CHAPTER ELEVEN

DEVELOPING NEW PRODUCTS AND SERVICES
AFTER READING THIS CHAPTER YOU SHOULD BE ABLE TO:

• Understand the ways in which consumer and industrial products can be classified and marketed.

• Explain the implications of alternative ways of viewing “newness” in new products.

• Analyze the factors contributing to a product’s success or failure.

• Recognize and understand the purposes of each step of the new-product process.
The case of developing a better industrial adhesive is more than just making a better product. What else must be done?

a. getting prospective buyers to make an effort to learn about the new adhesive;

b. understand the benefits of the new adhesive; and

c. think about ways they can apply the new product.

Basically, the marketing issues involve:

a. the product;

b. the target market; and

c. the marketing task.
A Product is . . . .

is a good, service, or idea consisting of a bundle of tangible and intangible attributes that satisfies consumers and is received in exchange for money or some other unit of value. Products include both tangible and intangible attributes.
A product line is a group of products that are closely related because they satisfy a class of needs, are used together, are sold in the customer group, are distributed through the same outlets, or fall within a given price range.

The product mix is the number of product lines offered by a company.
Classifying Products: Degree of Tangibility and User Type

Degree of Tangibility

a. **nondurable good** -- an item consumed in one or a few uses.

b. **durable good** -- one that usually lasts for an extended number of uses.

Type of User

a. **consumer goods** -- products purchased by the ultimate consumer.

b. **industrial goods** -- products used in the production of other products for ultimate consumers.
The four types of consumer goods are convenience, shopping, specialty, and unsought goods. The four types of goods differ in terms of:

1. effort the consumer spends on the decision,
2. attributes used in purchase, and
3. frequency of purchase.
## PP11-1a Classification of consumer goods (first part)

<table>
<thead>
<tr>
<th>Basis of comparison</th>
<th>Type of Consumer Good</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Convenience</td>
</tr>
<tr>
<td>Product</td>
<td>Toothpaste, cake mix, hand soap, laundry detergent</td>
</tr>
<tr>
<td>Price</td>
<td>Relatively inexpensive</td>
</tr>
<tr>
<td>Place (distribution)</td>
<td>Widespread; many outlets</td>
</tr>
<tr>
<td>Promotion</td>
<td>Price, availability, and awareness stressed</td>
</tr>
</tbody>
</table>
### Classification of consumer goods (final part)

<table>
<thead>
<tr>
<th>Basis of comparison</th>
<th>Type of Consumer Good</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Convenience</td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td>Brand loyalty of consumers</td>
<td>Aware of brand, but will accept substitutes</td>
</tr>
<tr>
<td>Purchase behavior of consumers</td>
<td>Frequent purchases; little time and effort spent shopping; routine decision</td>
</tr>
</tbody>
</table>
A major characteristic of industrial goods is that their sales are often the result of derived demand; that is, sales of industrial products frequently result (or are derived) from the sale of consumer goods.

Industrial goods are classified not only on the attributes the consumer uses but also on how the item is to be used.
Production Goods

Items used in the manufacturing process that become part of the final product are production goods. Production goods include:

1. raw materials, and
2. component parts
Support goods are items used to assist in producing other goods and services. Support goods include:

-- installations

-- accessory equipment

-- supplies

-- services
1. Explain the difference between product mix and product line.

2. What are the four main types of consumer goods?

3. To which type of good (industrial or commercial) does the term derived demand generally apply?
1. Newness compared with existing products;
2. Newness in legal terms;
3. Newness from the company’s perspective;
4. Newness from the consumer’s perspective.
### PP11-2 Consumption Effects Define Newness

<table>
<thead>
<tr>
<th>Basis of Comparison</th>
<th>Continuous Innovation</th>
<th>Dynamically Continuous Innovation</th>
<th>Discontinuous Innovation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Definition</td>
<td>Requires no new learning by consumers</td>
<td>Disrupts consumer’s normal routine but does not require totally new learning</td>
<td>Establishes new consumption patterns among consumers</td>
</tr>
<tr>
<td>Examples</td>
<td>Sensor and New Improved Tide</td>
<td>Electric toothbrush, compact disk player, and automatic flash for cameras</td>
<td>VCR, Jet Stream Oven, and home computer</td>
</tr>
<tr>
<td>Marketing emphasis</td>
<td>Generate awareness among consumers and obtain widespread distribution</td>
<td>Advertise benefits to consumers, stressing point of differentiation and consumer advantage</td>
<td>Educate consumers through product trial &amp; personal selling</td>
</tr>
</tbody>
</table>
What It Takes to Launch One “Commercially Successful” New Product

