CHAPTER IV

PACKING AND PACKAGING COST

Packaging cost is a significant factor in pricing a product. Packaging plays an important role in a manufacturing industry, since agricultural packaging is part and parcel of production itself in general. Different packaging materials are used in manufacturing industry for various products such as glass, wrappers, laminates, cartoon boxes, polythene, thermocol, cans, bags, papers and so on. Packaging is an integral part of the materials supply chain. It protects goods from damage, allows efficient distribution through channels, informs the consumer and helps to promote material in a market. It ensures the following:

(i) Providing protection from mechanical damage,
(ii) Increasing shelf life of product,
(iii) Easy handling of items during transportation,
(iv) Advertisement and messages from manufacturers and
(v) Legal declarations on packs for consumers.

Manufacturers are employing various strategies and ideas to reduce packaging cost of the product. Various designs and concepts are used to differentiate one product from the other for which packaging serves as a solution. Hence, the researcher presents the packaging cost concept in this chapter.

1 Sukmrsing, “How to Reduce Packaging Cost of Your Products?” http://sukmrsing.com
Most produces need packaging as they serve three basic purposes such as convenience, handling and transporting. Cost would be certainly much higher if everything had to be carried and moved without any form of packaging. Packaging can be used to divide the produce into convenient units for retail sale and to make the produce more attractive to consider, thus increasing the price at which it can be sold. The more sophisticated is the packaging, the greater will be the cost. The item to be packed and repacked on its way between the producers to consumer is depending on the length of marketing chain like in the case of vegetables. Though packaging is the last operation in any manufacturing activity or transport of raw material, it plays a vital role in distribution. Packaging of a product is an absolute necessity to ensure that the product reaches the ultimate customer in sound condition. However, this objective should be attained at minimum overall cost.

The type of packaging used in a particular country and for a particular marketing chain will depend on the cost and benefits of using it. Sophisticated packaging will be used more when it significantly reduces the losses and at the same time, perishable produce will not require expensive packaging because of their immediate use. Therefore the possibility of using improved packaging with cost effective materials should always be studied carefully.

All of these various types of packaging involve costs and need to be taken into account when working out the total marketing cost. The cost of the packaging as a percentage of total selling price varies significantly. Although this cost ranges from 1.4 per cent to 40 per cent, the average cost of packaging is $1 for every $11 spent.
Nine per cent of the amount spent on any product is probably the cost of its packaging\(^2\).

Conventionally, apportion of packaging costs is determined by

(a) Affordable Cost and

(b) Percentage on the product cost.

With changes in the marketing environment and improved techniques of transportation and distribution, the role or packaging considerably changed. The packaging costs are determined by the functions, which it has to perform.

Without the benefits of modern packaging, supermarkets could not handle, store and display the range of products they now offer and the cost of transportation and storage together with handling at the point of sale would inevitably rise. Without packaging the amount of product waste would rise and this would have to be paid for in higher selling prices. The cost of packaging is only a small proportion of the price of a packed product. Cartons, in particular, contribute a very small percentage of the price paid by the consumer at the point of purchase less than 5 per cent for most products and for some products, such as medicines, less than 0.1 per cent.

The packaging cost is much more than the cost of the primary pack, handled by the consumer. In addition to the cost of the primary pack, the total packaging cost must also include the cost of the secondary and tertiary packaging, the storage and transportation costs and the production cost of the packaging operation. The way in which the interaction takes place between these different components determine the overall cost of packaging.

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4.02 Reduction in Packaging for More Business

The Industry Council for Packaging and the Environment, in its Report, highlights that packaging has its positive impact on quantity of business turnover. Modern packaging also allows the delivery of goods at a price consumer willing and able to pay. It reduces the cost of transport, distribution, storage, retailing and wastage. New technology, computer aided design, new materials, demographic changes and changing consumer needs all fuel this evolution. The optimization of resources used to make packaging i.e., "doing more with less" today's packaging uses less material and less energy to provide better protection than ever before. A good "packaging system" is one that uses the sufficient resources to make sure products are protected adequately from production to consumption, meets the needs of consumers and minimizes the impact on the environment.³

The design will keep the packaging material minimum and helps reduce pollution by reducing the number of lorry journeys required. The manufacturers of packaging compete with each other and they aim to cut costs, improve performance and avoid the environmental impacts besides less material usually require less energy in production and transport and reduces associated pollution.

