UNIT 13 GENERATION, SCREENING AND DEVELOPMENT NEW PRODUCT IDEAS

Objectives

After reading this unit you should be able to:

- discuss the various techniques used for generation of new ideas
- describe the sources of new product ideas
- evolve and evaluate criteria for screening of new product ideas
- explain the different methods of screening new product ideas
- explain the development of a new product idea into a product concept.

Structure

13.1 INTRODUCTION

"Have you heard of zoom lenses? One of the great advantages of being new in a company is that you are thoroughly unaware of what cannot be done. I thought a zoom camera was something that you used for football games. That way my image - an extraordinarily expensive object. One day I was in the lab and there was a zoom lens. I had never seen one in my life, and I put it up to my eyes, and -it is a very dramatic thing. They explained to me that this was not applicable to consumer products, because it would cost a fair amount of money and so on. I asked, "What would it cost to make a camera for me just one with a zoom lens on it?" They said, "Just one? Do you mean a crude modification? I think we would probably spend $ 500 on it." I said,. `Well suppose we do that; because my rates come pretty high, it will cost at least $ 500 for us to continue this discussion for another hour or two, so let's just do this." I took this camera home. At a dinner party that night, I put my zoom lens on the piano, and I asked everybody coming in if they wouldn't participate in a very sophisticated piece of market research; namely, to put the camera to their eye. To the man, the reaction was extraordinarily enthusiastic: "My, this is marvellous; I've never seen anything like this in my life." we did this for about $ 500 If more industries would try out new ideas on a low-cost basis, perhaps their expectations of what the market will bear would go up.' "

This story by the former president of Bell and Howell (USA) tells how one product idea was developed based on creative insight. Sometimes, creative thinking and a crude prototype may influence new product development, as it did for the Bell and Howell zoom lens.

* P.G. Peterson, "Some Approaches to Innovation in Industry", in *The Creative Organisation* (Chicago; University of Chicago Press, 1965) PP. 191-192.

13.2 INNOVATION AND THE NEW PRODUCT DEVELOPMENT PROCESS

Sometimes, innovations are by accident or luck, such as the vulcanization of the rubber process -- discovered when a rubbery mixture was spilled on a hot stove: The world's first and, perhaps, the only floating soap, Ivory, was just made when a mechanical mixer was left on overnight and whipped up raw soap materials into a lightweight cleanser. Necessity, it seems, was the mother of invention for the ice cream seller who ran out of paper cups and rolled pancakes into serving cones - the first ice cream cones.

However, these days, when innovations require sizable financial investments and other resources for support and commercialization, most innovations come from serious research and development efforts undertaken with the support of formal organizations. The hobbyist-inventor may still enjoy considerable success but this has become an increasingly rare occurrence.

Therefore, in conclusion, there is no one answer to a question such as" How are new product ideas generated?" The new product development process can be rather quick, the result of a sudden flash of insight. But, in case of the development of highly technical products, say space satellite, the process can take years. Still, in some cases, the development process can take long not so much because of technical complexities but because of market resistance to the new product. Customer acceptance can be found lacking even when the new product has an advantage that will eventually succeed, for exmmple, instant coffee breakfast cereal and microwave oven.

The standard new product development process model comprises the following stages: Idea generation, Idea screening, Concept development and testing, Marketing-strategy development, Business analysis, Product development, Market testing, and commercialization". This unit is concerned with only the first three stages, i.e., Generation, Screening, and Development of New Product Ideas.

Activity I

Study the new product development function of two organisations that you are familiar with. Let one of them be a consumer products manufacturer and other a service industrial product manufacturer. Analyse whether the new product development process was started.

a) in response to a consumer need.

b) in response to a new scientific/technological discovery.

c) to utilize excess resources for each of the above cases.

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* Kotler, Philip. *Marketing Management 'Analysis, Planning, Implementation, and Control, 6th* ed. (New Delhi: Prentice-Hall of India, 1989).

13.3 GENERATION OF IDEAS NEW PRODUCT

Product Ideas

A formidable array of idea generation techniques are at the marketer's disposal. Each technique has its assets and liabilities, but no one technique is universally better than the others. Although all firms should strive for an orderly, market-directed approach, they are constrained by their individual situations. Muuu0orueot should then o6aouo those idea-generation techniques which are most compatible with corporate goals and circumstances. Corporate product objectives, financial status, personnel and plans for future growth may all affect this decision.

A manufacturer of canned soup might need some product modifications to deepen his line. To find ideas he might use morphological analysis to see new taste combinations, or possibly benefit-structure analysis to discover unmet gustatory needs. Conversely, a manufacturer of aircraft, needing u new type of altimeter, might find his best answer in synectics.

Large, well-heeled firms with market research departments might find rigorous benefit-structure analysis a viable alternative, and maximise their investment using it. Smaller, poorer firms may have to make do with less elaborate research and more individual creativity; perhaps through brainstorming or transfer analysis.