- 3,000 “Raw” unwritten ideas
- 300 Ideas submitted to firm’s patent department
- 125 “Small” projects
- 9 “Significant” developments
- 4 “Major” developments
- 1.7 Commercial “product launches”
- 1 “Commercially successful” new product
## PP11-B Nine methods for new product success

<table>
<thead>
<tr>
<th>Method</th>
<th>Example</th>
<th>Result</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Take something out of your product</td>
<td>Royal Crown removed caffeine</td>
<td>First decaffeinated cola</td>
</tr>
<tr>
<td>2. Put something in your product</td>
<td>Adding fruit juice to soda</td>
<td>Slice</td>
</tr>
<tr>
<td>3. Answer to consumer gripes</td>
<td>“Locked my keys in my car”</td>
<td>Warning bell</td>
</tr>
<tr>
<td>4. Visible difference</td>
<td>“Same old cereal”</td>
<td>Adding X’s to the O’s in Cheerios</td>
</tr>
<tr>
<td>5. Make the task easier</td>
<td>Time-consuming oven cooking</td>
<td>Jet Stream Oven</td>
</tr>
<tr>
<td>6. Use products in a new way</td>
<td>Wine mixed with seltzer</td>
<td>Wine coolers</td>
</tr>
<tr>
<td>7. Product substitutability</td>
<td>Cereal substitute for cereal-avoiding teens</td>
<td>Total Breakfast Bars</td>
</tr>
<tr>
<td>8. Don’t be literal, be creative</td>
<td>A healthy popsicle</td>
<td>Dole Fruit Juice Bars</td>
</tr>
<tr>
<td>9. Look overseas</td>
<td>Faster trains</td>
<td>Yoplait Yogurt</td>
</tr>
</tbody>
</table>
PP11-KK  Marketing Reasons for New Product Failures

1. Insignificant “point of difference.”
2. Incomplete market and product definition before product development starts.
3. Too little market attractiveness.
4. Poor execution of the marketing mix.
5. Poor product quality on critical factors.
7. No economic access to buyers.
As explained in detail in the text, new products often fail because of one or a combination of seven reasons. Look at the two products described below, and try to identify which reason explains why they failed in the marketplace:

• Del Monte’s Barbecue Ketchup that contained finely chopped onions and was aimed at the heavy ketchup-eating segment.

• Mennen’s Real deodorant, a cream-like antiperspirant developed for women, that was applied like a roll-on.

Compare your insights with those in the text.
1. From a consumer’s viewpoint, what kind of innovation would an improved electric toothbrush be?

2. What does “insignificant point of difference” mean as a reason for new-product failure?
The new product process is the sequence of activities a firm uses to identify business opportunities and convert them to a saleable good or service.

This sequence starts with new-product strategy development, which involves defining the role for a new product in terms of the firm’s overall corporate objectives.

The process ends with commercialization, which is the introductory stage of the product/service life cycle.
PP11–5 Stages in the new product process

- New product strategy development
- Idea generation
- Screening and evaluation
- Business analysis
- Development
- Market testing
- Commercialization

Commercialized products
Cross-functional teams consist of a small number of people from different departments in an organization, who are mutually accountable to a common set of performance goals.

