CHAPTER 3

Product Strategy Development
Idea Generation and Screening

3.1 Introduction

New product ideas are seldom revolutionary, they are mostly evolutionary. Many develop from the products of the past, making improvements in quality; convenience, cost or variety. The truly innovative product starts a new sequence of these evolutionary products. For example, quick frozen peas were an innovative product which started a sequence of quick frozen vegetable products. Most often in the past, a new method of preservation - freezing, canning, drying - was the revolutionary innovation in the food industry which led to many new evolutionary products.

Idea generation is knowledgeable, creative and systematic. It develops from knowledge of the consumer, the market, the technology and the general environment, and it creates newness in product, production and marketing. It systematically develops product ideas to satisfy the aim of the project and therefore the business strategy. Idea generation in industry is strategic and not left to chance. Ideas can come from 'blue skies' research or from inventions, but in product development these are systematically developed into innovations in the company and the marketplace. Idea generation occurs not only at the initial stages in developing product concepts but throughout the project - in the design of the product, package and process, and in developing the marketing strategy. In idea generation, the field is kept wide so that no possible innovations are ignored, but it is focused within the aim of the project. This is a dichotomy that can cause problems.
In screening, the many ideas are reduced to smaller numbers and eventually to the one product concept, prototype product, processing method and advertising plan. The screening begins qualitatively and gradually develops, as more information is obtained, to a quantitative evaluation of the predicted outcomes for the product, production, market and finance.

There is a constant cycling of idea generation and screening throughout the project until the final market launch. A wide range of ideas gradually becomes focused into the final launch plans. Control of these activities of idea generation and screening ensures that no good ideas are lost and that poor ideas are dropped quickly. This is the ideal outcome but it is very hard to achieve. The extent of idea generation and screening varies with the type of innovation and the product; it is minor for the product line extension, slightly greater for the me-too product and product improvements, and is very extensive throughout the company for the innovation.

After the project's aim has been established, ideas can come from free brainstorming, from systematically studying how the consumer may use the product, and from developments in technology, the industry and the market. These ideas are qualitatively screened so that they agree with the project aims and constraints, using a simple but disciplined system of judging. The selected ideas are developed into descriptions of the product and the target markets, and are further reduced in number by a more complex screening method such as checklist screening and economic evaluation. Then there is the development of the product idea concepts by the consumers, where the idea generation focuses on the product benefits; the consumers and company staff gradually reduce the number of product ideas and build more detailed product concepts. Evaluation at this stage becomes quantitative and more detailed, and is based on market research, product costing and technical evaluations which predict if the product is to be a success or a failure in meeting the company's aims.

The activities of product idea generation followed by screening are continued in product design, product commercialisation and product launch; the product concept becomes more focused, more detailed and more quantitative. Idea generation and screening are therefore important skills for anyone working in product development.
This chapter discusses mainly the product idea generation and screening at the initial stages of the project as shown in the activities diagram, Figure 3.1.

**Figure 3.1 Product idea generation and screening**

<table>
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<th>PROJECT AIM</th>
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<td>Company product idea development</td>
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<td>Consumer ranking screening</td>
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<td>Consumer product idea development</td>
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<td>Company evaluation on important factors</td>
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<td>Consumer product concept development</td>
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<td>Consumer survey</td>
<td>THE PRODUCT CONCEPT</td>
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<td>Market survey</td>
<td>TARGET MARKET</td>
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<td>Company market evaluation</td>
<td>MARKET POTENTIAL</td>
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<td></td>
<td>Company processing evaluation</td>
<td>MARKETING METHOD</td>
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<td>Company financial evaluation</td>
<td>PROCESSING METHOD</td>
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<td>Complete feasibility study</td>
<td>COSTS, INVESTMENT, PROFIT</td>
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<td>Complete feasibility study</td>
<td>PRODUCT REPORT</td>
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<td></td>
<td>Complete feasibility study</td>
<td>TOP MANAGEMENT DECISION</td>
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3.2 Idea generation

Idea generation is based on the interrelationships between:

