SIGNIFICANCE of PACKAGING to SUPPLY CHAIN

Supply Chain Management
John Benedict
A management system that coordinates and integrates all of the activities performed by supply chain members into a seamless process, from the source to the point of consumption, resulting in enhanced customer and economic value.

or

“Delivery of Right Product, at right cost at Right Time” as per accurate market demand.
Benefits of Supply Chain Management

- Produce as per Customer Demand
- Lower inventory, transportation, warehousing, and packaging costs.
- Improved customer service
- Higher revenues
- Increased performance and profitability
- Supply when demanded by consumer
Reasons for SCM in Business

Two of the main ways SCM affects business include:

1. **Boosts Customer Service**
   
   By Providing Quality Material On Time In Full (OTIF) At defined Location.

3. **Improves Bottom Line**
   
   a) Decrease Use of Large Fixed Assets Such as Plants, Warehouse and Transportation.
   
   b) Increased Cash flow by Expediting Product Delivering and Generating Revenue through Sales
   
   c) Create market for future growth by delivery of right packed product on right zone creates new market & opportunity to more and more business.
## DS Group – Business Categories

<table>
<thead>
<tr>
<th>Business Category</th>
<th>Brand Name</th>
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</thead>
<tbody>
<tr>
<td><strong>Mouth Freshener</strong></td>
<td>Rajnigandha</td>
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<tr>
<td></td>
<td>Tulsi Saada</td>
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<td></td>
<td>Tansen</td>
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<td></td>
<td>Rajnigandha Pearls</td>
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<td></td>
<td>Meetha Mazaa</td>
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<td></td>
<td>Baba Elaichi &amp; Supari</td>
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<tr>
<td><strong>Confectionary</strong></td>
<td>Pass Pass</td>
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<td></td>
<td>Pass Pass Chingles</td>
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<tr>
<td><strong>Foods &amp; Beverages</strong></td>
<td>Catch Spices</td>
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<tr>
<td></td>
<td>Catch Beverages</td>
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<td></td>
<td>Catch Foils</td>
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<td></td>
<td>Catch Yomil &amp; Catch Piyoz</td>
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<td><strong>Milk &amp; Milk Products</strong></td>
<td>Dairymax</td>
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<td></td>
<td>Sheer</td>
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<tr>
<td><strong>Tobacco</strong></td>
<td>Tulsi</td>
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<td></td>
<td>Baba</td>
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<tr>
<td><strong>Heat Resistance Latex</strong></td>
<td>Unitex</td>
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<tr>
<td><strong>Rubber Threads</strong></td>
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Significance of Packaging in Supply Chain

- It is necessary to analyse the packages’ characteristics (e.g. shape, materials, transport, etc.) in order to improve the performance of companies and minimize their costs.

- Right configuration of packages enhance product appeal, customer acceptance, improve material handling, easy to carry by end consumer, space utilization, prevent damages / wastages.

- Packaging as per consumer needs & regulations enhance sales & reduce cost.
The packaging system is cross-functional, since it interacts with different industrial departments. Thus, packages have to satisfy several purposes, such as:

- **Physical protection**: Protection from mechanical shock, compression, temperature, etc.

- **Hygiene**: A barrier from e.g. oxygen, water vapor, dust, etc. is often required.

- **Containment or agglomeration**: Grouped together in one package for efficiency reasons.

- **Information transmission**: Packages can communicate how to use, store, recycle, or dispose of the package or product.

- **Marketing**: Packages can be used by marketers to encourage potential buyers to purchase the product.

