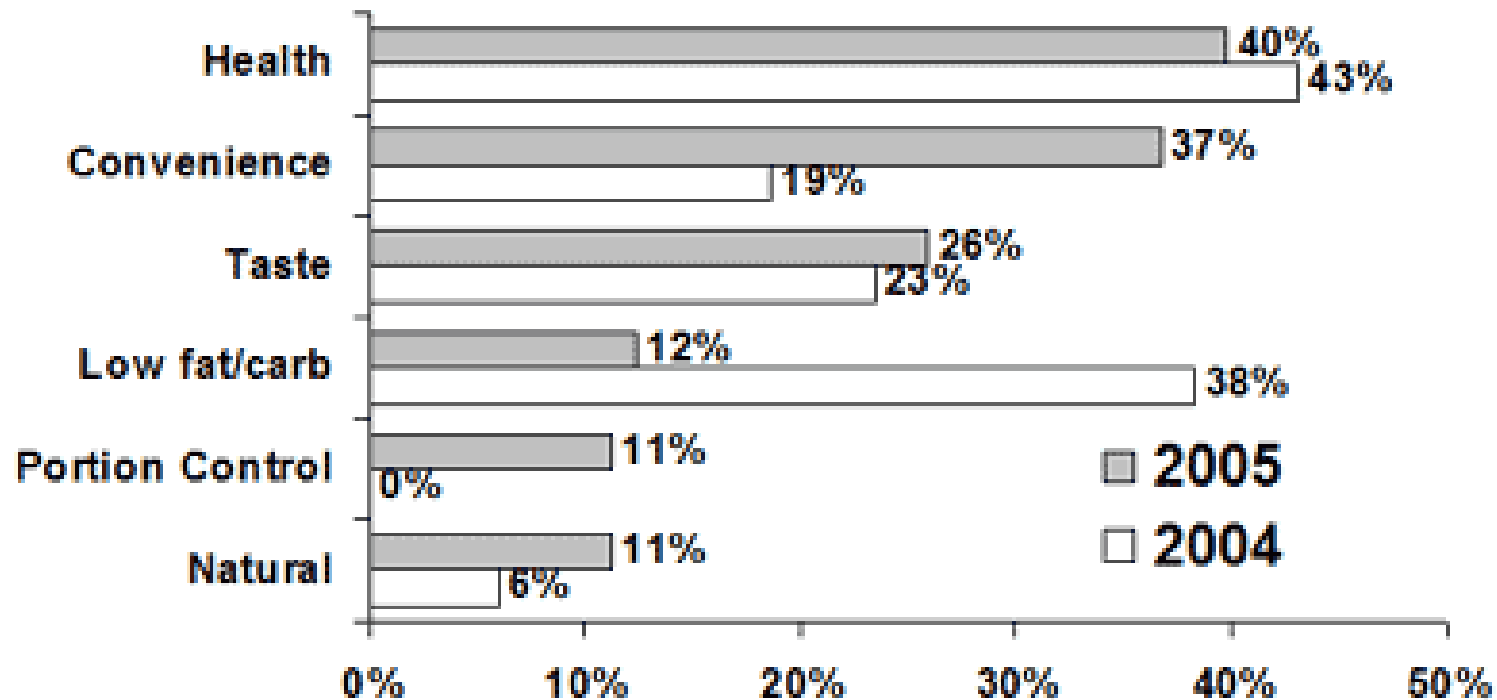
Package Design

Award Winner



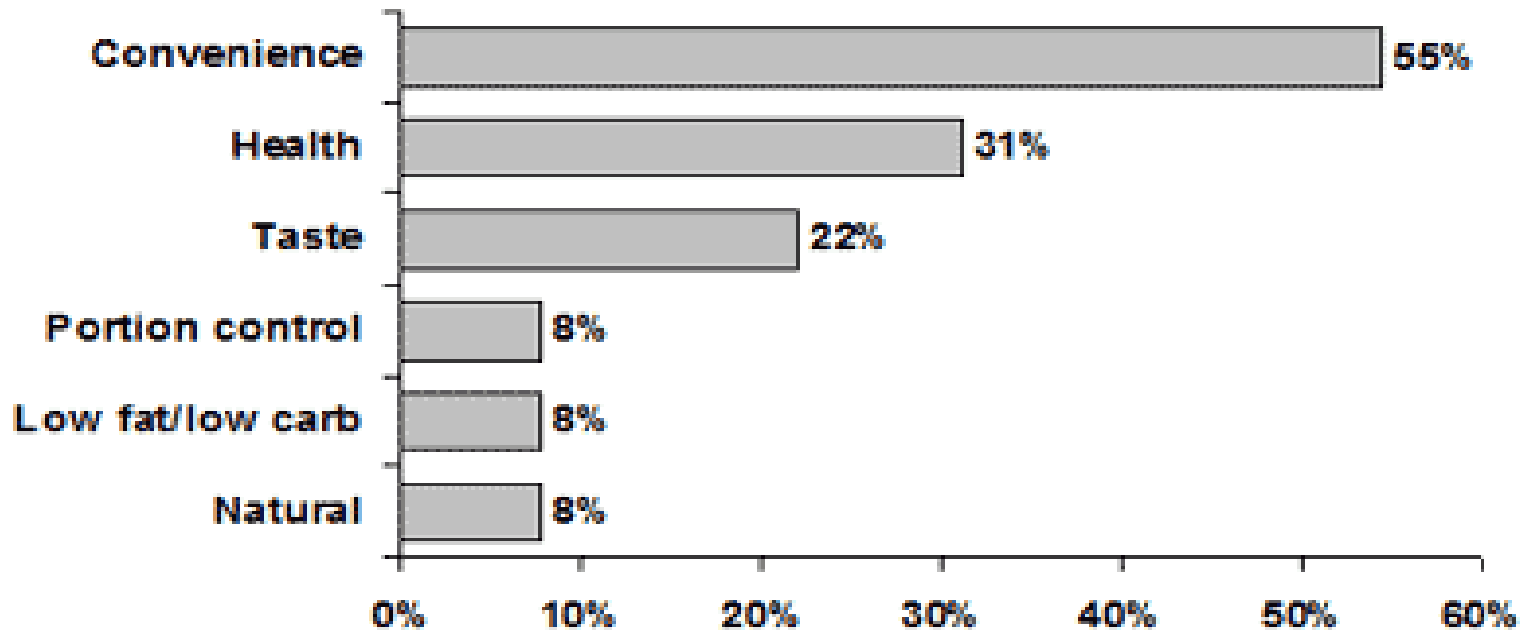
Package Development

New product development focus: 2004-2005



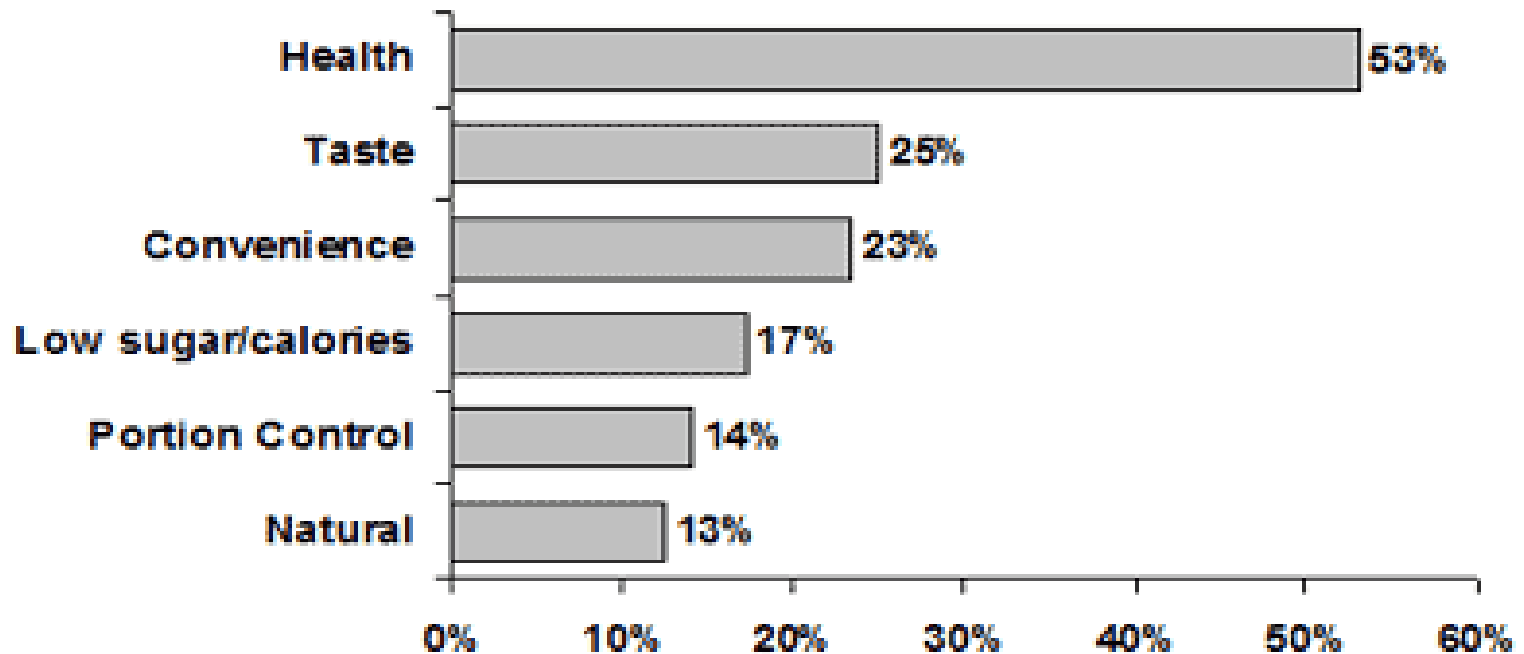
Package Development

Development Focus for Prepared Meat, Poultry, Seafood



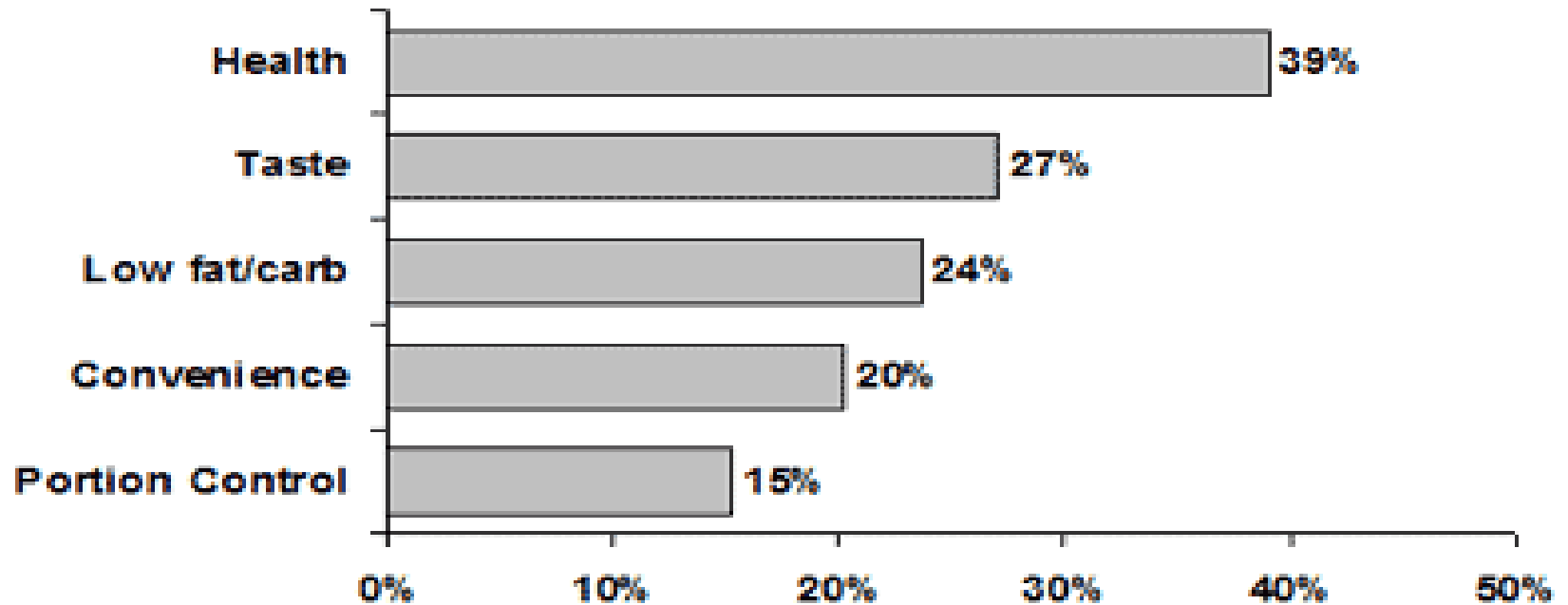
Package Development

Development Focus for Beverages



Package Development

Development focus for snack food/ candy products



Packaging Convenience

Breakfast on the Go



Package Design

Convenience in product use



