NEW PRODUCT DEVELOPMENT

6

Although success rates for new products haven't improved over the past couple of decades, marketers are banking on them more than ever for future growth. Developing new products continues to be of paramount importance to many companies even though the costs and risks are very high. The process used to create new products and ultimately introduce them in the marketplace is described in this unit. An attempt will also be taken to familiarize you with the product adoption process.

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Lesson - 1: Challenges and Organization of New Product Development

Objectives of this lesson

After reading this lesson, you will be able to:

- Define product and new product
- Identify the categories of new products
- Know the challenges faced by a company in new product development
- Understand how to establish an organization for new product development.

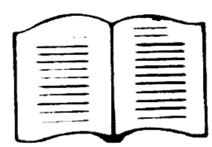
"Management's decisions about the products to be offered are among the most important of those affecting the future of a company."

-- David W. Cravens

"No war, no panic, no bank failure, no strike or fire can so completely and irrevocably destroy a business as a new and better product in the hands of a competitor."

-- F. Russell Bichowsky

Introduction



Getting the product right is the single most important activity of marketing. If the product is not what the market wants, no amount of price adjustment, dependable delivery or brilliant promotion will encourage consumers to buy it - or at least, not more than once, and very few companies produce products which are 'once-in-a-lifetime' buys. On the otherhand, if the product produced does satisfy the consumer, the purchase is likely to be repeated, and the purchaser may go on to buy other products offered by the same company, and to recommend that company's products to other consumers.

In new product development process, marketing department plays a vital role.

Management's decisions about the products to be offered among the most important of those affecting the future of a company, product decisions are more basic than decisions about other marketing variables. A particular company after segmenting the market, choosing its target customer groups, identifying their needs, and determining its desired market positioning, is ready to develop and launch new products as desired by its customers. In new product development process, marketing department plays a vital role. Marketing department should actively participate with other departments in each of the stage of new product development process rather than leaving it to the Research and Development department. Developing a new product begins with thoroughly evaluating the marketplace to determine consumer needs and wants. Based on that evaluation, the marketing executive starts planning strategies that will best fit those needs, and yield a reasonable profit for the company.

What is a New Product?

New products are "new" in varying degrees.

New products are "new" in varying degrees. They may be minor or major modifications of a firm's existing products. They may be new to the particular firm but not new to the market. If new to the firm, they may be closely related, loosely related, or totally unrelated to the firm's existing products. Or a product may be new to the market, something not previously available in any form. If a product is both new to the market, so that there is nothing by way of guidance to be found in the experience of others, and also unrelated to a firm's existing products, so that there is little carry-over of experience from these, then the risks of product innovation are great. New products, therefore, for our purposes will include original products, improved products, modified products, and new brands that the firm develops through its own R & D efforts. We shall also be concerned with whether consumers see them as "new".

Booz, Allen & Hamilton identified six types of new products in terms of their newness to the company and to the marketplace. They are:

- ***New-to-the-World Products:*** New-to-the-world products are those products that create an entirely new market.
- ***New-Product Lines:*** If a company can enter an established market for the first time with a product it is called new-product line.
- ***Additions to Existing Product Lines:*** New products that supplement a company's established product lines are called additions to existing product lines.
- ***Improvements in / Revisions to Existing Products:*** New products that provide improved performance or greater perceived value and replace existing products are referred to as improvements in/revisions to existing products.
- ***Repositioning:*** Repositioning is modifying the existing products/brands in some way so as to widen their appeals or direct appeals to other market segment (s).
- ***Cost Reductions:*** New products that provide similar performance at lower cost is termed as a cost reduction.

A company usually pursues a mix of these new products and it is found that only 10% of all new products are truly innovative or new to the world because they involve the greatest cost and risk since they are new both to the marketplace and the company.

Challenges in New-Product Development

Considering the extreme competition in contemporary business, companies are exposed to greater risk that fail to develop new products. Changing needs and tastes of consumer, new technologies, shorter product life cycles, and increased competition at home and abroad have made existing products vulnerable and side by side new-product development can be very risky. It was found in a study that new-product failure rate was 40% for consumer goods, 20% for industrial goods, and 18% for service products. Several reasons are responsible for this high rate of failure. They may be as follows:

- *If a high level executive pushes a favorite idea through disregarding negative research findings of the marketing department.*
- *If there is an overestimation of the market size of a good product idea.*
- *If the actual product is not designed appropriately.*
- *If it is overpriced, not positioned correctly, or advertised ineffectively.*
- *If development costs go beyond the expected costs.*
- *If competition if found stronger than anticipated.*

New product development may be affected by several other factors in addition to the factors mentioned above. They could be as follows:

- ***Faster Development Time:*** With the fear that competitors may work the same new idea, many companies compress development time by using computer aided design (CAD) and manufacturing techniques, early concept tests, and advance marketing planning which may not suit the needs and tastes of the customers.
- ***Shortage of Important New-Product Ideas in Certain Areas:*** Some of the basic products such as steel, detergents etc. have got few opportunities for improvements.
- ***Costliness of New-Product-Development Process:*** After generating many new-product ideas, a company finds just one or a few worthy of development for which it has to spend substantial amount of money for R&D, manufacturing, marketing and other areas.
- ***Shorter Product Life Cycles:*** In this age of imitation, a new product is immediately copied by the competing companies which makes the life cycles of the product really short, so short that at times a company cannot even realize the cost of development of the product.
- ***Fragmented Markets:*** Markets are getting fragmented day by day due to keen competition which forces a company to target its product to a smaller segment not worthy to make profit.
- ***Social and Governmental Constraints:*** Due to consumer safety, ecological compatibility, government restrictions and regulation, new product development in certain areas has become more difficult.