- **Security**: Electronic devices like RFID tags on packages, to identify the products in real time, reducing the risk of thefts and increasing security.
Graphical Frame Work Of Packaging
1.5 Inch change in Box size leads to major increase in Logistics Efficiency

1.5 Inch Change Leads to Major Increase in Logistics Efficiency

Original Configuration

New Configuration

Number of Cartons = 120
Area Efficiency = 77%

Number of Cartons = 300
Area Efficiency = 91%

Source: Adalis Packaging Solutions
## Role of Packaging Along the Supply Chain

<table>
<thead>
<tr>
<th>Role</th>
<th>Focus and Considerations</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Suppliers</strong></td>
<td>Suppliers’ purpose is the minimization of logistics costs, preferring easy-to-handle packages.</td>
</tr>
<tr>
<td><strong>Manufacturer</strong></td>
<td>The manufacturer produces finished products for distribution centres, considering aspects such as product protection, safety, logistics, marketing, and the environment.</td>
</tr>
<tr>
<td><strong>Wholesaler</strong></td>
<td>The wholesaler is mainly concerned with logistics, preferring easy-to-handle packages over those with attractive shapes.</td>
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<tr>
<td><strong>Retailer</strong></td>
<td>The retailer focuses on marketing and environmental aspects, considering packages as a “shop window” for products and minimizing pollution.</td>
</tr>
<tr>
<td><strong>End consumers</strong></td>
<td>End consumers are interested in marketing and environmental aspects.</td>
</tr>
</tbody>
</table>
We are using uniform packaging for most of our Brands that provide edge in terms of following

1) Maximum uses of warehouse space
2) Smooth material handling
3) Good operational efficiency in terms of order processing.
4) Best use of pallet space
5) Lesser damages during operation
6) Optimum vehicle space utilization
Before unloading, proper arrangement of space should be done in advance.

- The Handling of cases should be done gently.
- The cases should not be tilted / thrown during loading / unloading.
- Supervisor to ensure safety & security of material.
- Stand / ladder should be used to remove tarpaulin or during loading / unloading of stock.
- More then 1 box should not be carried at any point of time during loading/ unloading.
- Trolley to be used to avoid dropping of boxes / bags during loading / unloading.
- Hook is not permissible to lift stock in any case.
Material Handling at DS Group

- Stock to be carried in proper manner
- Use of trolley is recommended for loading / unloading of stock
- Brick stacking for all boxes and bags
- Stacks to be preferably on pallets
- Proper use of pallets for stacking of stock
Stock Stacking Guideline at DS Group

- All Stacks to be preferably on pallets.
- Stacks to be stored within lines with yellow paint marking passages.
- Gap between stacks should be 6 inches in godown.
- Stack must be 6 inches away from walls in godown.
- 1 meter gap is to be maintained between top of the stack and the ceiling, beam etc.
- Brick stacking is preferred for all boxes and bags.
- Stack separately
  - Each Product lot-wise, batch-wise
  - Stock of different prices
  - Damage stock
  - Promotional items, POP, records, empty boxes/bags & consumables.

Stacking heights should be as per below norms
- 8 Stack heights - All Skus less then 10kg per box/bag weight
- 6 Stack heights – All Skus more than 10kg per box/bag weight
Optimized Packaging helps in...

- Production efficiency enhancement
- Smooth handling of material at production floor
- Effective use of modern technology like stacker etc.
- Proper use of pallets at warehouse
- Use of multi-rack system for stock storage
- Better operational efficiency at plant and warehouse
- Effective Damage Control
- Help in inventory management / cycle count / LIFO & FIFO system
- Better space utilization
- Overall Supply Chain Cost Optimization
Packaging Role in Legal Compliance

- Help in identity stock of its expiry date.
- Follow safety instructions mentioned on boxes.
- Clarity of manufacturing location with batch no.
- Information on hygienically store of food article.
- Provide scope for safe material handling
- Smooth & fast withdrawal of stock from market due to consumer complaints if any.
Packaging Contribution to Modern Warehousing

1) Operation through Warehouse Management System (WMS) an effective advanced IT tool.

2) Multi-level stacking of stocks to maximize space uses

3) Hydraulic lifts for stock stacking & picking

4) Concept to have huge sizes regional warehouses

5) System based stock picking & stacking

6) Auto check of inventory physical vs system through RFID

7) Batch-wise auto pickup of stock (FIFO)
THANKS