Product Use

- Main use
- How used or prepared
- How/where will product be stored?
- Will the package be used for long-term storage?
- Does package require resealability?
- Product visual/physical/sensory attributes
- Considerations arising from how the product will be used
- Unique product features that can be exploited on the package

Ideal Food Package

- Consist of materials that maintain the quality and safety of the food indefinitely with no degradation with over time.
- Attractive, Convenient, Easy to use, Conveying all pertinent information, Made from renewable resources, Generate no waste for disposal, Inexpensive.

Distribution

- Distribution cycle details
- Area/cube utilization requirements
- Proposed pallet patterns
- Required warehouse stack height
- Stack duration
- Critical G or expected drop height
- Product fragility
- Special storage or transport conditions
- Details of protective packaging if required
- Applicable carrier rules

Shipping Hazards

- Drops
- Vibration
- Shock
- Impact
- Abrasion
- Corrosion

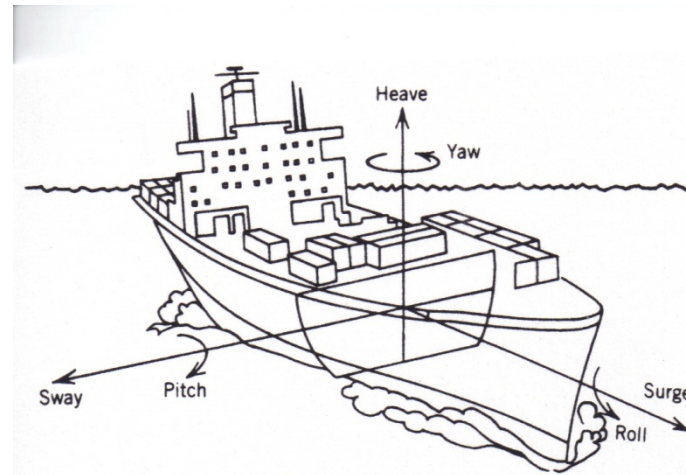


Figure 1. The six directions of motion of a ship at sea.