Company ⇔ Product ⇔ Consumer

These relationships are constantly changing, and the surrounding environment is also subject to continuous social and technological change; understanding the changes that are occurring leads to innovative products which fulfil a need. The product developer needs to be aware of all these forces and their interactions, from the crudest level where marketing simply wants a copy of a competitor's new product (a 'me-too' product) to the complex use of a new technology such as pressure preservation or to a major marketing change such as the shift from multi-person to single and two-person households. It is the study of the interactions that identifies and refines the product ideas. Is the consumer increasingly concerned about waste packaging - can we make an edible pack or a short-term pack? New low temperature technology produces a tomato powder with a fresh tomato flavour - what new product would consumers want with a fresh tomato flavour, a tomato soup or a fresh breakfast drink?

The creation of all new product ideas - revolutionary or evolutionary - can only be successful if there is an atmosphere which stimulates innovative thought and the search for new ideas. If the company does not encourage the process of generating ideas, then new ideas will not be produced. To many individuals in the company trained in logical and
systematic thinking, free idea generation is frequently difficult. It seems to be almost a fact of life that a company has very few really creative ideas to work on. Product development is often improvement, needed because of technological or marketing change or increased knowledge. As marketing and technical research either struggle to look for modifications to existing products or try to react to a competitor's product, they are often surprised by the absolute simplicity of some original and successful new product which meets real consumer needs and which is showing rapid market growth. The true innovation can form a new product platform on which to build many new evolutionary products.

There are two methods of idea generation: focused or convergent thinking and free or divergent thinking, and both are useful depending on the company's product strategy. Focused, systematic thinking is useful for the slow evolution of the product mix. Free, lateral thinking is useful for the discontinuous major step-changes. In the food industry where there is pressure to continuously launch new products, there is an emphasis on focused, systematic thinking. If food companies plan to have innovative new products in their product mix, there is a need to develop an atmosphere which gives the freedom for idea generation.

There are always problems in finding new ideas, and also risks in choosing the direction for product development - either product improvement, apparently low-risk, little research and low cost or product innovation, high-risk, extensive research and high cost. As can be seen in Case Study 3, slow failure can occur through making minor product changes, and a fast crash through choosing the revolutionary new product! There needs to be knowledge and intelligence in selecting the new product direction.

3.3 Systematic focused idea generation

Ideas come from both a 'technology push' and a 'consumer pull'. The technology push comes from knowledge of marketing, processing and product technology and their related scientific bases. The consumer pull comes from knowledge of the consumers and their individual and societal bases.
Case Study 3.
Food Companies Hunt for the Next Big Thing

About twice a month teams from giant food companies travel along a dusty gravel road to a large warehouse - the New Products Showcase and Learning Center, Ithaca, a morgue of sorts storing 60,000 extinct grocery products. They are hunting for ideas for the next blockbuster.

Food companies are starving for new ideas. Launches of new foods in the USA fell 20% in 1996, their sharpest decline in at least two decades. After the 1980s' round of mergers, food research departments shrank, and food patents filed in the USA by foreign companies began to eclipse those of domestic researchers.

Admittedly, finding a supermarket blockbuster has become much harder; most of the easy innovations have already been introduced. New demands stemming from technology and health worries also have generally been met. Essentially the American companies have mastered the science of mass production and become expert in off-the-rack edibles. But many 'new' products of the 1990s were just the tweaking of old ones. Many of the promising up-scale products are percolating in from foreign laboratories. The American food industry is increasingly looking outside the USA for cutting-edge technologies.

Breakthroughs have been elusive partly because food companies devote only 0.6 - 0.7% of sales to research and development - less than half the percentage of other consumer products such as toothpaste. Also products need to have large markets to be acceptable to the large food companies; this means large launch costs and also ignoring small markets which may grow into large markets in the future.

A real innovation requires a clear benefit that can be patented - but that process can take years, cost a fortune, and for all the trouble end up simply making consumers wary. Proctor and Gamble suffered that fate with its rocky introduction of snack chips fried with olestra. Many promising new products have lacked ingredients and processes innovative enough to win patents, so they end up slaughtered by me-too products.