The individual psychologies of the firm's executives are also a constraining factor. Are executives imaginative? Can they work together with a minimum of interpersonal friction? Not all firms posses the of personnel who can use brainstorming or synectics effectively. Hence, the utility of rather mechanical techniques like morphological analysis.

Finally, one should note that some of these techniques might be used effectively in tandem. We can see how conjoint analysis complements benefit-structure analysis. Might not the psychological freedom of brainstorming enhance a technique like attribute listing the firm which defines its product in similarly broad terms. Conjoin/ analysis might be of use in convening o vague product idea into a product concept acceptable to the market. Clearly, a creative approach is needed for the creative process.

Activity 2

Why are the following products emerging now and how far do you think dev are likely to go

a) Breakfast cereal
b) Microwave oven (OTG)
c) Mobile Phone

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13.4 SOURCES OF NEW PRODUCT IDEAS

The research for ideas is not random. The corporation itself can serve as a guide for exploration. The organizational plan can be used to seek directions in the most likely and desirable areas in which to look for new product ideas. That is to say, to begin with, there area host of possible new product idea sources inside the company, such as company sales people, scientists (employed in R&D), top management, etc.

As such, all employees of a company are potential sources of new product ideas. But, some are more productive than others. For example, marketing, sales, and technical research personnel are generally the prime originators of new product ideas.

Sources for new product ideas exist outside the company also. These external sources are numerous, such as customers, competitors, channel members, but the firms differ greatly as to where they concentrate their efforts for outside assistance and the extent to which external ideas are sought after and used.

Table 10.1 summarizes the major sources of ideas both inside and outside the company.

Table 1

Inside Company Sources	Outide Company Sources
Sales personnel	Customers
Marketing personnel	Competitive products
Research and development	Foreign products
Top management Executives	Consultants
Production department	Advertising agencies
Purchase department	Researchers/Inventors
Customer service division	Distribution channels
Employee suggestion system	Public - unsolicited ideas

13.5 METHODS OF GENERATING NEW PRODUCT IDEAS

New product ideas can be generated both directly and indirectly. Both approaches can be undertaken simultaneously and can vary from highly structured, and loosely structured to unstructured procedures.

Direct methods rely heavily upon the creativity of individuals as well as groups and the consumer survey data for the techniques, eg., Forced Relationships, Transfer Analysis, Brainstorming, Motivation Research, Market-gap Analysis, Multi-dimensional Scaling, etc.

Indirect methods refer to the `synthetic' methods, methods that are used for other purposes but, with little ingenuity, they can be employed just as well in exploration. For example, Quadrant Analysis and Magnitude Estimation have been used in product testing. Consumer Engineering integrates the processes and results of exploratory consumer studies, such as Focus Group Interviews (which throw up clues to consumer needs and problems; and their solutions) and technological forecasting techniques, such as Delphi.

Table 10.2 Summarizes both the direct and indirect methods of generating new product ideas

Table

Direct Methods			Indirect Methods
Individual Techniques		Group Techniques	
Morphologial Analysis	Consumer Surveys		
Attribute Listing	Conjoint Analysis	Brainstorming	Consumer
Heuristic Ideation-Technique	Multi-dimensional Scaling	Focus Group Interviews	Engineering Estimation
Forced Relationships	Market-gap Analysis	Synectics	Quadrant Analysis
Transfer Analysis	Motivation Research		
	Ploblem Detection Problem Inventory		
	User Solution Analysis		

This is to say, in total, methods of generating new product ideas are numerous. But, as suggested by Father Mascarenhas, only some of these are suited to Indian conditions*. They are. Brainstorming, Focus Group Interviews, Attribute Analysis, Market-gap Analysis, and Heuristic Ideation Technique. The rest of this section will detail on each of these.

Attribute Analysis

By decomposing existing products into combinations of specific parts, qualities, or attributes, Attribute Listing (or Analysis) seeks to modify one or more of these to improve the whole product.

A common screwdriver, for example, can be broken down into the following:**

- a round, steel shank
- a wooden handle, manually operated
- wedged end to engage the slot in a screw
- torque provided by twisting action

A group/individual can be asked to propose attribute modifications to improve product appeal and/or performance. The round shank can be made hexagonal so that the hand has a better and firm grip or a wrench could be applied to get the increased torque; electric power could replace manual power; and so on.

So, say, in case of a company planning to bring out a toothpaste, it may want to know a package of optimum level and combination of various attributes and benefits, such as:

- whitening of teeth
- breath freshening
- decay prevention
- taste
- price

If each of these attribute-benefits has 3 levels - High to Low - then there are as many as 243 combinations possible to choose from among.

Osborn has suggested that useful ideas can he stimulated by putting the following questions to an object and its attributes:

- put to other uses?
- adapt?
- magnify?
- reduce?
- substitute?
- rearrange?
- reverse?
- combine?

Although Attribute Analysis may not produce major breakthroughs, it can undoubtedly aid in "remarketing" - "new" and "improved" products - and possibly in product differentiation.

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* Mascarenhas, S.J., Oswald A.J.. *New Product Development: Its Marketing Research and Management* (Calcutta: Oxford & IBH Publishing Co., (P) Ltd., 1987), p.I7.