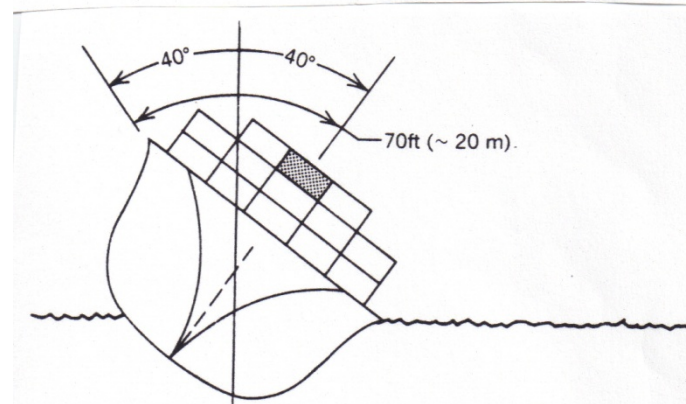


Figure 2. The distance (~20 m) traversed by a top-loaded container in a 40° roll.

SELECTION OF EXPORTABLE PACKAGE

- When shipping a product to overseas, make sure
 - **Packed correctly** so that it arrives in good condition
 - **Labeled correctly** to ensure that the goods are handled properly and arrives on time at the right place
 - **Documented correctly** to meet foreign Government requirements, as well as proper collection standards
 - **Insured** against damage, loss, pilferage and delay.

