decision often is an act of faith, but some analytical principles exist to reduce the risk of making wrong decisions.

4.16.1 STEPS IN NEW PRODUCT DEVELOPMENT :

A new product is the culmination of a proces, a series of steps beginning with generation of ideas and proceeding to the commercialisation of full scale marketing of the product. It is the general process that conceives, develops and brings to the market the new product. There are six logical steps in this creative process of new product development namely, **Idea Generation Screening, Business Analysis, Product Development, Test Marketing** and **Commercialisation.** This process can be compared to a hurdle race where the new product ideas are to cross all the barriers to go into commercial production.

The following picture makes it amply clear to that effect.

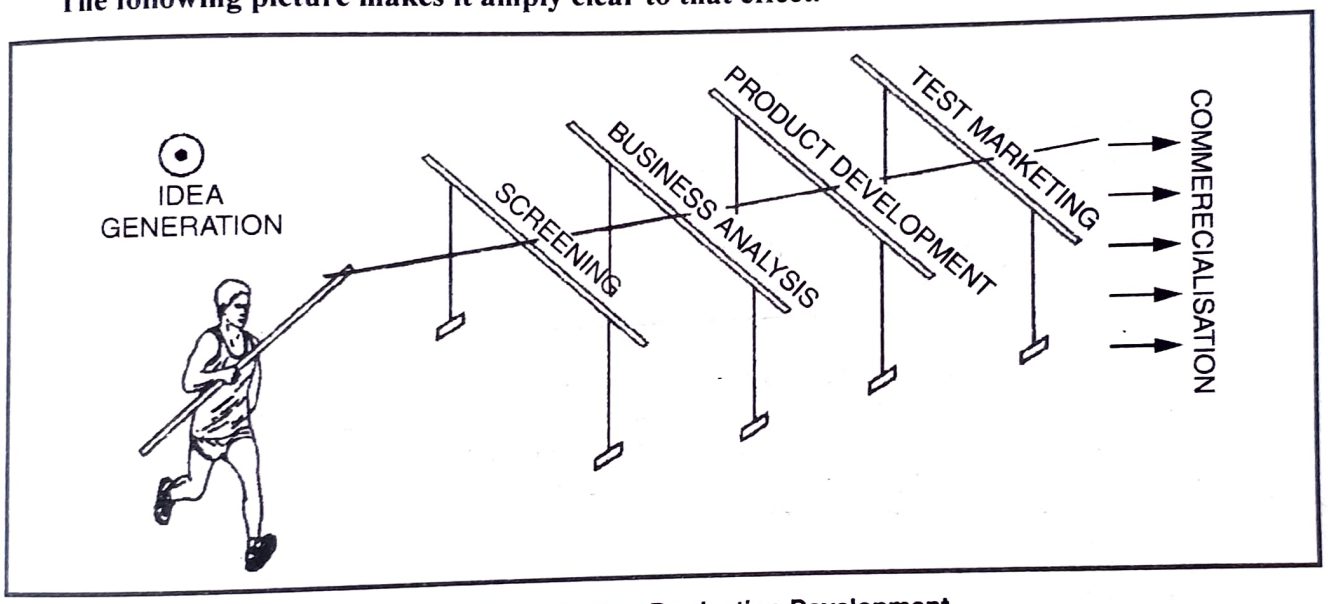

Fig. 4.12. Steps in New Production Development

I. IDEA GENERATION :

The first vital step is to generate ideas, for new products are from new ideas. Product idea generation means fusion of perceived need with the recognition of a technical opportunity. That is, the perceived need may be new or old—apparent or latent—currently partly fulfilled or unfulfilled. However, when a technical opportunity is recognised to satisfy this need, a product idea is generated. Though house-wives were knowing fully well that food can be cooked easily and quickly at high pressure, there was no such utensil. This was made possible by pressure cooker. Though the basic input for the development new products are ideas, all ideas do not become products. The real difficulty is not in gathering these ideas but in identifying the 'good' ones. Unfortunately, 'good' ideas are generally as plentiful as is often believed and they may well have to be actively and painstakingly sought. Therefore, large number of ideas must be generated in order to ensure finding a few good ones. In fact, greater the number of ideas generated, better the best ones are likely to be. It is so because, the rate of mortality of ideas for new products is exceptionally high—even higher than the failure rates for products that are actually introduced. This situation is best explained by Decay/Mortality Curve of new product ideas. According to one famous study conducted by M/s Booz, Allen and Hamilton Inc., in 1968, of 51 companies, for every 58 ideas, about 12 pass the initial screening. Only 7 of these survive after evaluation and only 3 pass through test marketing. Of these, only two are eventually marketed and in the final analysis only one is said to be commercially successful.

In another study of product development in food manufacturing industry, it was concluded by the consultancy house M/s Buzzell and Nourse in 1967, out of every 1,000 new product ideas :

Number of ideas	Percentage	Remarks
810	81.00	were rejected at preliminary screening.
135	13.50	were rejected on the basis of product tests.
12	1.20	were discontinued after test-marketing.
43	4.30	were introduced to market on a regular basis.
36	3.6	remained on market after introduction.

Since, a company has a little or no control over the idea generation phase, constant stream of ideas both good and managerial—are to be channelled into the system.