** Arnold. John E., "Useful Creative Techniques", in *Source Book for CreativeThinking.* eds. S.J. Parnes and H.F. Harding (NY : Scribner's, 1962), p.255

*** Osborn, Alex F., *Applied Imagination,* 3rd ed. (NY': Scribnei1963), pp.286-87.

Activity 3

On the basis of the section above, use attribute analysis to design the attributes of

a) An electric shaver for upper income class mobile salesmen.

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Heuristic Ideation Technique (HIT)

In Attribute Analysis, alternative combinations may practically run into millions. This may make the analysis very difficult, if not impossible. Therefore, somehow, the number of alternatives to be considered must be reduced.

There are some statistical methods, such as Method of Fractional Factorial Designs' which may help in this task. But, can this be accomplished without eliminating some very good ideas at the same time? One suggestion has been heuristics - rules of thumb developed from the past experience.

In Heuristic Ideation - one of the more publicised morphological techniques - each dimension becomes an axis of a two-way grid. Variations of the dimension are placed at intervals along that dimension's axis. For example, in the case of a household cleaning agent, "product ingredients" is one of the many dimensions (such as package, cleaning instrument, objects to be cleaned, texture, etc.). The possible variations of this dimension are alcohol, ammonia, pine oil, scenting agent, deodorizing agent, disinfectant, etc. Table 10.3 shows how these variations are cross classified - in a matrix form - with the variations of another dimension, package.

Table 3

Ingredient	Product Package						
	Aerosol	Bag	Bottle	Box	Can	Jar	Tube
Alcohol	1	2	3	4	5	6	7
Ammonia	8	9	10	11	12	13	14
Pine Oil	15	16	17	18	19	20	21
Scenting Agent	22	23	24	25	26	27	28
Deodorizing Agent	29	30	31	32	33	34	35
Disinfectant	36	37	38	39	40	41	42

If there are six dimensions of a household cleaner being considered, then, in-all, there will be thirteen such, two-way cross classifications, each cell of which is anew product idea source. Certain cells can be eliminated as `technically non-feasible'; e.g., in Table 10.3, alcohol and pine oil in tube and bag - cells *2,* 7, 16, and 21. Similarly, some cells can be eliminated as `commercially non-feasible', e.g., cell 5.

After this feasibility screening, the remaining ideas can be checked for their `newness'. This will eliminate certain more cells. Experts, believe that the `feasibility' and `newness' tests can help eliminate almost *70* to 90% of the cells.

**See B.J. Winer, Statistical Principles in Experimental Design, (NY: McGraw Hill Book Co., 1962)*

***Mascarenhas, S.J, Oswald A.J., New Product Development: Its Marketing Research and Management (Calcutta: Oxford and IBH Publishing Co. (P) Ltd.. 1987), p.27.*

The remaining cells can further be checked for `market potential' and `manufacturing competence' of the firm. The required competence can also be developed if the idea is really new and potentially very rich.

A `cost-benefit analysis' will, finally, show the feasibility of the remaining new product ideas.

To generate a composite new product idea through the interactive combination of cross-classification cells, let us consider all the dimensions of the earlier stated home cleaner again.

According to Alford and Mason*, the following six dimensions can be identified, in case of a household cleansing agent:

- Type of cleaning instrument (1)
- Product ingredients (2)
- Objects to be cleaned (3)
- Package (4)
- Substances to be removed (5)
- Product texture (6)

Thus, a vacuum cleaner (1), such as "Euroclean", can be used to clean carpets (3) from dust (5) and, at the same time, may spray (4) into the carpet (3). a disinfectant and a cleaning shampoo (2) in a gaseous form (6) so that the carpet (3) is not only clean but also germ free (5). A similar apparatus (1), maybe designed to clean drapes and curtains and wall hangings (2).

Another variation, the Morphological Box, attributed to Dr. F. Zwicky**, extends this technique of morphological analysis, JUT, to more than two dimensions. The more dimensions one adds, the greater is the number of ideas generated.

Activity 4

Use HIT for designing food packages for Business Class passengers of Air India.

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Benefit-Structure Analysis

Another approach, similar to Attribute Listing, is Benefit-Structure Analysis proposed by Myers"`. This analysis begins with 25 to 50 in-depth individual or group interviews wherein the respondents are asked to recall all `occasions' when a product class was used. The following questions are further asked for the desired results:

- What was the actual operation?

  For example, if the product is a household cleansing agent, then the `occasion' is general cleaning but, the `actual operation' can be kitchen floor cleaning.

* Alford, C.L. and Mason, J.B. "Generating New Product Ideas", ***Journal*** *of* ***Advertising*** *Research, vol. 15, No. 6,* (December 1975), pp. 27-35.

** See J.E. Arnold, "Useful Creative Thinking" in A ***Source Book*** *for* ***Creative Thinking*** *(NY :* Scribner's 1962), pp.256-57.

*** Myers. James H., "Benefit-Structure Analysis: A New Tool for Product Planning", *Journal of* ***Marketing,*** Vol. *40, No.4,* (October 1976) pp. 23-32.