SELECTION OF EXPORTABLE PACKAGE

Considerations

- Are international brand names important to promote and **distinguish** a product? Conversely, should local brands or private labels be used to heighten local interest?
- Are the **colors** used on labels and packages **offensive** or attractive to the foreign buyer? For example, in some countries certain colors are associated with death.
- Can label and instructions be produced in official or **customary languages** if required by law or practice?
- Does information on product content and **country of origin** have to be provided?
- Are **weights** and measures stated in the **local unit**? Even with consumer products, packaging and describing contents in metric measurements can be important.
- Must each item be labeled individually? What is the language of labeling? There may be **special labeling requirements** for foods, pharmaceuticals and other products.
- Are **local tastes** and knowledge considered. Local hero in cereal box may not be popular with overseas consumer.

Package Design Considerations

- Considered the solid-waste aspects of the package and unit load, and their alternatives, to minimize impact on the environment?
- Pondered the use of returnable or reusable containers and dunnage?
- Contemplated all cost factors in the distribution cycle: handling, storage, and transportation?
- Checked cost of this package versus company or plant average for similar products?
- Considered all possible alternatives in materials and methods?
- Used industry standards for materials and design criteria where possible?
- Performance-tested the design against accepted industry standards or regulatory requirements?
- Documented the design in company's spec system?
- Checked damage and customer complaints on this product line?
- Satisfied all rules and regulations applying to the product for all distribution modes
it is expected to en-counter?

Package Design Considerations

*Consider Alternatives Available in
Packaging and Unitizing*

Packaging - Material

Metal replacing glass



Package Design

Award Winner



Packaging - Material

Flexible Pouch Replacing Glass
Bottle

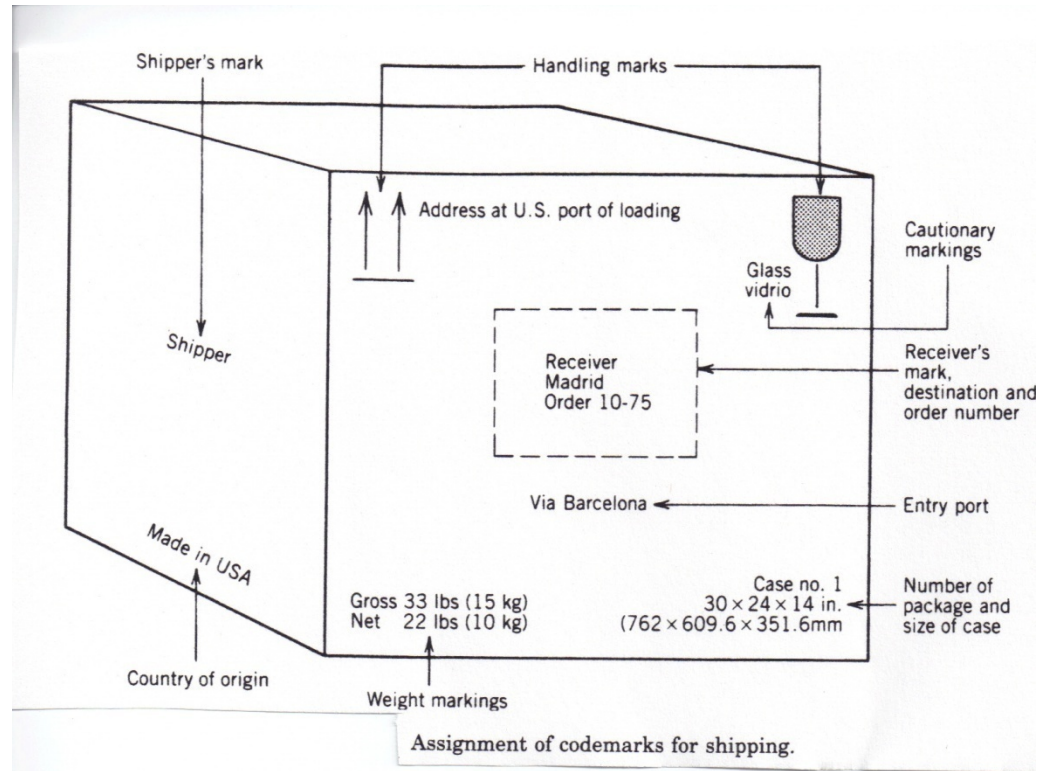


Package Design Considerations

Determine Marketing and Distribution Requirements.