The challenges mentioned above may be faced effectively taking into account the following two aspects: ***first,*** the company must establish an effective organization for handling the new product development, and ***second,*** it must employ the possible best tools and concepts in the stages of the new-product-development process. In the following sections we shall discuss them one after another.

Establishing An Organization For New Product Development

The development of a new product, whether consumer or industrial goods or services, can be a highly involved process.

The development of a new product, whether consumer or industrial goods or services, can be a highly involved process. It is seldom just a matter of dreaming up a new idea and rushing it to the marketplace - the risks of loss are far too great. If a company has an organized new product development effort it has more chances of success. New product development, therefore, can be successful if a company establishes an effective organization to take care of the new-product development process. This type of organization should begin with the top management of the company since it is ultimately accountable for the success of the new product. It should specify the business domain of the company as well as categories of products where it should concentrate. The next important area of decision of top management is how much to budget for new product development. Here management faces real challenge since normal investment criteria for budgeting cannot be applied here as because R & D outcomes are very uncertain. There could be a number of way outs such as encouraging and financing as many projects as possible, setting R & D budget by applying a conventional percentage of sales figures, or it may spend keeping pace with the competitors. Some companies on the otherhand decide the number of new products they need and estimate how much money they require to invest for R& D of this number of new product development.

Establishing an effective organiza-tional structure is a key factor in new-product develop-ment

Establishing an effective organizational structure is a key factor in new-product development work. How the company is organized for new product development depends on several factors. They are:

- *The extent to which it relies on new products for profits and growth;*
- *The extent of its financial resources available for research and development and the new product introduction;*
- *Its research and new product expertise; and*
- *The stability and market positions of its existing product lines.*

The company can organize for this effort in various ways. The most common methods are described in the following sections.

- **Product Managers:** Many companies give their product manager the responsibility for developing new product ideas. In addition to all the other duties this job entails, the product manager can be responsible for a wide range of activities. But, a number of companies have been very successful with this type of organization.

Several advantages are there of using product managers for new product development. An important one is the monetary savings from not employing an additional manager or creating another organizational unit. In addition product managers are frequently more attuned to customer needs and wants since they deal with them on a daily basis while selling existing products. Moreover, product managers have a good appreciation of the difficulties and costs of making a product successful.

Besides these advantages, there are some drawbacks. Since product managers are normally extremely busy with their existing products they hardly get any time to concentrate on new product ideas. As a result, new product development tends to be lag both in terms of time and quality. It is not also unlikely that they lack required skills and knowledge of new-product development.

- **New Product Managers:** The responsibility for new product ideas may be entrusted with the new product managers who report to group-product managers. This is a more professional and practical approach though fraught with number of weaknesses. For example, they may tend to think in terms of product modifications and line extensions which limits the number of new ideas generated.

- **New Product Departments:** Because of the shortcomings associated with organizing new product development around product managers, some marketing executives prefer to delegate this function to a separate department. Larger organizations establish new product departments so more consistent attention can be directed to research and development. The size of this department usually ranges from one to five people.

  Having no other responsibilities, a new product department can direct all its activities to developing promising innovations. In addition the proper levels and varieties of expertise can be employed to improve the quality of the department's output.

  The disadvantages of a new product department center basically on its cost and authority. One, organizing a separate department for new product development can be very expensive. Though successful new products can yield vast profits, the costs of research and development can be substantial too. The second problem is that new product departments frequently are held accountable for developing innovations, but not marketing them. New product department often do not have the experience or expertise to appreciate the difficulties in making even a great innovation a market success.

  The disadvantages of a new product department center primarily on its cost and authority.

- **New Product Committees:** For avoiding some of the problems associated with both product managers and new product departments, companies may organize new product committees. They are usually comprised of four to nine people representing marketing, finance, production, engineering, and other departments along with top level executives. In some cases, committee membership is a full-time activity for a designated period of time; in others, it is only a part-time activity along with the members' day-to-day duties. This is a high-level management committee which reviews the new product proposals and approves those. New product committees bring together high levels of expertise, and if operated on a part-time basis the costs are not prohibitive. More so, committees tend to bind together all facets of a company's efforts by a commonality of purpose. Limitations of such committees include the lack of full-time commitment by the members, lack of personal responsibility since committee decisions relieve individual accountability, and their slowness and difficulty reaching decisions.

- **New Product Venture Team**: A more contemporary type of organizational unit used for new product development is the venture team. This type of group is formed with personnel from various operating departments and it is responsible for developing a specific product. In some respects This is similar to the new product committee because it is comprised of experts from different fields. The difference, however, is that a venture team is brought together for a specific project or product innovation. The purpose of a venture team is more narrowly defined.

  The main advantages of this approach are that the needed skills are made available for the task at hand, and that the members devote full time to the project. The disadvantages are interruptions to normal operations by taking team members away from their other jobs, and the members' lack of experience in working as a cohesive unit.

  Product development, to be effective, requires closer teamwork among design, manufacturing, and marketing from the very beginning and marketing department must follow and advise on the idea throughout its development, i.e. marketing should be at the foreground.

Questions for Review

1. If the product produced does satisfy the consumer –
   a. The purchase is likely to be repeated
   b. The purchaser may go on to buy other products offered by the ame company,
   c. He will recommend that company's products to other consumers
   d. All of the above.

2. In new product development process –
   a. Research and Development department plays a vital role
   b. Marketing department plays a vital role
   c. Finance department plays a vital role
   d. Production department plays a vital role.

3. New products for our purposes will include –
   a. Original products
   b. Improved products and modified products
   c. New brands that the firm develops through its own R & Defforts
   d. All of the above.