- What products were used in this operation?
  For example; alcohol, ammonia, pine oil, or a disinfectant. If possible, the brand should also be mentioned, such as Colin, etc.
- What were the benefits sought from this operation?
  For example, removal of stains, disinfection, shine, or simple cleaning.
- What were the attributes of the product(s) used
  For example, strong pleasant/foul smell, quick drying, economical, abrasive, antiseptic, non-staining, contains deodorant, self-polishing, etc.
- What were the cleaning instruments used?
  For example, broom, brush, mop, sponge, or vacuum cleaner.
- When was the work done?
  For example, morning, afternoon, evening, or night. Also required are the, duration of work', and `persons worked with'.

Results obtained from this initial analysis can be used for a wider survey of housekeepers in the cities/metros. The generated data can be arranged in a multidivisional matrix, such as

> Operations x Product attributes desired x Product attributes received x Benefits desired x Benefits received x Brands used x Occasions x Other ambient characteristics x Various supporting data.

Now, some more analyses are to be performed sequentially.

First, study the `Product-by-Use' matrix-`product types' as rows and `operations' as columns. This matrix will show what products are used for what all cleaning operations, which may help the marketer see how the current products are being used and what are their substitutes/complements; and how some of the products are being converted from single-use to multi-use (or the other way round). Best of all, this matrix will give the relative frequency of various cleaning operations/tasks. If `quantity/amount used' is also asked, a `volumetric analysis' can also be made.

All these pieces of information are actually new product ideas. Look for the gaps for which (cleaning) operation has no or a few products/brands available.

This matrix, in other words, gives one form of `market structure' and what we look for are `market gaps'. Therefore, this study is also known as `Market-gap Analysis'

The second study to be made is for each `benefit' across each `brand' and each `occasion' - 'Benefit-Deficiency Matrix' - for some benefits may be wanted but not received, or received but not wanted. This matrix may provide average deficiency for each brand. Study the frequency with which benefits are not received across each brand in the market. Analyse which brands have failed to serve the desired benefits the most and why. Study the brands which have delivered-the desired benefits the most. (You can develop your brand close to them.) Also, consider possible additional usages/applications for the existing products.

All this can help you conceive new products that deliver the exact combinations of benefits desired for a single operation/task, as well as for a group of related operations/ tasks.

Finally, constructing an `Occasion-by-Operation-by-Ambient characteristic Matrix' may reveal demographic and sociograph patterns of product. uses which may be required for positioning the product in the market segment correctly. It can help in isolating those respondents who desire a particular benefit or a cluster of benefits.

Activity 5

Study the new products that have emerged in the market in the last six months. For what type of products do you think benefit structure analysis can be used most effectively Apply it to any one of them.

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Brainstorming

Brainstrorming is a rather popular creative technique with a long track-record. It was first developed by Alex F. Osborn in 1938, and gained acceptance by the business world in the 1950s. Brainstorming aids in idea generation by encouraging the creativity latent in many of us. It originated as a management technique for groups charged with problem solving. Osborn feels that creativity is fostered in an informal meeting where participants are free to express any and all ideas they concoct. Criticism is ruled out until the end of the meeting as this inhibits people from contributing ideas that might prove useful or at least stimulating to others. In this way, the participants should produce a greater number of ideas than if they worked along. Actually, brainstorming sessions are held when a company needs a lot many ideas.

The usual group consists of six to ten people. It is advised to avoid too many experts in the group as they may tend to look at a problem in a rigid way. The sessions should preferably be held in the morning and should last about an hour. The problem should be specific.

Briefly, the technique is executed as follows:

The chairperson of the brainstorming notifies the participants that the meeting is to be helot-states the problem to be discussed, and gives them several days for preparation. Individuals are generally chosen for their creative talents and ability to work cooperatively and openly. In this regard, it is sometimes better to avoid using supervisors or too many specialists: these people could disrupt and/or dominate a session thus stemming creativity.

The discussion should take place in relaxing surrounding to help the participants loosen up. The chairperson addresses the problem at hand, and subtly keeps the ensuing discussion on the topic. To ensure creativity, the following "ground rules" are suggested:

1). **Do not permit evaluation** of ideas: Osborn feels that criticism at this stage only makes the participants more defensive and restrains their thinking.

2). **Encourage participants to think `far out':** It is much easier to tame down wild ideas than to beef up insipid ones. The central purpose of brainstorming is to tap all of the participants' thoughts and experiences, `far out' ones not excluded..

3). **Put emphasis on creating a Large quantity of ideas:** A large quantity of ideas should eventually produce a greater number of better quality thoughts. Also, the emphasis on quality damps tendency to evaluation.

4). **Encourage participants to modify or build upon the ideas** of others: Such hybrids are often superior to their predecessors as different. perspectives are focused on a common solution.

Osborn has suggested the following questions to further probe the brainstorming group for generating real-value new product ideas:

1). Can you list some existing **attributes** of this product class?

2). Can you suggest **new attributes?** New uses? New ways?