The manufacturers place an increasing emphasis on reducing the amount of packaging going to waste and they do this by cutting the amount of materials used and, where a appropriate by recovering used package. The refill system of packaging

will cut the extra use of energy and resources by re-use of the container. However, it is only suitable for local distribution works.

Predicting future trends in reduction of packaging is not easy. Packaging manufacturers are understandably reluctant to reveal what is commercially sensitive information. Also the effects of future developments in technology are not known. However, this could be solved by considering the packaging reduction as a continuous process in all time by developments in packaging technology and packaging design. But there are certain factors which intervene in the functioning of reduction in packaging. They are listed below.

4.03 Factors Against the Reduction of Packaging Cost

It should be noted here that there are certain factors working against the attempt of reduction of packaging as listed here below.

(i) Increasing the number of individuals living alone who need to keep their goods in packed condition,
(ii) Increasing numbers living alone,
(iii) The cost of goods damaged in transit,
(iv) Increasing purchase of imported goods,
(v) Increasing demand from retailers for tamper evident and anti-theft packaging,
(vi) Changing shopping habits like home delivery,
(vii) Decreasing time spent on shopping and increasing demand for convenience and
(viii) Increasing in travel leading to rising demand for convenience packaging.

It is equally important at this stage to get to know that there need to be an understanding about those elements of packaging cost as stated under.
The Top Fourteen Packaging Costs

The important items of packaging costs are listed here under.

(i) Corrugated Container Costs - the cost of design and selection of a properly sized and specified cardboard box,

(ii) Protective Packaging Material Costs - the cost of design and selection of the void-filling material required to provide adequate protection to transport your product safely to your customer,

(iii) Protective Packaging Material Labour Cost - the cost of direct labour wages associated with the particular selected protective void-fill material,

(iv) Overhead Cost - those fixed costs divided among each employee associated with the shipping process (monthly benefits/health insurance/vacation time, etc, usually 20 per cent) Hazmat expenses if using chemical foams,

(v) Return Cost - the additional labour and material costs plus overhead costs associated with receiving, inspecting, evaluating and responding (phone calling and letter writing) to both the customer and shipping carrier (and/or insurer) when an item is returned because of damage due to inadequate protective packaging,

(vi) Replacement Cost - the cost in labour, materials plus overhead to replace the damaged item with a new more expensive item (usually double the cost) plus the additional shipping and handling costs,

(vii) Shipping Cost - the cost of shipping an item using a carrier,

(viii) Repair Cost - the costs in labour, material(extra parts), postage plus overhead to evaluate and refurbish a product damaged during transport,
(ix) Discard Cost is the cost in labour and fees required to dispose of non-repairable products damaged during transport,

(x) Insurance Cost is the premium paid on each and every item shipped when using an inferior protective packaging material that has a history of unacceptable damage,

(xi) Opportunity Cost is the intangible cost of doing non-revenue generating activity due to the unnecessary damage issues when using an inferior protective packaging material,

(xii) Inventory Cost is both the space, labour and material cost associated with the storage and replenishment of protective packaging materials,

(xiii) Customer Retention Cost is the cost per dollar spent per each buying customer divided by the marketing budget allotted to secure each of those customers and

(xiv) Buffer Inventory Cost is the cost associated in both labour and materials to inventory excess items that have such high damage occurrences from inadequate protective packaging.

The researcher has made an enquiry with the packing and packaging manufacturer about the item with respect to proportion of cost in the total packing cost. The survey details are shown in Figure 4.1. The details are further confirming significance of packaging cost.

Packaging cost is considerable in manufacturing industry. The packaging cost is much more than the cost of the primary pack, handled by the consumer. In addition to the cost of primary pack, the total packaging cost must also include the cost of the secondary and tertiary packaging, the storage and transportation cost and the
production cost of the packaging operation. The way in which these different components interact determines the overall cost of packaging of the product.

The researcher has highlighted an example for the cost break up of a sample food product in Fig 4.1. Raw material, labour, and packaging comprise 68 per cent of the cost of food product. The rest of the costs are in transportation, advertising, rent, profits, energy, business taxes, depreciation, interest payments, repairs and miscellaneous costs comprise of 32 per cent of the cost of food product. These last types of costs have increased at about the rate of inflation.