Cross-functional teams are especially important in new-product development, as individuals from R&D, marketing, manufacturing, finance, and so forth can simultaneously search together in a constructive environment for new product and market opportunities.
A Cross-Functional Approach to Product Development

Product Design

Process Design/Engineering

Manufacturing

Product Development Team

Other Related Functions, Suppliers, Customers

Sales and Distribution

Marketing
PP11-6 Strategic Roles of Most Successful New Products

**Strategic Role**

- Defend market share position
- Establish foothold in new market
- Preempt market segment
- Maintain position as product innovator
- Exploit technology in new way
- Capitalize on distribution strengths
- Provide a cash generator
- Use excess or off-season capacity

**Percentage of responses**

- Externally driven:
  - Defend market share position: 40%
  - Establish foothold in new market: 30%
  - Preempt market segment: 20%
  - Maintain position as product innovator: 10%
- Internally driven:
  - Exploit technology in new way: 40%
  - Capitalize on distribution strengths: 30%
  - Provide a cash generator: 20%
  - Use excess or off-season capacity: 10%
Idea generation consists of developing concepts as candidates for products/services. New product ideas can be generated by:

a. customer suggestions

b. employee and co-worker suggestions

c. R&D breakthroughs

d. competitor’s products
Screening and evaluation involve internal and external evaluations of the new product ideas, so as to eliminate those that warrant no further effort.

The process can be formal, consisting of criteria developed from internal and external sources. Ideas with the highest scores are considered in the next step of development.
A weighted point system Medtronic uses to try to spot a winning new medical product (first part)

<table>
<thead>
<tr>
<th>General Factor</th>
<th>Specific Factor</th>
<th>Scale</th>
<th>Total Points</th>
</tr>
</thead>
<tbody>
<tr>
<td>Size of target market</td>
<td>Incidence of malady</td>
<td>Undefinable 10,000s 1,000,000s 100,000,000s</td>
<td>12</td>
</tr>
<tr>
<td></td>
<td>Product usage</td>
<td>One per many patients One per patient</td>
<td>5</td>
</tr>
<tr>
<td></td>
<td>Cost effective for health care system</td>
<td>No Yes</td>
<td>7</td>
</tr>
<tr>
<td></td>
<td>Application of product</td>
<td>Other Spine Brain Brain/heart Heart</td>
<td>3</td>
</tr>
<tr>
<td>Significant point of difference</td>
<td>Treatment evaluation</td>
<td>Similar to existing approach Better than existing approaches Clearly superior to existing approaches</td>
<td>10</td>
</tr>
<tr>
<td></td>
<td>Clearness of function</td>
<td>Questioned or uncertain Direct cause and effect</td>
<td>8</td>
</tr>
<tr>
<td>Product Quality</td>
<td>Restore natural physiology</td>
<td>Partial Total</td>
<td>6</td>
</tr>
<tr>
<td></td>
<td>Restore viability</td>
<td>Partial Full</td>
<td>13</td>
</tr>
<tr>
<td></td>
<td>Characteristic of product</td>
<td>Capital equipment External Permanently worn Implantable Total implanted</td>
<td>20</td>
</tr>
<tr>
<td></td>
<td>Mode of operation</td>
<td>Chemical Mechanical Electrical mechanical Electrical</td>
<td>7</td>
</tr>
<tr>
<td></td>
<td>Product development team</td>
<td>Physician only Engineer only Physician &amp; engineer Physician w/engineer training</td>
<td>6</td>
</tr>
</tbody>
</table>
A weighted point system Medtronic uses to try to spot a winning new medical product (final part)

<table>
<thead>
<tr>
<th>General Factor</th>
<th>Specific Factor</th>
<th>Scale</th>
<th>Total Points</th>
</tr>
</thead>
<tbody>
<tr>
<td>Access to Market</td>
<td>Physician users know Medtronic name?</td>
<td>No 5 Some (50%) 10 Yes (all)</td>
<td>10</td>
</tr>
<tr>
<td></td>
<td>Inventor’s ability, willingness to be champion</td>
<td>Not well Known 10 Not willing to promote 15 Well known 20</td>
<td>8</td>
</tr>
<tr>
<td></td>
<td>Technologies in place</td>
<td>No 5 Partially 10 Yes 10</td>
<td>6</td>
</tr>
<tr>
<td></td>
<td>Entrepeneur in place</td>
<td>No 5 Partially 10 Totally 10</td>
<td>4</td>
</tr>
<tr>
<td></td>
<td>Social acceptance</td>
<td>Negative 5 Positive 10</td>
<td>8</td>
</tr>
<tr>
<td>Miscellaneous</td>
<td>Gut feel about success</td>
<td>Uncertain 5 Good chance 10 Positive 15 Highly positive 20</td>
<td>12</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td></td>
<td></td>
<td><strong>145</strong></td>
</tr>
</tbody>
</table>
1. What step in the new-product process has been added in recent years?