4. New products that supplement a company's established product lines are called –
   a. Additions to existing product lines
   b. New-to-the-world products
   c. New product lines
   d. Repositioning.

5. It is found from different studies that –
   a. Only 18% of all new products are truly innovative or new to the world
   b. Only 10% of all new products are truly innovative or new to the world
   c. Only 20% of all new products are truly innovative or new to the world
   d. None of the above.

6. Which of the following is a factor affecting new product development?
   a. Faster development time
   b. Shorter product life cycles
   c. Fragmented markets
   d. All of the above.

7. Which of the following is an advantage to using product managers for new product development?
   a. Competitive advantage
   b. Technological advantage
   c. Monetary savings
   d. None of the above.

8. Limitations of new product committees include –
   a. The lack of full-time commitment by the members
   b. Lack of personal responsibility
   c. Slowness and difficulty reaching decisions
   d. All of the above.

9. Define product from contemporary viewpoint. Discuss in detail the challenges faced by a company in developing new products.

10. What organizational structures are used to manage new-product development? Highlight their merits and demerits.

Answers

1. d, 2. b, 3. d, 4. a. 5. b, 6. d, 7. c, 8. d.

Lesson - 2: Managing the New Product Development Process

Objectives of this lesson

After reading this lesson, you will be able to:

- List the stages involved in new-product development process
- Describe each of the stages
- Decide how you should proceed as a potential marketing manager with new product development responsibility.

Introduction

Developing new product is a real challenge for any firm . The reason is that if the product is not well accepted by the target consumers, investment goes into ashes. New product development process involves eight sequential stages. Companies face challenge in each of the stages. Marketing manager should, therefore, proceed very carefully along the new product development process.

Development of product, in essence, is the process of fitting the proposed product to the requirements and opportunities of the market. Although organizational structures companies may use for new product development vary, the processes they go through are somewhat alike. The new product development process involves eight stages each of which has major marketing challenges. The stages are: idea generation, idea screening, concept development and testing, marketing strategy development, business analysis, product development, market testing, and commercialization. Table - 6.1 on the next page summarizes the steps involved in new product development process and their planning and evaluation methods.

The new product development process involves eight stages each of which has major marketing challenges.

1. Idea Generation

The first step in developing new products is idea generation. Usually, the marketing executive will create or obtain a pool of ideas that can be examined for possible commercialization. But, it is to mention here that, this pool is not always easy to develop.

There could, many potential sources of new product ideas. One of the most valuable is the company's customers. A marketing executive can actively solicit suggestions, formally study consumer needs through research, or simply observe their behavior. The other source of new product ideas is the company's sales people. Sales people have some appreciation of the company's capabilities and customer's needs. Another source is the other departments of the company (research, production). Starting from top executives down to the lowest paid employees, ideas for

There are many potential sources of new product ideas.

new products frequently come from the inside. Sources for new product ideas can also come from competing firms, company's scientists, engineers, designers, inventors, trade associations, trade and professional publications, commercial development companies, patent attorneys, university and commercial laboratories, industrial consultants, advertising agencies, marketing research firms, idea people and many others.

Dominating Wife!

Table-6.1: Steps Involved in New Product Development Process and Their Planning and Evaluation Methods

Stages in the new product development process	**Illustrative evaluation and planning methods**
Idea generation	Consumer research (e.g., preference mapping), focus group interviews.
Idea screening	Lists of criteria, scoring methods, ranking methods.
Concept development and testing	Converting ideas into meaningful and consumer terms, product positioning, decide on a limited number of concepts, estimate their costs, designs, and retail prices, and then obtain potential consumer reaction.
Marketing strategy development	Description of behavior, size and structure of the target market; product positioning, and first few year's sales, market share and profit targets, product's planned price, distribution strategy, and marketing budget for the first year.
Business analysis	Estimating total sales, estimating first-time sales, estimating replacement sales, estimating repeat sales, estimating cost and profits.
Product development	Positioning, package design, name, advertising, pricing, etc.
Market testing	Use tests, simulated shopping tests, test marketing.
Commercialization	Tracking of market performance, sales and cost analyses

Idea Generation Techniques: Following techniques can be used by individuals and groups to generate new ideas:

- ***Attribute Listing Technique:*** Under this technique, major attributes of a product are first listed and than efforts are taken to modify attribute (s) to give the product a new shape we mean an improved product.
- ***Forced Relationships:*** In this technique, number of objects are first listed and then each of the object is considered in relation to every other object to create a new product having multiple use, for example

a torch light, a clock, a radio, and a rechargeable light all in one.

- ***Morphological Analysis:*** Under this method structural dimensions of a problem is identified and relationships among different dimensions are examined to find ideal combinations of a product, for example a videophone.
- ***Need / Problem Identification:*** This technique takes into account problems faced by consumers using a particular product complaints made by them with regards to a particular product. Product can be modified or a completely new product may be developed that fit well with consumers' need.
- **Brainstorming:** This technique is based on the idea "the more the marrier". Here a group of eight to ten people discusses a problem in order to generate as many ideas as possible and to pick the best one from among them. Following guidelines should be followed as identified by Osborn in order to make the conference effective:
  - ***Criticism to be ruled out:*** *Avoid negative comments on ideas until the time comes.*
  - ***Freewheeling is welcomed:*** *Encourage wilder ideas in order to pick the best one.*
  - ***Quantity is encouraged:*** *The concept of "the more the merrier" is pursued.*
  - ***Combining and improving ideas is encouraged:*** *In the brainstorming session, participants should coordinate with each other to combine ideas to get synergistic results.*

2. Idea Screening

In this step the marketing executive will try to eliminate all those ideas that do not appear to hold reasonable promise. Through this the executive can reduce the cost of further studying ideas that may never reach commercialization. Moreover, the process can be speed up for ideas having merit.