![Fig 4.01 Components of Packaging Cost](source: Economic Research Service, USDA)

The researcher has analyzed enquired to the sample units and the survey results are shown in Diagram.
### TABLE 4.01

**PROPORTION OF PACKING COST**

**TABLE 4.01a**  
Proportion of Material Cost on Packaging

<table>
<thead>
<tr>
<th>Sl. No.</th>
<th>Percentage of Cost</th>
<th>No. of Industrial units</th>
</tr>
</thead>
<tbody>
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<td>1</td>
<td>50</td>
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<td>5</td>
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<td>5</td>
</tr>
<tr>
<td></td>
<td><strong>Total</strong></td>
<td><strong>50</strong></td>
</tr>
</tbody>
</table>

Source: Primary Data, 2011

![Pie chart showing proportion of material cost on packaging](image)

**Fig. 4.01a**  
Proportion of Material Cost on Packaging

The Table 4.01(a) shows the proportion of materials cost in total packaging cost. Material cost means the cost of the pack and quality control cost. Out of 50 sample units 6 (12 per cent) of them included 50 to 75 per cent of materials cost in total packaging cost, 35 (70 per cent) out or 50 included 80 to 85 per cent of materials cost in total packaging cost, only one unit out of 50 included 88 per cent of materials cost in total packaging cost, 3 (6 per cent) out of 50 included 90 per cent of materials cost in total packaging cost, and 5 (10 per cent) out of 50 have not given any response at all.
TABLE 4.01b

Proportion of Storage and Handling Cost in Total Packaging Cost

<table>
<thead>
<tr>
<th>Sl. No.</th>
<th>Percentage of Cost</th>
<th>No. of Industrial units</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>2</td>
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<td>5</td>
<td>40</td>
<td>1</td>
</tr>
<tr>
<td>6</td>
<td>No Response</td>
<td>5</td>
</tr>
</tbody>
</table>

Total 50

Source: Primary Data, 2011

Fig. 4.01b Proportion of Storage and Handling Cost in Total Packaging Cost

The Table 4.01 (b) shows the proportion of storage and handling cost in total packaging cost. Storage and handling cost of empty packages include the handling cost of bulky packages, heavy materials of construction, drums etc. Out of 50 sample units 10(20 per cent) of them include 2 to 5 per cent of storage and handling cost in total packaging cost, 2(4 per cent) out or 50 included 10 per cent of storage and handling cost in total packaging cost, only one unit out of 50 include 40 per cent of storage and handling cost in total packaging cost.
## TABLE 4.01c

Proportion of Packaging Operation Cost in Total Packaging Cost

<table>
<thead>
<tr>
<th>Sl. No.</th>
<th>Percentage of Cost</th>
<th>No. of Industrial units</th>
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</thead>
<tbody>
<tr>
<td>1</td>
<td>2</td>
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<tr>
<td>6</td>
<td>20</td>
<td>1</td>
</tr>
<tr>
<td>7</td>
<td>No Response</td>
<td>5</td>
</tr>
</tbody>
</table>

Source: Primary Data, 2011

![Pie Chart](image)

### Fig. 4.01c - Proportion of Packaging Operation Cost in Total Packaging Cost

The Table 4.01c shows the proportion of packaging operation cost in total packaging cost. Packaging operation costs includes the cost involved in operations like, cleaning the package product filling, closing, labelling, unitizing, stenciling, handling cylindrical slums etc. Out of 50 sample units 43(86 per cent) of them included 2 to 5 per cent of packaging operation cost in total packaging cost, only one unit out of 50 include 10 per cent of packaging operation cost in total packaging cost and only one unit out of 50 include 20 per cent of packaging operation cost in total packaging cost and 5(10 per cent) of the sample units have not given any response at all.
TABLE 4.01d

Proportion of Packaging Operation Cost in Total Packaging Cost

<table>
<thead>
<tr>
<th>Sl. No.</th>
<th>Percentage of Cost</th>
<th>No. of Industrial units</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>3</td>
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<td>3</td>
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<td>32</td>
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<td>4</td>
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<td>No Response</td>
<td>8</td>
</tr>
<tr>
<td>Total</td>
<td></td>
<td>50</td>
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</tbody>
</table>