Export Package Marking

Package Information



Package Design Considerations

*Hazards Your Products
Encounter.*

MSW Generated & Disposal

EPA Report 2005

- 247.5 million tons of MSW generated
 - Paper & Paperboard 34.2% (84 million tons)
 - Food Scrap 11.9% (29.2 million tons)
 - Plastic 11.8% (28.9 million tons)
 - Glass 5.2 % (12.8 million tons)
 - Aluminium 1.3% (3.2 million tons)
- Recovered 32.1% (79 million tons)
 - 58.4 million tons recycled
 - 20.6 million tons composting
- Recovered from MSW
 - Paper & paperboard 59%, metal 51%, glass 25%, plastic
- Disposal Methods
 - Composting, combustion/incineration, land filling

Food Safety Concern

- Microbial contamination
- Chemical adulteration
- Nutritional hazards
- Illegal food additives
- Food package interactions.

Food Package Traceability

Traceability is defined as the ability to follow the movement of a food through specified stages of production, processing and distribution.

- Improve supply management
- Trace back for food safety & Quality
- Differentiate and market foods of different quality
- Barcode, RFID

Package Tracking

Universal Product Code

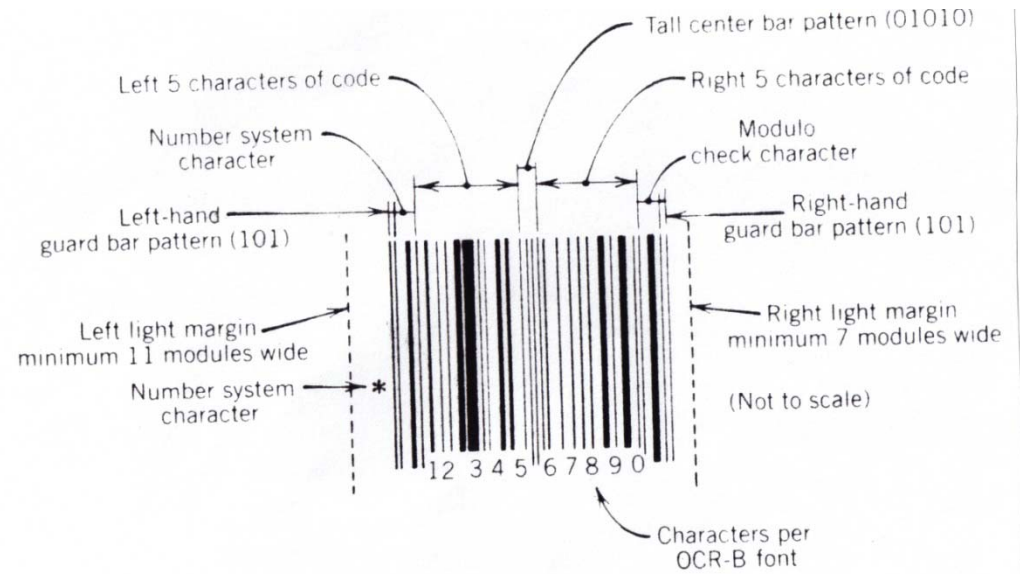


Figure 1. UPC Version A symbol (2). Courtesy of North American Technology, Inc.

RFID

Radio frequency identification (RFID) is a technology used to **track assets** throughout the supply chain. Very small RFID tags containing a **unique identifier** are placed on assets (pallets, cases, or individual items), and these **tags communicate with readers** when they enter the reader's RF field . Currently, the most common method of reading tags at close range is termed "inductive coupling," in which the coiled antenna of the reader creates a magnetic field with the coiled antenna of the tag. The energy generated by this field is used by the tag to send back waves to the reader, which turns these waves into digital information. The **reader then transmits this data to the RFID system middleware**, which associates the unique information stored on the particular tag with information about the product to which the tag is attached. After the middleware processes the information received from the readers, it filters the data to the company's supply chain execution (SCE) software, which **updates its inventory** data accordingly.