3). Can these attributes be **adapted?** Does the past offer a parallel?

4). Can these attribuites be **modified** with respect to `meaning',`colour', `motion', `sound', `odour', `forms', `shape', etc.?

5). Can these attributes be. **magnified?** What to add? Greater frequency? Stronger? Higher? Longer? Thicker? More durable? More value? Better quality? Duplicate? Multiply? Exaggerate?

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* Osborn, Alex F., *Applied Imagination.* 3rd ed. (NY: Scribner's 1963), pp. 286-87.

6). Can these attributes be **reduced?** What to delete? Smaller? Condensed? Lower? Shorter? Lighter? Cheaper? Tone down? Miniature version, actually.

7). Can these attributes be substituted? Other ingredients? Other processes? Other markets?

8). Can these attributes be **rearranged?** Interchanged? Other patterns? Other layouts? Other sequences? Other schedules?

9). Can these attributes be **reversed?** Upside down? Backwards? Opposites?

10). Can these attributes be combined°? - A different blend'? Another alloy'? A new assortment? Different Combine appeals? Combine objectives? Combine units? Combine uses?

In effect, it comes out to be an application of Attribute Listing approach in Brainstorming.

This procedure is continued until the group is drained of ideas. Some writers emphasise the value of pressing on for a few minutes when this point is reached, as fatigue is seen as a catalyst in releasing ideas. Some believe that when minds are drained of ideas, a synthesis of these thoughts can take place.

The brainstorming technique has much to recommend it in generating new product ideas. It offers the potential of producing a great number of ideas in a relatively short time and at a very modest cost. However, not all companies enjoy success with brainstorming. Often failure results simply from the inability to correctly adhere to the ground rules of the technique. Dissatisfied executives have complained of participants not preparing for brainstorming sessions. Others cite problems with using members of different organizational rank in the same sessions. These failures cannot be blamed upon the technique itself.

Detractors of brainstorming feel the technique itself is invalid. Principally, many doubt the "synergistic benefits" attributed to these group sessions. For example, "You can't put three individuals with 100 IQs together and expect to get the product of two persons with 150 **IQs**."*

The essence of brainstorming is the attempt to produce ideas in quantity via the freedom of expression which comes with the deferment of judgement. Thus defined, "brainstorming" is an individual as well as group technique.

In view of this, how should one handle brainstorming? Can the talents of a group be properly harnessed by this technique?

To salvage this potentially valuable tool from human foibles, several variations have been created. Once such variation is the "Buzz Group", created by Dr. J. Donald Phillips. Phillips theorised that aggressive individuals will tend to dominate group sessions and thus cause their colleagues to hold back. To prevent this from inhibiting the expression of ideas, he subdivided the group into clusters of six and allowed each group only six minutes to come up with an idea. This subdivision isolated the "bullies" somewhat, and the introduction of time pressure caused the "timid" to be more vocal.

As with group brainstorming, the reaction to the Buzz Group is mixed. Critics point out that six minutes is often not enough time for effective ideation.

Activity 6

Conduct Brainstorming exercises to generate ideas regarding:

a) An approach to demarket Automobile fuel (Petrol & Diesel).

b) Benchmark for maintaining quality.

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* McGire, E.P., *Generating New Product Ideas (NY:* The Conference Board, 1972),. p.15.

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Focus Groups

The conducting of focus group interviews is very much like that of brainstorming. It is unstructured, to some extent, and it relies on the spontaneous interaction of the group. But the members of the group are consumers (rather than employees of the firm) and, usually, are decided on by a market research agency. That is to say, focus group interviews can be thought of as brainstorming with consumers/potential consumers.

As the name of the technique conveys, this type of group discussion focuses on some definite marketing/product aspect, such as a product's, characteristics, a brand name, an advertising theme. The pivotal theme is necessary to keep the discussion revolving around the important questions or the issues. This also helps in cutting down the irrelevant and idle talk.

About eight to twelve potential and interested consumers can be invited to form a focus group. The group moderator's role is to lead the participants through an open and indepth discussion on the subject area(s) in question in a non-directive and non judgmental manner.

This technique is widely used by advertising agencies for guidance in creating effective advertisements. It is often employed in the testing stages of new product development - both in concept and product testing - also. But, when focus groups are used to generate new product ideas, they present some basic conceptual difficulties. Mainly for, firstly, consumers can hardly be expected to invent products -- the need(s) may be latent and it may he difficult to conceive products which do not actually exist. If a typical consumer were asked about his entertainment needs in the early forties, he might not have an idea of picture screen, with sound right, there in his bed room, i.e., a TV. Or, if, in the early sixties, consumers were surveyed about their needs in handling numbers, who would have suggested a hand calculator? In other words, at best, focus group interviews can be used effectively for the existing products and their problems.

These groups should also be protected from lack of representation and the poor quality of response. At times, samples are mainly composed of housewives easily available and outgoing with lot of time and inclination to participate in such an activity. The worse, if they are articulate too. They may try to impress the panel with their smartness and tend to act like experts. Thus, the results may be exploratory in nature and may not be generalized for the entire population.