THE SOURCES OF NEW IDEAS :

Idea generation involves using various idea sources and idea generation techniques to identify new ways of satisfying needs and monitoring evolving technologies. Where do new product ideas come from ? Actually, they stem from many internal and external sources. It is worth noting each source in brief.

A. Internal sources :

These are in-company sources of product idea generation. There are four such possible sources. These are :

1. Basic research : Almost all large companies engage in some kind of basic or fundamental research. Research and development often are divided between the development of product ideas that have already passed the initial screening stages and research into areas of technology that give promise of producing totally new product concepts. For instance, 'Nylon' is the product of laboratory and 'Teflon' the result of basic research for space programme and 'Polythelene' and 'Transistor' are the outcome of Research and Development efforts within a firm.

2. Manufacturing : People who manufacture products often have ideas about modifications and improvements. They do come out with new product ideas. It is the constant contact with product—its performance, cost, quality, structure that makes them to give possible improvements.

3. Sales people : Company sales-representatives can be helpful source of new product ideas. These people are on the competitive firing line. They know what customers want and what they are not getting. They are the first one to learn about competitor's new products. They are in everyday contact with customers, and are thus in a good position to note consumer needs and the extent of satisfaction.

4. Top management : Top executives can play an important part in the generation of new product ideas. Their ideas are ought to be good as they know precisely about the company needs and resources. Moreover, they are keen observers of technological trends and of competitive activity. If nothing else, the top company managers should set an example. If they expect the rest of the organisation to be generating new product ideas, they should be doing so well.

B. External Sources :

External sources are those sources of product generating ideas that signify outside sources. There can be such six sources. These are :

1. Secondary sources of information : There are published lists of new products; list of available licences that provide clues for new product ventures. Most magazines have a new product section and some business publications are devoted almost entirely to the area of new product news.

2. Competitors : Firms must establish a formal procedure for monitoring the new product activities of their competitors. By the time a competitor has a new product, it is pretty late to be trying to do any thing about it. It is equally true that the new product developments are closely guarded secrets and it is often difficult to discover what actually is being developed. However, most of these development activities are at least partially exposed. Good inferences about competitive product development can be made on the basis of indirect evidence gained from salesmen, suppliers, resellers

and even customers. Hiring away competitor's employees, disassembly and analysis of competitor's product are quite common though legally challenged.

3. Customers : The firms are to pay more and more attention to customers who constitute the focal point of new products. Consumers frequently generate new product ideas, or at least really information regarding problems that new and improved products would help to solve. Most of the educated house-holds often write directly to the manufacturers with suggestions for product changes. **General Food Corporation of America** receives 80,000 letters from customers annually—may be letters of complaints or compliments—they are the source of new ideas.

4. Resellers : Resellers are component part of firm's marketing system. They too have a stake in the manufacturer's new product development activity. Their needs in building a profitable line naturally are reflected in the products that their suppliers develop. They do contribute ideas of new products.

5. Foreign markets : No country of the world has a monopoly of new product development. Each country is known for certain product or products say, Germany—Volks Wagon Bug car; Italy—shoes; France—wine and perfumes; Japan electronics—particularly sound gadgets; India—soap and incence sticks and tea. These are natural gifts. These can be tapped and improved upon.

6. Inventors : Inventors and other creators signify yet another key source of technological innovation and product ideas from outside the company. Most of the major companies are constantly approached with new product ideas that can be acquired or licensed for production or distribution. To make sure that the ideas received in this way are appropriately screened and not rejected quickly or lost, the creators are to be identified and trained too.

Whatever may be the source, there is need for organised efforts to manage new ideas. When there is no formal management responsible for gathering ideas, many useful ideas are lost for ever to the company. There should be some one responsible for this.

The person can be say, new product manager who should be responsible for three things namely.

1. **SEARCH**—he is to conduct an active search in the environment for good product ideas.

2. **STIMULATION**—he would encourage company employees to develop and send ideas to his office and

3. **ENHANCEMENT**—he would reroute the ideas to logical parties in other parts of the company for feedback and idea enhancement.

METHODS/TECHNIQUES FOR GENERATING NEW PRODUCT IDEAS :

Product idea generation as an effort should be organised and systematic. Several methods have been developed to generate better ideas with a view to better the sources of new ideas.

The most commonly used are—Focus Groups—Attribute testing—Focussed relationships—Brain storming—Reverse brain storming and Problem inventory analysis.

1. Focus groups : The idea of focus group interviews is not new in the area of marketing research which has been in vogue since 1950s. A focus group interview consists of a moderator leading a group of people through an open indepth discussion. This concept of group discussion need not be confused with indepth interview. This is much different from a group interview in which the moderator simply asks the questions to solicit responses from the participants. In the focus group the moderator focuses the discussion of the group on the new product area in a non- directive manner. The focus group is an excellent means for the initial screening of ideas and concepts in addition to new idea generating. Recently, several procedures have been developed whereby quantitative analysis can be used in interpreting the focus group results. This has increased the credibility of this method.

2. Attribute listing : This technique consists of listing of existing attributes of a product idea or area; these attributes are then modified until a new combination of attributes emerges that will improve the product idea or area. Thus, a company manufacturing say ball-point pens may list the product attributes as the ball-point, pen-head, size, grip and so on. It may have new combinations to have