Active Packaging

Packaging is termed active when it performs a role other than providing an inert barrier to external conditions.
Some of active packaging technology:

- Oxygen scavengers
- Moisture absorbers/adsorbents
- Carbon dioxide scavengers/emitters
- Ethylene scavengers/emitters
- Preservative releasers
- Flavour/odour absorbers
- Lactose and cholesterol removers
- Microwave susceptor technology
- Temperature control packaging

Food Package Marketing & Information tool

- Package is a face of the product
- Package provides competitive edge
- Differentiate the product from competition
- Label satisfies legal requirement
- Provide information to the consumer
- Label – Product identification, nutritional value, ingredient declaration, net weight, manufacturer information
- Other – cooking instructions, brand identification, pricing

Processing & Packaging Technologies

- Aseptic processing & packaging
- Microwave heating
- Ohmic heating
- Irradiation
- High pressure
- Pulsed electric field
- Oscillating magnetic fields
- High intensity light
- ultrasonication
- MAP
- Active packaging
- Intelligent packaging
- Edible coating
- Surface modification
- Sensors/indicators
- Nano-composites
- O₃/ClO₂
- Bio-based materials

Export Product Selection

- There are products that sell more often than other product in international market. It is not very difficult to find them from various market research tools. However, such products will invariably have more sellers and consequently more competition and fewer margins. On the other hand - a niche product may have less competition and higher margin - but there will be far less buyers.

Fact of the matter is - all products sell, though in varying degrees and there are positive as well as flip sides in whatever decision you take - popular or niche product.

- Key Factors in Product Selection
 - • The product should be manufactured or sourced with consistent standard quality, comparable to your competitors. ISO or equivalent certification helps in selling the product in the international market.
 - • If possible, avoid products which are monopoly of one or few suppliers. If you are the manufacturer - make sure sufficient capacity is available in-house or you have the wherewithal to outsource it at short notice. Timely supply is a key success factor in export business
 - The price of the exported product should not fluctuate very often - threatening profitability to the export business.

Export Product Selection

- • Strictly check the government policies related to the export of a particular product. Though there are very few restrictions in export - it is better to check regulatory status of your selected product.
- • Carefully study the various government incentive schemes and tax exemption like duty drawback and DEPB.
- • Import regulation in overseas markets, specially tariff and non-tariff barriers. Though a major non-tariff barrier (textile quota) has been abolished - there are still other tariff and non-tariff barriers. If your product attracts higher duty in target country - demand obviously falls.
- • Registration/Special provision for your products in importing country. This is specially applicable for processed food and beverages, drugs and chemicals.

Export Product Selection

- Seasonal vagaries of selected products as some products sell in summer, while others in winter. Festive season is also important factor, for example certain products are more sellable only during Christmas.
- • Keep in mind special packaging and labeling requirements of perishable products like processed food and dairy products.
- • Special measures are required for transportation of certain products, which may be bulky or fragile or hazardous or perishable.

SELECTION OF EXPORTABLE PRODUCT

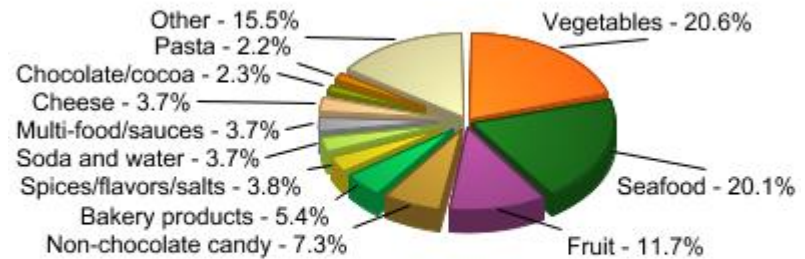
Considerations

- What foreign needs does your product satisfy?
- What products should your company offer abroad?
- Should your company modify its domestic market product for sale abroad? Should it develop a new product for the foreign market?
- What specific features, such as design, color, size, packaging, brand, labels, and warranty, should your product have? How important are language or cultural differences?
- What specific services are necessary abroad at the presale and postsale stages? Warranties? Spare parts?
- Are your firm's service and repair facilities adequate?

Export Packaging Problems & Solutions

Food Product Safety

Import shipments refused by FDA, 1998-2004



Source: ERS calculations using FDA Food-Related Import Refusal Reports, 1998-2004

Packaging Convenience

Breakfast on the Go



Thank You