2. What are four sources of new-product ideas?

3. What is the difference between internal and external screening and evaluation approaches used by a firm in the new-product process?
PP11-RR  Business Analysis

Business analysis involves specifying the features of the product and the marketing strategy needed to commercialize it, and making necessary financial (forecasts of costs and revenues) projections.

This is the last checkpoint before significant capital is invested in creating a prototype of the product.
Development involves turning the idea on paper into a prototype. This results in a demonstrable, producible product in hand.

In the development stage, the prototype is subjected to rigorous technical/laboratory and consumer testing. The appropriate modifications in quality and features are made. At this point the prototype becomes an actual product or service that is ready for either market testing or even full-scale commercialization.
Market Testing

The market testing stage involves exposing actual products to prospective consumers under realistic purchase conditions to see if they will buy.

Such testing can take place in purchase laboratories and/or in test markets.

The market testing process is useful for testing various marketing mixes, getting consumer reactions, making necessary production and/or marketing modifications, and often forecasting sales.
The Most Popular Test Markets

Colorado Springs, CO
Des Moines, IA
Rockford, IL
Kalamazoo, MI
Akron, OH
Lansing, MI
Syracuse, NY
Harrisburg, PA
Pittsfield, MA
Providence, RI
Dayton, OH
Roanoke, VA
Asheville, NC
Charleston, SC
Macon, GA
Memphis, TN
Jacksonville, FL
Austin, TX
Tulsa, OK
Kansas City, KS
Test marketing is a valuable step in the new product process, but not all products can use it.

a. testing a service beyond the concept is very difficult because the service is intangible and consumer’s can’t see what they are buying; and

b. test markets for expensive consumer products, such as cars or costly industrial products is impractical.
Commercialization is positioning and launching the new product or service full scale, regarding production and marketing. This is the most expensive stage for most products, especially consumer products.
### PP11–8 Marketing Information and Methods Used in the New-Product Process

<table>
<thead>
<tr>
<th>STAGE OF PROCESS</th>
<th>PURPOSE OF STAGE</th>
<th>MARKETING INFO AND METHODS USED</th>
</tr>
</thead>
<tbody>
<tr>
<td>New-product strategy</td>
<td>Identify new-product niches to reach in light of company objectives</td>
<td>Company objectives; assessment of firm’s current strengths and weaknesses in terms of market and product</td>
</tr>
<tr>
<td>development</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Idea generation</td>
<td>Develop concepts for possible products.</td>
<td>Ideas from employees and co-workers, consumers, R &amp; D, and competitors; methods of brainstorming and focus groups.</td>
</tr>
<tr>
<td>Screening and evaluation</td>
<td>Separates good product ideas from bad ones inexpensively.</td>
<td>Screening criteria, concept tests, and weighted point systems.</td>
</tr>
<tr>
<td>Business analysis</td>
<td>Identify the product’s features and its marketing strategy, and make financial projections.</td>
<td>Product’s key features, anticipated marketing mix strategy; economic, marketing, production, legal, and profitability analyses.</td>
</tr>
<tr>
<td>Development</td>
<td>Create the prototype product and test it in the lab and on consumers.</td>
<td>Laboratory and consumer tests on product prototypes.</td>
</tr>
<tr>
<td>Market testing</td>
<td>Test product and marketing strategy in the market on a limited scale.</td>
<td>Test markets, simulated test markets (STMs)</td>
</tr>
<tr>
<td>Commercialization</td>
<td>Position and offer product in the market.</td>
<td>Perceptual maps, product positioning, regional rollouts.</td>
</tr>
</tbody>
</table>
1. How does the development stage of the new-product process involve testing the product inside and outside the firm?