Source: Primary Data, 2011

Fig. 4.01d - Proportion of Transportation Cost in Total Packaging Cost

The Table 4.01(d) shows the proportion of transportation cost in total packaging cost. Transportation cost of filled packages involves the transportation cost by sea, air etc., (freight by volume). Out of 50 sample units 40(80 per cent) of them include 3 to 5 per cent of transportation cost in total packaging cost, only one unit out of 50 include 20 per cent of transportation cost in total packaging cost, only one unit out of 50 include 40 per cent of transportation cost in total packaging cost and 8 (16 per cent) of the sample units have not given any response at all.
TABLE 4.01e

Proportion of Loss and Damage Cost in the Total Packaging Cost

<table>
<thead>
<tr>
<th>Sl. No.</th>
<th>Percentage of Cost</th>
<th>No. of Industrial units</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>2</td>
<td>6</td>
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<tr>
<td>2</td>
<td>5</td>
<td>16</td>
</tr>
<tr>
<td>3</td>
<td>10</td>
<td>1</td>
</tr>
<tr>
<td>4</td>
<td>No Response</td>
<td>27</td>
</tr>
<tr>
<td></td>
<td>Total</td>
<td>50</td>
</tr>
</tbody>
</table>

Source: Primary Data, 2011

The Table 4.01(e) shows the proportion of loss and damage cost in total packaging cost. Loss and Damage cost is related to the loss and damage during operation, Transportation delivery etc., Out of 50 sample units 22(44 per cent) of them include 2 to 5 per cent of loss and damage cost in total packaging cost, only one unit out of 50 include 10 per cent of loss and damage cost in total packaging cost and 27(54 per cent) out of 50 have not given any response at all.
TABLE 4.01f

Proportion of Insurance Cost in the Total Packaging Cost

<table>
<thead>
<tr>
<th>Sl. No.</th>
<th>Percentage of Cost</th>
<th>No. of Industrial units</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>5</td>
<td>5</td>
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<tr>
<td>2</td>
<td>10</td>
<td>1</td>
</tr>
<tr>
<td>3</td>
<td>No Response</td>
<td>44</td>
</tr>
<tr>
<td>Total</td>
<td></td>
<td>50</td>
</tr>
</tbody>
</table>

Source: Primary Data, 2011

Fig. 4.01f Proportion of Insurance Cost in the Total Packaging Cost

The Table 4.01(f) shows the proportion of Insurance cost in total packaging cost. Insurance cost varies depending on the vulnerability of package. Out of 50 sample units 6(12 per cent) of them include 5 to 10 per cent of insurance cost in total packaging cost, and 44(88 per cent) out of 50 have not given any response at all.
TABLE 4.01g

Proportion of Obsolescence Cost in the Total Packaging Cost

<table>
<thead>
<tr>
<th>Sl. No.</th>
<th>Percentage of Cost</th>
<th>No. of Industrial units</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>3</td>
<td>1</td>
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<td>2</td>
<td>5</td>
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<td>3</td>
<td>10</td>
<td>1</td>
</tr>
<tr>
<td>4</td>
<td>No Response</td>
<td>46</td>
</tr>
</tbody>
</table>

Total 50

Source: Primary Data, 2011

Fig. 4.01g - Proportion of Obsolescence Cost in the Total Packaging Cost

The Table 4.01(g) shows the proportion of obsolescence cost in total packaging cost. Obsolescence Cost involves when changes in the packaging materials, packages and labels happen. Out of 50 sample units 3(6 per cent) of them include 3 to 5 per cent of obsolescence cost in total packaging cost, only one unit out of 50 include 10 per cent of obsolescence cost in total packaging cost and 46(92 per cent) out of 50 have not given any response at all.
4.05 Cost Reduction by Improvement in Packaging

Packaging is defined as a science and as an art. It is more of an art when company dealt with consumer products and more of a science when company dealt with industrial products\(^5\). While talking about cost improvement, there is a lot of conflicting requirements. A packaging designer is like a Jack of all trades. One has to look at the requirements of improvements in packaging while everything cost reduction.

The transporter, for instance, looks for convenience in loading and unloading operations in terms of speed and time, and may not be too concerned about damaging the insides. Also the geometry of the product affects the container. Then comes the storage and handling at the warehouses, docks, airports while in transit. So there is a need to communicate how the box is to be stored, which side is up and so on. There is an international cargo marking accepted by all countries and this must be used on the box to help communication. Naturally, it was handled and stored roughly and some damages took place.