Idea screening should be based on a well-developed program to determine if the ideas fit with company objectives and resources. Ideas should be measured against nine criteria in order to identify their relative weight. They are: compatibility with objectives, compatibility with company image, compatibility with other lines, compatibility with manufacturing processes, compatibility with cost limits, identified target market, marketable through existing channels, degree differs from competition, and legally protectable. The relative weight should be measured on a three point scale showing good (1.0), fair (0.5), and poor (.0). Following table can be used as an example of measuring relative weights of alternative ideas:

Table - 6.2 : Showing the New Product Ideas Rating Scale

CRITERIA	Relative importance	Rating Good Fair Poor (1.0) (0.5) (.0)	Relative weight Column 2 × Column 3
Compatibility with objectives			
Compatibility with company image			
Compatibility with other lines			
Compatibility with manufacturing processes			
Compatibility with cost limits			
Identified target market			
Marketable through existing channels			
Degree differs from competition			
Legally protectable			
	1.00	**Score**	

After the rating of ideas is done, the marketing executive will then narrow down the possibilities to a much more manageable number. It is found that, about 75 to 80 percent of the pool of ideas are eliminated by the end of the screening process. Where the pool is very carefully formulated, this process will not result in such a high mortality rate. In reality, one in seven ideas may eventually become a commercial product.

Cost of forecasting

3. Concept Development And Testing

If the product idea is converted into meaningful consumer terms it can be considered as a product concept.

Ideas considered attractive, must be converted into product concepts that are testable. If the product idea is converted into meaningful consumer terms it can be considered as a product concept. The reason for concept development is that consumers buy product concept, not product ideas. For example, an automobile manufacturer gets the idea of producing a solar-power automobile. A product idea to be converted into product concept and a particular idea may be converted into quite a number of concepts. In this case, one of the concepts could be an electric automobile which can operate up to 100 miles without recharging and seats five passengers; the second concept could be an electric lorry which can operate up to 200 miles without recharging and goods carrying capacity of 10 tons and so on.

The next step is concept testing. Out of the original product ideas, only about 20 percent will survive the preliminary screening. The other 80 percent will be eliminated because they did not fit the company's objectives, production, financial, or marketing criteria. In the concept development phase the survived ideas were turned into specific product concept. In the testing phase they will be tested with an appropriate group of target consumers presenting the concepts physically or symbolically. To do this, the marketing executive must decide on a limited number of concepts, estimate their costs, designs, and retail prices, and then obtain potential consumer reaction. Respondents here are presented with a detail of each of the concept to be tested and are requested to answer following questions:

Q.1. Are the benefits clear to you and believable?

Q.2. Do you see this product as solving a problem or filling a need for you?

Q.3. Do other products currently meet this need and satisfy you?

Q.4. Is the price reasonable in relation to the value?

Q.5. Would you (definitely, probably, probably not, definitely not) buy the product? and,

Q.* 6. *Who would use this product and how often would it be used?

The above questions are asked to measure the concept's communicability, believability, need level, gap level, perceived value, purchase intent and user targets and purchase frequency. The marketer at this stage summarizes the responses of the respondents in order to see whether the concept if converted into physical product will largely be favored by the target consumers. Such of research will provide the marketing executive with some reasonable data so he can decide whether or not to proceed. Research can also provide some ideas for improving or otherwise modifying the product concept before any further development is undertaken.

4. Marketing Strategy Development

As soon as the concept testing is done, product manager, in order to introduce the product in the market will develop a preliminary marketing strategy plan which may be further modified depending on the necessity. There are three parts of such a strategy plan each of which describes separate aspects. For example, the first part is concerned with the description of behavior, size and structure of the target market; product positioning that has been planned; and first few year's sales, market share and profit targets. Product's planned price, distribution strategy, and marketing budget for the first year is described in the second part of the strategy, while the long run sales, profit goals and marketing mix strategy over time are described in the third part of the marketing strategy plan.

There are three parts of a strategy plan each of which describes separate aspects.

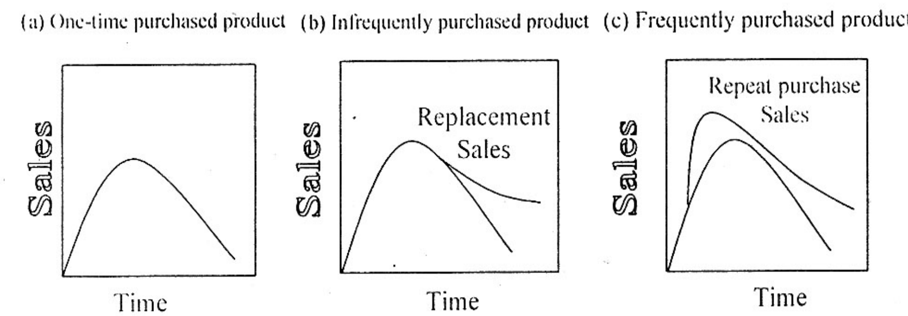
5. Business Analysis

After the product concept and marketing strategy is developed, attractiveness of the proposal is evaluated by the management to see whether company's objectives will be attained considering cost involved, sales to be made and profit that may be generated from this sales. Product development stage starts if management gets positive answer to the above question.

Business analysis consists of (a) estimating total sales (including estimation of first-time sales, estimation of replacement sales, and estimation of repeat sale), and (b) estimating cost and profits. Let us have a look at them briefly in the following sections :

- ***Estimating Total Sales:*** It is necessary for management to know whether estimated total sales of the proposed product will warrant satisfactory profit to decide on product development. By summing up the estimated first-time sales, estimated replacement sales, and estimated repeat sales, a company arrives at estimated total sales figure. Since product life-cycles sales vary according to the type of product, methods used for sales estimation also vary.