Another difficulty possible is related to interpretations. Even though recorded - audio/ video - when analyzing a discussion, there may he as many interpretations as interpreters.

However, these points may not he valid when it comes to generating new product ideas, because the focus group interviews for generating new product ideas are not to be utilized in an evaluative manner.

13.6 SCREENING OF NEW PRODUCT IDEAS

Screening is essentially an elimination technique. If the purpose of idea generation is to have a large number of ideas, the purpose of screening is to reduce this number to profitably viable few.

Actual screening procedures vary from company to company and range from simple, yes -. no checklists to elaborated scaling. In large companies, the screening process is usually a multistage procedure.

Screening of new product ideas is essential for costs and risk of developing new products run very high. Each project needs to be evaluated before funds are committed to its development. Once a product reaches the market place, what is done cannot be easily undone. It stands or falls on its merits. Back-tracking can be fatally costly for stakes get progressively higher as the new product approaches commercialization. Therefore, smart companies concentrate on appraisals very early in the life of a new product idea.

The rationale for what is basically a rejection technique stems from the fact that very few ideas end up as successful products; may be just 1% or 2%. But, as the experts believe, typical screening operation may yield about 25% productive concepts to work on for screening can check that good ideas are not discarded.

13.7 CRITERIA FOR SCREENING PRODUCT IDEAS

Screening criteria are established as evaluative standards in new product development. They make arbitrary decisions less likely. They provide a unity of purpose. They provide a perspective for new product planners.

Screening criteria usually concern themselves with three factors - markets. products, and finances. More frequently used market-criteria are market size, share; market growth; market positioning; distribution features; etc. The `product-criteria' are newness; technical feasibility; organizational support; servicing requirements; legal considerations; etc. The `financial-criteria' are profitability; return on investment; cash flow; etc.

Because-some considerations are of more significance than others, many firms have more than one set of screening criteria. The following sets of "Must have" and "Would like" criteria have been suggested for the planner of new products:

"Must have" criteria

- Fill a perceived need with a sufficiently defined group of heavy users for the product.
- Have unique product characteristics that offer distinctive benefits to the user.
- Have sufficient trading profit contribution, e.g., 20% to 50%, in case of grocery products.
- Be saleable in large, expanding territories.

"Would like" criteria

- Be compatible with and able to carry the company's brand naive.
- Provide the basis for a continuing business, e.g., a minimum life span of three to five years, in case of grocery products.
- Lend itself to mass media advertising.

The existence of a double standard - "must have" and "would like" criteria-suggests that screening be done in stages. It makes sense. Only if an idea passes the first test of makes compulsories would it progress to the next level of evaluative checks. Ideas that pass the preliminary stage are then appraised further for estimating their relative values, so that the best of the lot can be selected.

Whether a firm will adopt a multistage approach depends upon the number of ideas flowing from exploration to evaluation. A few ideas can easily be screened at a single session. But, for a continuous stream of ideas, a more elaborate procedure is required. Consequently, many small and medium-size firms do not have a multistage screening method, for resources are limited, new product ideas are not actively pursued, and formal organizing for managing the new product development function does not exist. On the other hand, screening in steps is quite common in large companies.

Ideas can also be screened one-by-one or in batches. Processing several ideas together, in one operation may offer certain economies. But, if this is not a significant consideration, the individualistic approach should be preferred to screening ideas in groups.

Preliminary Screening

Preliminary screening is the first, rather rough, attempt to judge the value of a new product idea. Some basic criteria are required for preliminary screening. For example, in case of a consumer goods, company, the following statements can serve as primary criteria to screen new product ideas:

- The item should be in a field of activity in which the corporation is engaged.
- If the idea involves companion product to others already being manufactured, it should be made from materials to which the corporation is accustomed.

McGuirc, E.P., *Evaluaitng New Product Proposals.* (NY : The Conference Board, 1973), p. 27.

Sachs, W.S. and George Benson, *Product Planning and Management* (Oklahoma: Penn Well Publishing Company, 1981), p. 231.

- The item should be capable of being produced on the type and kind of equipment that the corporation normally operates.
- The item should be easily handled by the corporation's existing sales force through the established distribution pattern.
- The potential market for the product should be at least Rs……..
- The market over the next five years should be expected to grow at a faster rate than GNP
- Return on investment, after taxes, must reach a minimum level of ……

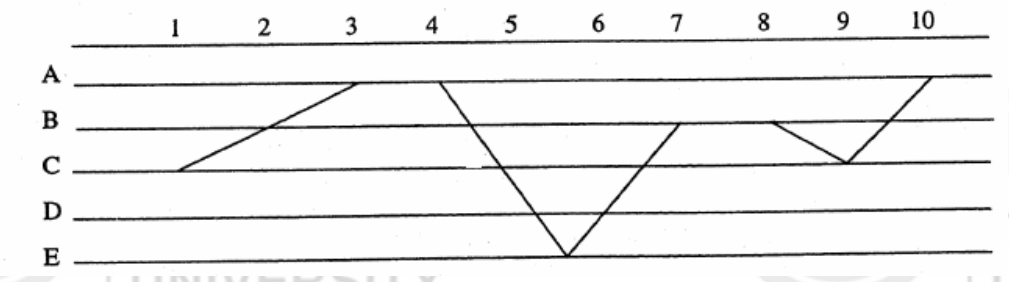
For majority of such check statements, a yes or a no answer should be forthcoming without spending much time to reach the point in question. Technical questions can be referred to the appropriate departments.