If consumers fall in love with a package, they tend to buy the product. This is particularly true in supermarkets. There is no salesman to tell them that the packing may not look good but the product inside is good. Consumer just picks it up from the shelf as aesthetic packing attracts them. This is important for the retailers’ point of view. All these above aspects, which need to be considered in, involve packing costs.

\(^5\) www.iimm.org/knowledge-bank
The cost will depend on how much importance industries to safety, aesthetics, handling, storage, etc. Generally, 80 per cent of the packing costs go towards meeting customer convenience and requirements and the remaining 20 per cent is used in other aspects of logistics. If you consider lipsticks, the cost of the product is much lower than the cost of packing. Many consumer products fall in this category.

Regulations also have to be considered in packing. Wood is the cheapest and commonly available material but certain things cannot be packed in wooden boxes due to regulations. Eco-friendly, easy-to-dispose packing material must be used.

It is in this context the researcher has discussed the industry’s opinion on the factors influencing in packing cost reduction. The study results are explained in Table 4.02. They have direct and indirect relationship with the above structure for packing cost reduction.

The packaging technology and innovations pave way for tremendous development in the entire packaging sector. It must not lead to cost escalation. The researcher made a study about it and enquired the sample units as presented above in the Table 4.02, which lists out the various factors contributing to reduction in packaging cost.

The opinion of the packaging units is that the most essential factor in reduction of packaging cost with the mean scores of 3 to 4 points confronted by the units are research on reduction cost by redesigning, reducing multi layering, recycling, storage space optimization, process improvement, supply chain cost management, and reusing. These factors influences more in packaging cost.
reduction. The second category of factor with the mean score of less than 2 is "materials substitution."

**TABLE 4.02**

Factors Contributing to Reduction in Packaging Cost (IO)

<table>
<thead>
<tr>
<th>Sl. No.</th>
<th>Particulars</th>
<th>Total Score</th>
<th>Mean Score</th>
<th>Rank</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>Material Substitution</td>
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<td>1.13</td>
<td>IX</td>
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<td>2.</td>
<td>Process Improvement</td>
<td>161</td>
<td>3.35</td>
<td>V</td>
</tr>
<tr>
<td>3.</td>
<td>Supply Chain Cost Management</td>
<td>159</td>
<td>3.31</td>
<td>VI</td>
</tr>
<tr>
<td>4.</td>
<td>Inventory Control</td>
<td>157</td>
<td>3.27</td>
<td>VII</td>
</tr>
<tr>
<td>5.</td>
<td>Storage Space Optimization</td>
<td>163</td>
<td>3.40</td>
<td>IV</td>
</tr>
<tr>
<td>6.</td>
<td>Reusing</td>
<td>154</td>
<td>3.21</td>
<td>VIII</td>
</tr>
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<td>7.</td>
<td>Recycling</td>
<td>165</td>
<td>3.44</td>
<td>III</td>
</tr>
<tr>
<td>8.</td>
<td>Reducing Multi Layering</td>
<td>178</td>
<td>3.71</td>
<td>II</td>
</tr>
<tr>
<td>9.</td>
<td>Research on Reduction Cost By Redesigning of Products and Packages</td>
<td>186</td>
<td>3.88</td>
<td>I</td>
</tr>
</tbody>
</table>

Source: Primary Data 2011.  
IO = Industrial Organisation

The packaging sample units have to take this into consideration and count upon the various factors, which may influence reduction in the packaging cost.
There is no significant relationship between the size of the organization and the factors influencing the reduction of packaging cost.

The above Table 4.02 shows the Pearson correlation for the various factors influencing the reduction of packaging cost and the size of the units where the $\rho$ value is more than 0.05 level of significance and it is negatively correlated further in various factors like process improvement, supply chain cost management, inventory control, storage space, reusing, recycling and reducing multilayering. Therefore, the null hypothesis is accepted. Hence, it is concluded that there is no significant relationship between the size of the organization and the factors influencing the reduction of packaging cost.