Figure - 6.1: Shows Product Life-Cycle Sales for Three Types of Products



Source: *Philip Kotler, Marketing Management- analysis, Planning, Implementation, and Control; Ninth edition, Prentice-Hall of India Private Limited, p., 323*

In case of one time purchased product (funeral plot for example), company experiences rising sales until it reaches the peak, and ultimately declining sales which approaches toward zero as the number of customers exhaust (see figure of 6.1a). The sales will not go down to zero if new customers start buying the product.

There is another category of products called infrequently purchased product that customers buy occasionally. Examples include television, washing machine etc. Customers may buy them next time if products become obsolete, out of order, outdated, or even perform not up to the mark. The second and subsequent buying is called replacement purchase. A company producing such items should make separate estimation of first-time purchase and replacement purchase (see figure of 6.1b).

Yet, there is another category of product that we purchase frequently such as toothpaste. In this category, the number of first-time buyers increases initially reaching at peak and gradually declines as majority of the people already bought the product. If the product is able to provide reasonable satisfaction to the first-time buyers they are likely to buy it again (repeat purchases).

- ***Estimating Costs and Profits:*** The next step in business analysis is estimation of costs and profits. When sales forecasts are prepared, management wants to see the costs that may involve in making the estimated sales as well as the profits that may be generated from such sales. By preparing a statement showing a couple of years' costs and revenues to be generated by the proposed product, management arrives at the decision whether the product is worth developing or not. Preparation of such a statement is facilitated by different estimates prepared by finance, marketing, manufacturing, and research and development departments.

To evaluate the merit of a new product proposal, companies use different financial measures such as break-even analysis in order to estimate how many units it should sell to reach a position where costs and revenues are same i.e. no profit no loss situation. Later companies go for estimating profit through risk analysis.

6. Product Development

At this stage a prototype will be developed for each of the relatively few product concepts that survive business analysis. They are expensive, but essential for marketing executives to more completely define the final characteristics and features of the product concept, ensuring that the idea can be translated into a product. Here any engineering or general production problems will be uncovered and examined. The concept will be eliminated if such problems cannot be resolved.

After the prototype is created, it can be tested for quality, durability, consistency, and other function related criteria. Additionally, it can be consumer tested on a small group to determine how they will use it, how well they like it, and any further changes they consider useful.

7. Market Testing

The marketing executive cannot be sure just how consumers will react to the product once it is in the marketplace even it the preliminary work is done. It is therefore advised that the product may be tested in a limited number of areas, for a short period of time, with a relatively large marketing budget. It involves the sale of a proposed new product under conditions as near normal as possible in a test market that is as representative as possible of the target market. Some evidence can then be obtained as to how well the product will perform when launched. If the product can be easily copied by competitors, or if it is a copy of a product already on the market, the marketing executive may by-pass this step. The need for market testing of new products stems from the inherent limitations of concept testing. Concept testing is artificial in varying degrees as far as market conditions are concerned. Concept testing usually involves only some, and not all, aspects of the new product.

Market testing is not a foolproof method for evaluating a product.

It is to be remembered that, however, market testing is not a foolproof method for evaluating a product. The basic problem of sampling error is an important one. Cost limitations usually prevent the use of a truly representative sample of the total market. Usually only one or a few cities are chosen for test marketing. Also, the cost of arranging for the gathering of maximum information in the test market is high. Expensive store audits and consumer surveys may be necessary to do this. The marketing expenditures tend to be large in order to get more speedy consumer usage, and competitors often alter their normal marketing strategies in order to confuse the test market results and give themselves additional time to prepare their strategies for the new product. Because of cost, as well as for other reasons, the time that can be devoted to test marketing is usually limited. It is questionable whether sales in a short time period are fully representative of longer-term sales experience. The difference between initial sales and repeat sales is particularly critical. Initial sales may indicate a high customer interest in a new product, but only repeat sales indicate the presence of the sort of customer satisfaction on which long-term success must be built.

Commercilization

When a product reaches this stage in the development process, it is completed. Marketer reaches this final decision based on the results of market testing and the decision is launching the product. Number of decisions must be taken before the product is launched in the marketplace and they are : when to launch, where to launch, who should be the target markets, what should be the introductory market strategy relating to distribution, promotion, and pricing. During commercialization, plans for full-scale manufacturing and marketing must be refined and settled, and budgets for the project must be prepared. In the early part of commercialization phase, marketing manager analyzes the results of test marketing to find out what changes in the marketing mix are needed before the product is introduced. The results of test marketing may tell the marketers, for example, to change one or more of the product's physical attributes, to modify the distribution plans to include more retail outlets, to alter promotional efforts, or to change the product's price.

An organization gears up for large-scale production during the commercialization phase. This activity may require sizable capital expenditures for plant and equipment, and the firm also may need to hire additional personnel.

During this phase marketers often spend enormous sums of money for such promotional efforts as advertising, personal selling, sales promotion, and publicity. These expenses, coupled with capital expenditures, can make the commercialization phase extremely costly. If the customers accept the product rapidly, commercialization becomes significantly easier. If marketers can make the customers aware of the products' benefits and motivate them, their chances of success in the marketplace increase significantly.