Product Profile Ratings - Ranked Data

This technique basically calls for the ideas to be evaluated in terms of a number of key characteristics. One type of such a rating system is the simple ordinal measure wherein each characteristic is scored on a five-point scale. For example, each idea can be rated on ten different criteria from Very Good (A) to Very Poor (E), as shown below:

Criterion / Characteristic	Very Good (A)	Good (B)	Average C)	Poor (D)	Very Poor (E)
1.			X		
2.		X			
3.	X				
4.	X				
5.			X		
6.					X
7.		X			
8.		X			
9.			X		
10.	X				

These ratings can also be shown graphically (as presented below):



This chart shows a (new) product profile in graphic form, Such profiles can be developed from all new product ideas and their comparisons can be made easily.

Product Profiles - Summated Data"

This method of screening new product ideas is very much like that of ranked data but

* See Sachs, W.S. and George Benson. ***Product Planning and Management*** (Oklahoma: PennWell Publishing Company, 1981), pp. 233-35.

** See Sachs, W.S. and George Benson. ***Product Planning and Management*** (Oklahoma: PennWell Publishing Company, 1981), pp. 235-39.

there are some modifications:

- The ratings are in terms of numerical values. Scores by different people are averaged.
- Each criterion is given a weight in accordance with its supposed importance to the success of a new product.
- Scores and weights are multiplied and their products added to obtain a single overall rating for an idea. This total score facilitates comparisons of different ideas.

The overall rating is described as follows:

$$R = \sum_{i=1}^{n} W_i S_i$$

Where,

R is overall rating,

Wi is weight of the ith criterion

S_i is score of the idea on the ith criterion,

n is number of ideas used in screening.

To illustrate this method, we can use the data used in the previous method. Each criterion is to be given a weight and numbers 1 to 5 will replace letters A to E. The total of all weights should come to 1.00 and, thus, the maximum score of any idea possible is 5.0 (Very Good). For a ready acceptance, the summated rating of an idea should be 4.00 and above. An idea rated between 3.5 and 4 is placed between acceptance and rejection. But, exact cut-off point is a judgmental decision arrived at by experience.

The results of using this method are shown below:

Criterion/ Characteristic	Weight	Very Good (5)	Good (4)	Average (3)	Poor (2)	Very Poor (1)	TOTAL
1.	0.15			X			0.45
2, ...	0.13		X				0.52
3.	0.12	X					0.60
4.	0.11	X					0.55
5.	0.10			X			0.30
6.	0.10					X	0.10
7.	O.09		X				9.36
8.	0.09		X				0.36
9.	0.08			X			0.24
10.	0.03	X					0.15
	1.00						3.63

The basic reason why this method should be preferred to the previous method of rating product profiles is the advantage summated data have over the ranked data. In Product Profile Ratings, a Product profile with mostly A ratings can be rather easily distinguished from one with mainly B or C. But, when the patterns of ratings are not quite as distinct or when they take on irregular shapes; sorting of best ideas from a large lot can become difficult. That is why methods using mathematical manipulations are believed to give better picture of the product profiles.

Finally, in screening the ideas, as Philip .Kotler* says, a company must avoid, two types of error - a DROP error and a GO error.

See Philip Kotler, *Marketing Management: Analysis, Planning, Implemention and Control* (New Delhi: Prentice-Hall of India. Private Limited, 1988) pp. 415-16.

A DROP error occurs when the company dismisses an otherwise good idea for the easiest thing to do is to put down others' ideas, If a company makes too many DROP errors, its standards are too conservative.

A GQ error occurs when the company permits a poor idea to move into the stages of product development and commercialization. As a result, three types of failure can ensure. An `absolute product failure' (sales don't cover even variable costs), a `partial product failure' (sales cover all the variable costs and even some of the fixed costs), and relative product failure' (yields a profit that is less than the company's normal or target rate of return).

The purpose of screening should be to stop and drop poor ideas as early as possible. Otherwise, if the ideas reach later stages and get converted into ready to launch products, management may feel that after investing so much in the development of the product it is worth trying it in the market. But, that may be fatal. What happens when you let good money chase bad money?

13.8 DEVELOPMENT F NEW PRODUCT IDEAS

For further progress in the process of new product development, screened ideas need to be converted into product concepts, "A product concept is an elaborated version of the idea expressed in meaningful consumer terms", says Philip Kotler!