**TABLE 4.02 h**

**Pearson Correlation**

<table>
<thead>
<tr>
<th>Factors</th>
<th>Test</th>
<th>Material Substitution</th>
<th>Process Improvement</th>
<th>Supply Chain Cost Management</th>
<th>Inventory Control</th>
<th>Storage Space</th>
<th>Reusing</th>
<th>Recycling</th>
<th>Reducing Multilayering</th>
<th>Research on Reduction</th>
</tr>
</thead>
<tbody>
<tr>
<td>Size of the Unit</td>
<td>Pearson Correlation</td>
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<td>-.321</td>
<td>-0.058</td>
<td>-0.23</td>
<td>.059</td>
<td>-0.094</td>
<td>-.006</td>
<td>-.129</td>
<td>.183</td>
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<tr>
<td>Sig. (2-tailed)</td>
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<td>.972</td>
<td>.069</td>
<td>.751</td>
<td>.901</td>
<td>.743</td>
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</tr>
</tbody>
</table>
4.06 Methods of Cost Saving in Packing and Packaging

There are methods already in discussion about the cost saving in packing and packaging. They are as follows:

(i) Shape and sizes can be altered to maximize the number of packets per box with less packing material,

(ii) Sizes and dimensions of product: To check the dimensions of product in such manner that it fits well with packaging dimensions which are set as per stacking norms, loading and unloading specs, container size and manual handling of the packaged items,

(iii) Sizes and dimensions of packaging items: Once the product shapes and size are finalized, vendors are informed and packaging material ordered. By changing the size and shape, one can reduce the material used,

(iv) Thickness of packaging material can be reduced like cbbs, bopp, laminate, wrapper and tapes,

(v) Thickness or the area to be used can be reduced through product modification. It has normally observed that people are packing items in material of higher strength. One should see the optimum thickness which can withstand mechanical damages during transit and

(vi) Preformed cartons can be used by vendors. Labour are employed for making boxes from cardboard supplied in flat form and these cartons can be ordered in pre-formed manner which are then filled and then passed on to taping machine.

4.07 Elimination of Hidden Packaging Costs

Like the proverbial iceberg, the real cost of packaging can be concealed below the surface. With a smart packaging strategy, industries can avoid these hidden costs

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and increase customer satisfaction. In addition to the original carton, the real cost of packaging includes damaged product from poor package design, labour to deal with customer issues relating to damaged products, lost productivity while companies staff reship the product, additional freight and the cost of an additional carton, and a replacement product.

The cost of a disgruntled customer is impossible to measure. Packaging Design can eliminate these hidden packaging costs. By working with them to design and manufacture a sound packaging solution, industries will actually reduce their packaging costs, enhance their product presentation and increase customer satisfaction.

4.08 Steps followed in Savings of Packaging Cost

There are certain steps to be followed in savings in packaging cost.

(i) Change dimensions of the primary/secondary packaging as per the product,
(ii) Change the product dimensions as per the secondary packaging which would result in better handling and optimum use during stacking and loading an container,
(iii) Thickness of the material used in packaging can be reduced with trials such as material are safe during transit,
(iv) Preformed boxes/cartons can be used rather than employing labour to do in house,
(v) Universal boxes and packaging material can be used for the product basically for multinational companies,
(vi) Alternate materials can be used,
(vii) Excessive packaging to be avoided,
(viii) Use pre printed boxes/wrappers can save cost on printing and
(ix) Automation on packing machines can also help reducing packaging cost.

http://shamaoline.com/costreduction.packaging.html
Goods packaging companies must constantly seek ways to maximize the value of their packaging procurement activities. However, this task has become increasingly complex as packaging requirements and options have grown exponentially in recent years. The problem is compounded by established industry dynamics as well as recent changes in the area of packaging material procurement. Some of these complicating factors include:

(i) The growth in the number of alternative packaging materials,
(ii) The growth in the number of suppliers as global procurement strategies take hold,
(iii) Changing process and materials technologies,
(iv) Highly volatile commodity pricing that can have either a minimal or significant impact on final packaging material prices,
(v) The need for continued investment in new packaging technologies,
(vi) Supplier unwillingness to share cost and operating information with customers,
(vii) Tendency for suppliers to over-engineer products in order to improve profit margins and maximize quality performance and
(viii) Natural incentive for suppliers to minimize their costs even if total supply chain costs increase.

The competitiveness of the current packaging suppliers is a key factor that ultimately determines the overall packaging supply chain costs. Having a strong relationship with a top packaging supplier can ultimately result in lower total system costs as well as lower material prices. Conversely, developing a supply relationship with a marginal supplier may provide industries with a low initial purchase cost but ultimately result in significantly higher material and supply chain costs.