Question For Review

1. Development of product is –
    a. The process of fitting the proposed product to the requirements of the market
    b. The process of fitting the proposed product to the opportunities of the market
    c. Both a & b
    d. None of the above.
2. Which of the following is a step in the new product development process?
    a. Research and Development
    b. Test marketing
    c. Strategic analysis
    d. Both b & c.
3. Which of the following is a source of new product idea?
    a. Competitors
    b. Suppliers
    c. Customers
    d. All of the above.
4. Which of the following is an idea generation technique?
    a. Morphological analysis
    b. Time series analysis
    c. Break-even analysis
    d. Projective technique.
5. Brainstorming technique is based on which of the following the idea?
    a. "Two heads are always better than one"
    b. Quantity is encouraged
    c. "The more the marrier"
    d. Both a & c.
6. Which of the following is a guideline that should be followed in brainstorming?
    a. Respect seniors
    b. Criticism to be ruled out
    c. Both a & b
    d. None of the above.
7. Which of the following is a criterion used in idea screening?
    a. Compatibility with objectives
    b. Compatibility with company image
    c. Compatibility swith other lines
    d. All of the above.

8. The reason for concept development is -
   a. Consumers buy product concept, not product ideas
   b. It reduces product development time
   c. Market can be better served
   d. All of the above.

9. Of the original product ideas, only about
   a. 12 percent will survive the preliminary screening
   b. 32 percent will survive the preliminary screening
   c. 22 percent will survive the preliminary screening
   d. None of the above.

10. Business analysis consists of –
    a. Estimating total sales
    b. Estimating cost and profits
    c. Both a & b
    d. None of the above.

11. Which of the following could be an example of frequently purchased product?
    a. A funeral plot
    b. A toilet soap
    c. Both a & b
    d. None of the above.

12. Why is product development a cross-functional activity within an organization? List the steps in the product development process, and outline the main activities of each step.

Answers

1. c, 2. b, 3. d, 4. a, 5. d, 6. b. 7. d, 8. a, 9. c, 10. c, 11. b.

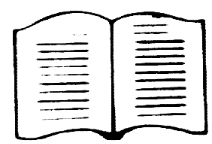
Lesson - 3: The Consumer Adoption Process

Objectives of this lesson

After reading this lesson, you will be able to:

- Understand the concept of consumer adoption process
- Identify the stages involved in the consumer adoption process
- Describe the stages of consumer adoption process
- Understand the implication of the adoption process
- Know the adopter category
- Identify and explain the factors influencing the adoption process.

Introduction



Not all consumers buy a new product at the same time. Some buy it immediately after the product is launched. Some adopt it immediately after the innovators. Others take longer time to adopt a new product. Yet there is another category of customers who buy the product when it reaches the mature stage. Consumer undergoes a process of adopting a new product considering many aspects and evaluating theses aspects.

The Concept of Consumer Adoption Process

Though the majority of the most buyers of a product have some common needs, they are not alike in all respects. Purchasers in the initial stages of a product's life are considerably different from those who make their purchases in the later stages. Some of their demographic characteristics may vary, their buying behavior may be distinct, and their purchasing motives may also differ.

For describing the various types of buyers who purchase a product over the course of its life cycle, an adoption process was proposed by the marketing experts. To build an effective strategy for market penetration, management must understand the consumer adoption process. Kotler defines adoption as an individual's decision to become a regular user of a product.

There was a time when marketers would offer their product for mass market. Under this concept people everywhere were thought to buy a company's product, and consequently companies were inviting everybody to buy their products by making them available in wider areas. It would cost companies to spend heavily on promotion and distribution most of which were waste. It led to the development of a concept called 'heavy-user target marketing'. Under this concept, companies would target heavy users initially with their offers. This also suffered some limitations as the heavy users vary in their tastes, preferences, adopter status, and brand loyalty levels. From this experience, companies now prefer approaching the early adopters with their offers. In order to understand consumer adoption process you should understand, in the beginning, two other concepts - innovation, and innovation diffusion process. If you have clear ideas on these two, you will be able to identify early adopters by utilizing your knowledge thereto.

"Innovation refers to any good, service, or idea that is perceived by someone as new"[1]. This suggests that even an old product can be considered by someone as an innovation, provided he perceives it as new. The reason may be that he was not exposed to the product until now. Innovation diffusion process, on the contrary, is the spread of new idea from its source of invention or creation to its final adopters or buyers/users.

We are now in a position to define the consumer adoption process. "The consumer adoption process focuses on the mental process through which an individual passes from first hearing about an innovation to final adoption"[2]. This suggests that an adopter of an innovation passes through number of stages. In the following section we shall turn our attention on the stages of the adoption process.

Stages Involved in the Consumer Adoption Process

Innovation has got its characteristics which influences the success or failure of a company's offer. Characteristics of the people who adopt new products have also a strong impact on the company. The decision to adopt an innovation may be made by an individual, by a household, or by those responsible for purchases within an organization. Individual consumers decide whether to purchase a new kind of watch; household members usually discuss before deciding to buy a television; and managers decide which kind of office automation system a firm should adopt. In every case, adoption is in the decision makers' hands, not the marketers' hands. Moreover, consumers and organizational buyers pass through various mental and behavioral stages before deciding to adopt an innovation. Consumers move from no awareness, to awareness, to interest, to evaluation, to trial, and finally to adoption.

The set of stages in adoption process is very similar to the consumer decision making process.

The above is an adoption process. The set of stages in this process is very similar to the consumer decision making process. This process is a special case of consumer decision making when the product in question is an innovation. Let us now look at the stages of the adoption process described above:

- ***No Awareness to Awareness:*** No matter whether an innovation is continuous or not, people are either little aware or nor aware about it in the beginning. Innovator, therefore, has to inform the adopters about the innovation. In the awareness stage individuals become aware that the product exists, but they have little information about it

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[1] *Philip Kotler, Marketing Management: Analysis, Planning, Implementation, and Control, 9th edition, Prentice-Hall of India Private Limited, New Delhi, p., 335*
[2] *Ibid*

and are not concerned about getting more. Adopters may be informed through advertising, publicity, or any other effort of the marketer.

