Goods & Services Selection

great products are the key to success.

to maximize the potential for success, many companies focus on only a few products and then concentrate on those products.

an effective product stategy links product decisions with investmen, market share, and product life cycle, and defines the breadth the product line.

product decision objective *is to develop and implement a product strategy that meets the demands of the marketplace with a competitive advantage*

1. Product Strategy Options Support Competitive Advantage >options exist in the selection, definition and design of the products. example; *rapid response & low-cost strategy*

2. Product life cycles 4 phases of product's life cycles: *introduction, growth, maturity, decline* | product life cycle periods: *few days, months, years, decades*

Goods & Services Selection (cont)

3. Life Cycle & Strategy 1. *Introductory phase* warranting unusual expenditures in research, product development, process modification and enhancement. 2. *Growth phase* product design has begun to stabilize. Forecasting, adding/enhancing capacity to accomodate the increase in product may be necessary. 3. *Maturity phase* competitors are established. High volume-innovative production may be appropriate; improved cost control, reduction in options, and paring down of the product line may be effective or necessary for profitability and market share. 4. *Decline phase* ruthless management. dying products are poor products in which to invest resources and managerial talent.

4. Product-by-value Analysis list products in descending order of their individual dollar contribution to the firm. Also lists the total annual dollar contribution of the product. Low contribution on a per-unit basis by a particular product may look substantially different if it represents a large portion of the company's sales.

Generating New Products

knowing how to sucessfully find and develop new products is a requirement.

aggresive new product development requires that organizations build structures internally that have **open communication with customers, innovative product development cultures, aggresive R&D, strong leadership, formal incentives, and training.**

Then, a firm can profitably and energetically focus on specific opportunities; **1. understanding the customer, 2. economic change, 3. sociological and demographic change, 4. Technological change, 5. Political and legal change, 6. etc (market practice, professional standards, suppliers, & distributors**

Product Development

1. System, effective product strategy links product decisions with other business functions; R&D, engineering, marketing & finance

optimum product development depends on: 1. determining what will satisfy the customer, 2. Successful integration of all the 10 OM decisions

Product Development (cont)

2. QFD (Quality Function Deployment): 1. determining what will satisfy the customer, 2. Translating those customer desires into the target design *the idea is to capture a rich understanding of customer wants & to identify alternative process solutions*

tools: house of quality

3. Organizing for product development: 1. research &development department, 2. Assign a product manager to "champion" the product (Product development system & related organizations), 3. Product development teams, 4. Nation's culture & management styles

4. Manufacturability & value engineering: >activities: concerned w/ improvement of design & specifications at the research,development, design, and preproduction stages of product development

Issues for product design

1. Robust Design, a desig that can be produced to be required even with unfavorable conditions in the production process

Issues for product design (cont)

2. Modular design, a design in which parts or components of a product are sub-divided into modules that are easily interchanged/replaced.

3. Computer-Aided (CAD) & Computer-Aided Manufacturing (CAM), interactive use of a computer to develop and document a product

4. Virtual reality technology, a visual form of communication in which images substitute for the real thing but still allow the user to respond interactively

5. Value analysis, seeks improvements that lead to either a better product, or a product made more economically, or a product w/less environmental impact

6. Sustainability & Life cycle Assessment (LCA), sustainability, meeting the needs of the present w/o compromising the ability of future generations to meet their needs

Product Development Continuum

A time based competition, meaning rapidly developing products & moving them to market

External development strategies: 1. Purchasing technology, 2. Joint Ventures, 3. Alliances

Defining a Product

1. Product/Service is designed in terms of it's functions

2. Product/Service is designed accordingly

3. Firm determines how the functions are to be achieved

Specifications: equipment, layout,human resources cannot be determined until the product is defined, designed & documented

Engineering drawing: shows the dimesnions, tolerances, materials, and finishing of a component

Bill of Material (BoM): lists the hierarchy of component, their description & the quantitiy of each required to make one unit of a product.

Types of Product Defining:

1. Make or Buy Decisions, distinguishes what the firm wants to produce & what it wants to purchase. Variations in quality, cost & delivery schedules, the make-or-buy decisions is critical to product definitions

2. Group Technology, Identifies components by a coding scheme that specifies size, shape, and type of processing. Standardizing of materials, components, and processes as well as the identification of families of parts

Documents for Production

Assembly drawing, exploded view of the product

Assembly chart, schematic form how a product is assembled

Route Sheet, lists the operations necessary to produce the component w/ the material specified in the bill of material

Workorder, is an instruction to make a given quantity of a particular item, usually to a given schedule

ECNs, change some aspect of the product's definition or documentation; an engineering drawing or a bill of material

Service design

1. PCN Analysis, (Process Chain Network), *Process Chain* is a sequence of steps that accomplishes an activity: Building a home

Each Participant, *Process Domain* is the set of activities over which it has controls

Service design (cont)

Encompasses **3 Process Regions**: 1. The Direct Interaction Region, Includes Process Steps that Involve Interaction Between Participant, 2. The Surrogate (Substitute) interaction region, includes process steps to which one participant is acting on another participant's resources; their information, materials, or technologies, 3. The Independent Processing region includes steps in which the sandwich supplier and.or the sandwich customer is acting on resources where each has maximum control.

2. Adding Service Efficiency: 1. Limit Options, 2. Delay Customization, 3. Modularization, 4. Automation, 5. Moment of Truth