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The packaging business is very competitive and dynamic. Technologies are constantly evolving and good investment decisions and management practices by packaging suppliers are critical for long-term success. Top suppliers can potentially provide with access to new materials, advanced technologies, and lower total costs that can result in significant competitive advantages for the business. Conversely, a poor supplier can endanger your business by allowing your competitors to capture market share or cannibalize your customer base by providing more effective packaging solutions. Poor material quality, noncompetitive service levels, and reliance on inferior technologies can add significant costs that may not be captured by your information system and cost analyses.

As a result of these issues, it is important for buyers to have a good understanding of the relative strengths and weaknesses of their packaging suppliers compared to other suppliers in the industry. Importantly, buyers must be prepared to change suppliers if necessary to ensure their continued competitiveness. This insight can only be developed through constant and ongoing assessments of the overall packaging market, related raw materials, industry trends and dynamics, and technology/process developments. The best packaging material suppliers have a clear business focus and concentrate on servicing specific segments of the market. Since equipment utilization is such an important element of cost, many suppliers may accept business that is non strategic or a poor fit with their capabilities just to increase equipment utilization rates. This can result in substandard product quality and service, particularly if new customers are later obtained that are more strategically aligned with the supplier’s business focus. It is, therefore, important to understand how well suited to supplier is to servicing the business and how committed they are to the market segment.
4.09 Total System Costs for Packaging Materials

A great deal of attention is placed on the procurement cost per piece of packaging paid to a given supplier. The most successful packaged goods companies understand the costs and benefits of packaging through their whole supply chain and make integrated decisions which minimize total system cost. Key areas captured in this cost analysis include:

(i) Procurement cost,
(ii) In house-design procurement and quality assurance costs,
(iii) Packaging handling, warehousing and inventory management,
(iv) Packaging defects,
(v) Returns and allowance due to packaging failure in distribution and in end-use,
(vi) Business interruption due to packaging shortages,
(vii) Capital employed and operating expenses related to in-house packaging equipment and packaging use,
(viii) End user behaviour impacts,
(ix) Combined shipping, distribution material and primary and secondary packaging costs for a given end product and
(x) Supplier switching costs.

4.10 Twelve Things that Need to be Taken to Minimize Packaging Costs

It is imperative to note down them at this stage, as stated below

(i) Competitiveness of the current packaging suppliers,
(ii) The suitability of the suppliers with your requirement and their commitment to market segments,
(iii) Alternative suppliers available in the market,
(iv) The optimal number of suppliers available for a particular material,
(v) The length of packaging supply chain and its impacts on the business,
(vi) The impact of packaging technology on a particular material/item,
(vii) Method of effective purchasing procedure and negotiation practice adopted,
(viii) The total system costs for packaging materials,
(ix) The margin expected by the packaging suppliers,
(x) The rationality and consistence in pricing policy of the suppliers,
(xi) The cost structure of the suppliers and
(xii) Maximum deduction/reduction in system cost through packaging specifications.

The most successful goods packaging companies understand the cost and benefit of packaging through their whole supply chain and make integrated decisions which minimize total system cost. The packaged goods companies must constantly seek ways to maximize the value of their packaging procurement activities particularly in the recent years which involves competitiveness/alternatives. There are yet another set of ten ways to cut the packaging cost, directly relevant to the above. It is given in Appendix C.

4.11 Pack Cost Index

A cost index can also be worked out with appropriate weightage. The next possible alternative could be plastic and so on. So this is how package industries evaluate the performance of all the materials and determine their costs and rate them. One more requirement all over the world is to reduce the packaging weight as much as possible. Use expensive material, but reduce the weight. In the last two decades, Canada has reduced the packaging costs by 50 per cent.

Then there could be the latest alternatives like wrapping with stretch film. The stretch film in airlines used for fruits wrapped in as per government regulation and plastic films, which are transparent. These wraps are is water proof, moisture proof,
dust proof. Another wrap called shrink film - shrink wrapping, where a product is put in a plastic bag and the plastic bag shrinks on to the products.

There is a relation between packaging cost and the damage done to a product. It is very important relation which packaging industries use in cost analysis. For different alternatives they determine the packaging cost and the percentage of damage through simulated laboratory testing for draw compression. Then they plot a graph of total cost versus percentage damage. This can be useful in determining the cost versus damage percentage when deciding on the best packing material.

It could be considered that cost of packaging is a major determination of the entire manufacturing process, so it must be given due attention by the producer and middleman for their long standing service, besides consumers for their money’s worth. The solution lies in the packaging strategies, which are discussed in the next chapter.