- ***Interest:*** By this time the innovation is introduced. It is now the time for the decision makers to determine whether the innovation relates to their needs. They enter the interest stage when they are motivated to get information about the product's features, uses, advantages, disadvantages, price, or location. Interest may or may not sparked, depending on whether the decision makers perceive the innovation as relevant, feasible alternative to existing items.

- ***Evaluation:*** Adopters of the innovations have to establish some measures of evaluation in order to compare the new product with existing ones. During the evaluation stage individuals consider whether the product will satisfy certain criteria that are critical for meeting their specific needs. The potential adopters consider the innovation's benefits and determine whether to try it.

The potential adopters consider the innovation's benefits and determine whether to try it.

- ***Trial:*** The potential adopters at this stage examine, test, or try the innovative product to determine its usefulness. In this stage they use or experience the product for the first time, possibly by purchasing a small quantity, by taking advantage of free sample or demonstration, or by borrowing the product from someone. During this stage potential adopters determine the usefulness of the product under the specific conditions for which they need it. The trial stage for innovations is complex. Successful introduction depends greatly on the new product's characteristics, benefits, and perceived risks. Effective communication is the key to achieving trial by consumers.

Effective communica-tion is the key to achieving trial by consumers.

- ***Adoption:*** Individuals move into the adoption stage at the point when they choose that specific product when they need a product of that general type. Here the buyers purchase the new product and can be expected to use it to solve problems. So, this final stage of the process is indicated most directly by sales, but the visibility of the innovation is also a measure of success. Do not assume, however, that because a person enters the adoption process, he or she eventually will adopt the new product. Rejection may occur after any stage, including the adoption stage.

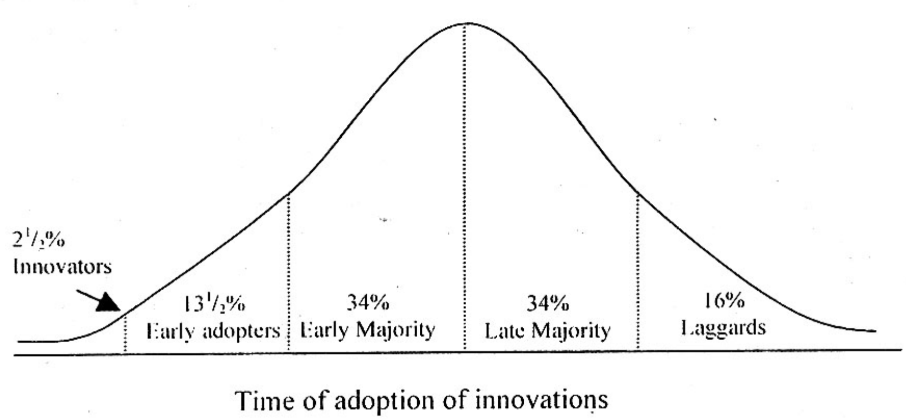
Implication of the Adoption Process

The adoption process described above has several implications for the marketers. First, promotion should be used to create widespread awareness of the new product and its benefits. Samples or simulated trials should be arranged to help buyers make initial purchase decisions. At the same time, marketers should emphasize quality control and provide solid guarantees to reinforce buyer opinion during the evaluation stage. Finally, production and physical distribution must be linked to patterns of adoption and repeat purchases.

Adopter Categories

When an organization introduces a new product, people do not all begin the adoption process at the same time, and they do not move through the process at the same speed. Of those who eventually adopt the product, some enter the adoption process rather quickly. Others start considerably later. The amount of time that people use in adopting a new product can be used to classify them into adopter categories. Five major adopter categories are innovators, early adopters, early majority, late majority, and laggards (see the figure below) :

Figure- 6.2 : Adopter Catrgorization on Basis of Relative Time of Adoption of Innovations



Source : *Kotler Philip, Ibid., P.336*

Each adopter category, and the percentage of total adopters that it represents, are shown in the above figure. Let's have a brief discussion on each of the above five categories in the following sections :

The first users of the new product are called innovators.

- ***Innovators:*** The first users of the new product are called innovators. They tend to be younger people with relatively high incomes, who are willing to spend more than normal sums of money for the product, and who take pride in being the first among their peers to own a particular new product. Consequently, they are the opinion leaders within their reference group. They derive much of their social status and social satisfaction from the innovator role. As a result, they actively seek out new products that will help them in that pursuit.

- ***Early Adopters:*** Early adoptess make up the 13.5% of the total purchasers. Although they do not move as quickly as innovators, they try a new product early in its life cycle without waiting for a large number of people to accept it. Like the innovators, they are reasonably affluent and want to be among the first to purchase a new product. Along with the innovators they are opinion leaders for their friends and colleges in the purchase and usage of the product type.

One of the significant difference between innovators and early adopters is that the latter group is not as anxious to be the first purchaser. They are rather content to be second, and as such, do not actively seek out new products to the extent innovators do.

- ***Early Majority:*** They account for the next 34% to enter the market. They are distinctly different from the previous two groups of buyers - innovators and early adopters. This group is more deliberate in its purchase decisions, looking to the innovators and early adopters for buying cues, and is more price sensitive. Early majority adopt the product only after it has been accepted somewhat widely. These consumers perceive more risk in new products than do innovators and early adopters. Because this group is so large, it is the deciding influence on whether the product will succeed in general use or will serve a narrow market niche. Without at least part of this early majority the product will probably not achieve sufficient sales volume to be especially profitable.