We can see the method of idea development with the: help of the following example:

A large food processor, say Cadbury India, gets the idea of producing a powder to add to milk to increase its nutritional level and taste. This is only an idea. Consumers, however, do not buy product ideas. Therefore, this product idea needs to be converted into a product concept. And, any-product idea can be converted into several product concepts.

There is a need to ask some questions. First, "Who is to use this product?" (The powder can be aimed at infants, children,' teenagers, young or middle-aged adults, or senior citizens). Second, "What primary benefit should be built into this product?" (Taste, nutrition, refreshment, energy?). Third, "What is the primary occasion for this drink?" (Breakfast, midmorning, lunch, evening, dinner, late night?).

From these questions, the following concepts emerge

a) A tasty midday snack drink for children.
b) An instant breakfast drink for adults.
c) A health supplement for elderly people at night.

For testing each of these concepts, elaborated version of each concept can be presented to sample consumers. For example, the elaborated version of product concept (b) above can be like the following:

A powdered product that is added to milk to make an instant breakfast that gives the person all the nutrition needed along with good taste and high convenience, The product will be offered in three flavours - chocolate, vanilla, and strawberry - and will come in individual packs - six in a box - at **Rs.** 20 a box.

Then, the consumers can be asked some questions like:

- Are the benefits clear to you?
- Are the rewards believable'?
- Do you see this product as problem solving/need filling?
- Are there other products that meet the same need?
- How do you rate it on satisfaction when compared to them?

*Kotler, Philip, Marketing Management: Analysis, Planning, Implementation and Control (New Delhi: Prentice-Hall of India Private Limited, 1988), p. 418.

- Is the price justified?
- Would you buy the product?

Respondents' answers to these questions can lead to the concept's `communicability' and `believability', the `need level', the `gap level' (between the new product and the existing products), `perceived value', and the `purchase intention' (definitely, probably, probably not, definitely not). A summary of these answers can tell if the concept has a strong and broad enough appeal. The concept looks good, the information also tells the planner what products this new product would replace, what consumers are the best targets, and so on;

Activity 7

Suppose you are hired as a consultant by a new Indian Corporate to help them with the generation of new ideas for a range of breakfast cereal (ahead of the existing range)

1) Which idea generation techniques) you will use and why?
2) Generate new ideas.
3) blow will you screen the ideas generated?
4) Develop the screened ideas into product concepts.
5) Testing these concepts, arrive at the final/best new product idea.

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13.9 SUMMARY

The unit discusses the generation, screening and development of new product ideas, as the first stages in the development process of new products. With the improvement in research and technology and the premium of innovativeness in modern management, the marketer has at his disposal, an average of idea generation techniques, each with its merits and demerits. The unit discusses a number of these techniques while idea generation techniques aim at multiplication of ideas for new product development, screening is basically an elimination technique to reduce the number of new product ideas to a viable few. The unit discusses the criteria for screening as well as the screening methods. The development of the idea into a product concept has also been discussed.

13.10 SELF-ASSESSMENT QUESTIONS

1). What are the sources of new product/service ideas utilised in your organisation, any other organisation that you are familiar with? Evaluate them with respect to their potential as good sources of ideas.

2). Compare and contrast the techniques of idea generation studied by you in this unit. Which method would you prefer for:

a) a consumer product
b) a service

3) How would you use Benefit Structure Analyses to generate new Product ideas for:
   a) Edible oil
   b) Mosquito Repellent
   c) Deodorants

4) What are the safeguards to ensure the effective use of brainstorming as a technique? What are the limitations of this technique'?

5) Describe the important criteria used to screen new product ideas?

6) How would you use product profile ratings to a new product idea'? Explain with the help of an example'?

7) What are the steps involved in new product launch? Discuss with the help of a suitable example'?

8) How would you select the right target market for your new product? Discuss the criteria for selection of a viable segment:

9) Describe the development of the components of product strategy for a new product.

13.11 FURTHER READINGS

Burns, T and Stalker G., *The Management of Innovations* (London: Tavistock Publications, 1961).

Kaushal, O.P. (ed.), *Product Management* (Bombay: Lalvani Publishing House, 1969).

Mascarenhas, S.J., O.A.J., *New Product Development : Its Marketing Research & Management* (Calcutta: Oxford & IBH Publishing Co. (P) Ltd., 1987).

Midgley, D.F., *Innovation and New Product Marketing* (London : Groom Helm, 1977). New Products Management for the 1980s (NY : Booz, Allen & Hamilton 1982). Osborn, A.F., *Applied Imagination,* 3rd ed. (NY. Scribner's, 1963).

Parries, S.J. and Harding, H.F. (eds.) *Source Book for Creative Thinking* (NY: Scribner's, 1962).

Pessemier, E.A., *Product Management : Strategy and Organization* (NY: John Wiley & Sons, 1977).

Rothberg, R.R., *Corporate. Strategy and Product Innovation* (NY The Free Press, 1976).

Sachs, W.S. and Benson, *G., Product Planning and Management* (Oklahoma : PennWell Publishing Company, 1981).

Urban, G.L. and Hauser, J.R., *Design and Marketing of New Products* (NJ : Prentice-Hall, Inc., 1980).