4.6 Bundling

The practice of bundling is that of selling two or more goods together as a package.

**Bundling** = The practice of selling two or more goods together as a package.

Bundling is a widely-practiced sales strategy that takes advantage of differences in consumer willingness to pay for different goods. McDonalds Happy Meals are an example of bundling, since the customer purchases a hamburger, French fries, beverage, and toy as a single purchase. McDonalds was an innovator in bundling, and has expanded the practice to include “Value Meals.” Communication companies often package internet service, cable television, and phone service together into a package.

**4.6.1 Bundling Examples**

A simple example of bundling is a value meal at a fast food restaurant. To make things simple, assume that there are two consumers (A and B), two products (burger and fries) and marginal costs are equal to zero. The zero-cost assumption is not realistic, but the model results do not change when we assume zero costs.

Table 4.1 shows the reservation prices (willingness to pay) for both consumers for each good.
Table 4.1 Reservations Prices for Two Different Consumers.

<table>
<thead>
<tr>
<th>Consumer</th>
<th>Burger (USD/unit)</th>
<th>Fries (USD/unit)</th>
<th>Bundle (USD/unit)</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>6</td>
<td>2</td>
<td>8</td>
</tr>
<tr>
<td>B</td>
<td>4</td>
<td>3</td>
<td>7</td>
</tr>
</tbody>
</table>

Recall that the reservation price is the maximum amount that a consumer is willing to pay for a good. The reservation price for the bundle is simply the sum of the two reservation prices for the burger and fries. Next, a comparison is made between selling the two good individually versus selling them as a bundle.

CASE ONE: Sell each product individually.

**\( \Pi_{\text{burger}} \)**
1. If set \( P_{\text{burger}} = 6 \) USD/unit, A buys, \( \Pi_{\text{burger}} = 6 \times 1 = 6 \) USD
2. If set \( P_{\text{burger}} = 4 \) USD/unit, A and B buy, \( \Pi_{\text{burger}} = 4 \times 2 = 8 \) USD

>>> Set \( P^*_{\text{burger}} = 4 \) USD/unit

**\( \Pi_{\text{fries}} \)**
1. If set \( P_{\text{fries}} = 2 \) USD/unit, A and B buy, \( \Pi_{\text{fries}} = 2 \times 2 = 4 \) USD
2. If set \( P_{\text{fries}} = 3 \) USD/unit, B buys, \( \Pi_{\text{fries}} = 3 \times 1 = 3 \) USD

>>> Set \( P^*_{\text{fries}} = 2 \) USD/unit

**\( \Pi_{\text{total individual}} \)**
\( \Pi_{\text{total individual}} = P_bQ_b + P_fQ_f = 4 \times 2 + 2 \times 2 = 8 + 4 = 12 \) USD

CASE TWO: Bundle burger and fries into a single package.

**\( \Pi_{\text{bundle}} \)**
1. If set \( P_{\text{bundle}} = 8 \) USD/unit, A buys, \( \Pi_{\text{bundle}} = 8 \times 1 = 8 \) USD
2. If set \( P_{\text{bundle}} = 7 \) USD/unit, A and B buy, \( \Pi_{\text{bundle}} = 7 \times 2 = 14 \) USD

>>> Set \( P^*_{\text{bundle}} = 7 \) USD/unit

Bundling increases profit from 12 to 14 USD. This result will occur if the reservation prices are inversely correlated. To see this, work out the profits for selling goods individually and as a bundle for the reservation prices that appear in Table 4.2.
Table 4.2 Reservations Prices for Two Consumers with Correlated Reservation Prices.

<table>
<thead>
<tr>
<th>Consumer</th>
<th>Burger</th>
<th>Fries</th>
<th>Bundle</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>6</td>
<td>3</td>
<td>9</td>
</tr>
<tr>
<td>B</td>
<td>4</td>
<td>2</td>
<td>6</td>
</tr>
</tbody>
</table>

Bundling enhances profits when consumers have uncorrelated reservation prices. In this way, bundling takes advantage of differences in consumer willingness to pay.

Many firms have used “Green Bundling” to tie goods with environmental or sustainable goods. As long as consumer preferences for the good and the sustainability goal are uncorrelated, this strategy will increase profits.

4.6.2 Tying

A practice related to bundling is tying.

**Tying** = The practice of requiring a customer to purchase one good in order to purchase another.

Tying is a specific form of bundling. An example is Microsoft selling Windows software together with Internet Explorer, a web browser. A second example is printers and ink cartridges. Many hardware companies make a great deal of profit from selling ink cartridges for printers. The cartridges do not have a universal shape, so must be purchased specifically for each printer. The next section will discuss advertising.