2. What is a test market?

3. What is commercialization of a new product?
### What Separates New Product Winners and Losers

<table>
<thead>
<tr>
<th>FACTOR AFFECTING PRODUCT SUCCESS RATE</th>
<th>PRODUCT “WINNERS” (BEST 20%)</th>
<th>PRODUCT “LOSERS” (WORST 20%)</th>
<th>% DIFFERENCE (WINNERS-LOSERS)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Point of difference, or uniquely superior product</td>
<td>98%</td>
<td>18%</td>
<td>80%</td>
</tr>
<tr>
<td>2. Well-defined products before actual development starts</td>
<td>85</td>
<td>26</td>
<td>59</td>
</tr>
<tr>
<td>3. Synergy, or fit, with firm’s R&amp;D, engineering, and manufacturing capabilities</td>
<td>80</td>
<td>29</td>
<td>51</td>
</tr>
<tr>
<td>4. Quality of execution of technological activities</td>
<td>76</td>
<td>30</td>
<td>46</td>
</tr>
<tr>
<td>5. Quality of execution of activities before actual development starts</td>
<td>75</td>
<td>31</td>
<td>44</td>
</tr>
<tr>
<td>6. Synergy, of fit, with marketing mix activities</td>
<td>71</td>
<td>31</td>
<td>40</td>
</tr>
<tr>
<td>7. Quality of execution of marketing mix activities</td>
<td>71</td>
<td>32</td>
<td>39</td>
</tr>
<tr>
<td>8. Market attractiveness, ones with large markets, high growth, significant buyer need</td>
<td>74</td>
<td>43</td>
<td>31</td>
</tr>
</tbody>
</table>
New Products from Sony

- **1955**: First Japanese transistor radio starts its record of successes.
- **1946**: Sony founded in bombed-out store. Its rice cooker never gets to market.
- **1968**: Its Trinitron TV becomes and remains the standard for color TV quality.
- **1975**: Betamax VCR has initial success but loses out to better-marketed VHS VCRs.
- **1979**: Walkman revolutionizes personal stereo tape players.
- **1982**: Compact-disc player becomes first digital consumer electronics product.
- **1985**: 8mm Handycam arrives.
- **1995**: PlayStation video-game system captures 80% of U.S. 32-bit market.
- **2000s**: MD Walkman, Cyber Shot, DVD Handycam

Key dates:
- **1950s**:
- **1960s**:
- **1970s**:
- **1980s**:
- **1990s**:
- **2000s**:
## Why new product development can be a dice roll: some forecasts

- “I think there is a world market for maybe five computers.”
  - Thomas Watson, chairman of IBM, 1943

- “The radio craze will die out in time.”
  - Thomas Edison, 1922

- “There is no reason anyone would want a computer in their home.”
  - Ken Olson, chairman and founder of Digital Equipment Corp., 1977

- “Video won’t be around more than six months; people will soon get tired of staring at a plywood box.”
  - Daryl F. Zanuck, president of 20th Century Fox, 1946
T11–I Five alternative structures for product development projects

- **Functional**
  - Project is divided into segments and assigned to relevant functional areas; coordinated by functional and upper management levels

- **Balanced Matrix**
  - A project manager oversees the project and shares responsibility and authority for completion with functional managers

- **Project Team**
  - A project manager leads a project team composed of core people from several functional areas, assigned full-time; no formal involvement by functional managers

- **Functional Matrix**
  - A project manager with limited authority coordinates the project across various functional areas; functional managers retain responsibility and authority for their project segments

- **Project Matrix**
  - A project manager oversees the project with primary responsibility and authority for completion; functional managers assign needed people and provide technical expertise


Little control by one person → Functional Matrix → Balanced Matrix → Project Team → Much control by one person
## Overall performance of five structures for product development projects

<table>
<thead>
<tr>
<th>Project Structure</th>
<th>Percent of Projects</th>
<th>Percent Successful</th>
<th>Percent Successful or Marginally So</th>
</tr>
</thead>
<tbody>
<tr>
<td>Functional</td>
<td>20%</td>
<td>32%</td>
<td>63%</td>
</tr>
<tr>
<td>Functional Matrix</td>
<td>34</td>
<td>41</td>
<td>79</td>
</tr>
<tr>
<td>Balanced Matrix</td>
<td>23</td>
<td>58</td>
<td>88</td>
</tr>
<tr>
<td>Project Matrix</td>
<td>20</td>
<td>62</td>
<td>92</td>
</tr>
<tr>
<td>Venture</td>
<td>14</td>
<td>62</td>
<td>94</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>100%</strong></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>