Early majority adopt the product only after it has been accepted somewhat

- ***Late Majority:*** This group comprises another 34% of the total market. This group see even more risk in new products than do those in the early majority. Customers in this category tend to be quite conservative and skeptical of new products, although by this time in the life cycle the product can hardly be considered new. Moreover, they tend to be very price sensitive, and are generally unwilling to buy until they are convinced that the price is at about its lowest point. Members of the late majority do not view the product in terms of its life cycle, of course, but they become comfortable about adopting it only after the innovation is widely accepted.
- ***Laggards:*** The last group of buyers make up the last 16% to make their purchases. They are the individuals, households, or organizations that resist or never adopt the new product. The most distinguishing characteristic of this group is their highly traditional buying patterns. They are likely to wait until they are sure a product has become accepted. This group consists of older people who have lower incomes; yet buying power is not the main reason why laggards are so cautious - they are simply tied to the past. Although laggards may be timid by nature, that is not necessarily the reason they reject an innovation. Some products are of little interest to certain customers, are not needed, or are simply too expensive.

You should remember that categories of adopters differ from product to product. The innovator who rushed to purchase a particular type of product might have little interest in another type of new product. Even people generally receptive to new products are not always among the early adopters.

Factors Affecting the Adoption Process:

The three important factors affecting the adoption process are people's readiness to try new products, personal influence, and the characteristics of the innovation. We shall now take up brief discussion on how they influence the product adoption process:

- ***People's Readiness**:* People differ in their readiness to accept new products, services, opinions, and ideas. There are people who always prefer adopting new market offers. Those who are venturesome and enjoy taking risks, younger in age, have higher social status, and have favorable financial position will be the innovators. Those who are guided by respect, treated as opinion leaders, and consider themselves as cautious adopt early. The deliberate persons are usually early majority. Those who are skeptical and follow the majority, adopt once the product is tried by a large number of people. Those who are tradition bound, having insular attitudes, and are suspicious, usually accept a product when it is used by the masses. In order to understand adopter categories and locate the innovators and early adopters, a marketer should undertake an extensive study based on demographic, psychographic, and media characteristics of potential customers.

Human beings are always subject to interpersonal influence in their decisions.

- ***Personal Influence**:* Since we are social and human beings, we are always subject to interpersonal influence in our decisions. Degree of personal influence varies according to buying situation and individual in question. There are some buying situations where we are influenced more by others. Again, personality type determines the susceptibility of interpersonal influence. Submissive type of persons are more influenced by others than do the aggressive type of persons. In complex buying situation, particularly while buying expensive items, personal influence works more than in simple buying situation and in buying small items.

- ***Characteristics of the Innovation:*** Following five characteristics of an innovation influence the adoption process.

  a. ***Relative advantage :*** If a new product is perceived superior to existing products, it will be adopted quickly.

  b. ***Compatibility :*** If an innovation is considered consistent with the individuals' values and experiences it will be adopted soon by them.

  c. ***Complexity :*** If an innovation is perceived as complex by a particular group of people they will adopt it slowly.

  d. ***Divisibility :*** If there is a scope of trying the innovation on test or sample basis, chances are that it will be adopted soon.

  e. ***Communicability :*** If the benefits of the innovation can be described easily or they can be observed, it will be adopted fast.

There are some other characteristics of the innovation that also influence the rate of adoption of the innovation. They are the cost, risk and uncertainty, technical standard, social acceptance and so on. To be successful, a marketer should study the factors as detail as possible and his strategy should be based on the findings of the said study.

Questions for Review

1. Innovation refers to –
   a. Any good, service, or idea that is perceived someone as peculiar
   b. Any good, service, or idea that is perceived someone as new
   c. Both a & b
   d. None of the above.
2. Innovation diffusion process –
   a. Is the spread of new idea from its source of invention to its final adopters
   b. Is the spread of new idea from its source of invention to other cultures
   c. Is the exposure of new idea from its source of invention to other cultures
   d. Both a & c.
3. The decision to adopt an innovation may be made by –
   a. An individual
   b. By a household
   c. Both a & c
   d. None of the above.
4. In the awareness stage –
   a. Individuals become aware that the product exists
   b. Individuals become aware of the product's features
   c. Individuals become aware of the product's benefits
   d. None of the above
5. Individuals enter the interest stage when they are motivated to get information about –
   a. The product's features
   b. The product's uses
   c. The product's advantages
   d. All of the above.
6. In the trial stage potential adopters –
   a. Examine and test the innovative product
   b. Try the innovative product
   c. Both a & b
   d. None of the above.
7. Which of the following is an implication of the adoption process for the marketers?
   a. Promotion should be used to create widespread awareness of the new product and its benefits
   b. Prices should be cut to create widespread awareness of the new product and its benefits
   c. Both a & b
   d. None of the above.

8. Five major adopter categories are –
   a. Innovators, early droppers, early majority, late majority, and laggards
   b. Innovators, early adopters, early majority, late majority, and laggards
   c. Innovators, early adopters, early majority, late droppers, and laggards
   d. All of the above.

9. Innovators tend to be - who are willing to spend more than normal sums of money for the product,
   a. Younger people with relatively moderate incomes
   b. Younger people with relatively low incomes
   c. Both a & b
   d. Younger people with relatively high incomes

10. People in the late majority category –
    a. Tend to be quite conservative of new products
    b. Ten d to be skeptical of new products
    c. Both a & b
    d. None of the above.

11. Which of the following could be an example of frequently purchased product?
    a. A funeral plot
    b. A toilet soap
    c. Both a & b
    d. None of the above.

12. What do you mean by an innovation and innovation diffusion process. Describe the product adoption process.

Answers

1. b, 2. d, 3. c, 4. a, 5. d, 6. c. 7. a, 8. b, 9. d, 10. c.