(From Michael J. McCarthy, (1997) 'Food companies hunt the "Next big thing" but few can find one,' Wall Street Journal, 6 May.) Reprinted by permission of the Wall Street Journal© 1997 Dow Jones & Company Inc. All Rights Reserved Worldwide.)
A drop in new food products launched continued through the 1990s, but then started to rise again after 2000. What do you think started this turn around?
Identify the major new products that were introduced.
Do you think the trend will continue and in what product areas?

The consumer needs analysis includes the relation of present products to user needs, defects in present products, unfulfilled needs. Consumer concerns have been a strong pull in the 1990s, with the proliferation of 'deprivation foods' low in sugar, salt and fat, nutritional foods offering supplements of proteins, minerals and vitamins, functional foods offering physiological benefits and/or reductions in the risk of chronic disease beyond nutritional needs, and pharmaceutical foods (nutriceuticals) offering health benefits.

The technology sources include the scientific and technical literature, R&D scientists in the company, universities and research organisations, the production, engineering and quality assurance staff in the company, and the raw material and equipment suppliers. In small
companies, it tends to come from production and engineering staff, in the large company from the R&D department.

The marketing sources include competition, overseas markets, sales journals, consumers, consumer books and magazines, advertising agencies, market research companies, distributors (wholesalers, retailers, food service, agents, brokers), sales personnel and marketing people in the company. This information includes market trends, new product introductions, market needs and market analysis. Retailers may see a need for further brands of a certain product, and they can under their own brands copy a product already on the market to supply this need. The market can be analysed by studying trends in sales, by gap analysis to see if there is a product missing, by measuring shelf space to see if a product line needs to be extended, and by comparison testing with competing products to see if the company's product needs to be improved. The company can set up a product matrix of their own and competing products, i.e. product classes, product lines and individual products, to discover gaps into which the company can introduce a new product. The company is continuously monitoring the 'feel' of the market by doing market research, including retail audits and consumer studies. Sales trends and information from supermarket sales are now extensively available and analysed. More general information can be found on business and economic trends from banks and consultants, and on social changes from social studies reports by government or academics.

**Think Break 3.3**

*Systematic focused idea generation: technological changes in the food channel*

What innovations in agriculture, processing, packaging, distribution and marketing led to the production and marketing of canned and frozen fruits and vegetables?

What present-day innovations in agriculture, processing, packaging, distribution and marketing have led to increasing sales of fresh fruit and vegetable products?

There are two significant groups in food production – the food processors who supply the food ingredients and the food manufacturers who produce the final consumer products. Many ideas in the food manufacturing industry come from the ingredient suppliers, the
food processors, who not only supply the ingredients but increasingly supply the formulation and also the relevant consumer and market research. So where do the food processors find their ideas for new ingredients? Very often from new agricultural and marine products and from their studies of the manufacturers' needs and wants, as well as from their basic research. The food processors cooperate with the agricultural and marine primary producers in developing new raw materials, and with the food manufacturers in developing their ingredient products and their applications. Therefore they do much of the research in the food industry, usually spending a higher percentage of their sales on research and development than the food manufacturers.

The product improvement, product line extension and me-too product come usually from the market and the consumers; the cost reduction comes from production; but the innovation comes from studying long-term technological and social changes. There are always trends occurring and people predict the outcome of these trends using different techniques. In econometric forecasting, historical trends of populations, population demography, household sizes, agricultural production and food production are projected forward to predict the future. In scenario painting, different scenarios are presented and future outcomes predicted; for example, possible scenarios could be:

‘A return to living in small towns in 30 years time’ - what effect would this have on the food industry?
‘China will develop technically and it will be also the largest world market and strongly influence the international food market’ – noodle soup instead of hamburgers as the global food take-away?
‘Genetic engineering produces animals with the white meat of chicken and the size of a beef animal’ - will this see the demise of red meat?

It can be seen that scenarios are searching for long-term social and technological changes, and there are various methods such as the Delphi technique which are used to develop and analyse these scenarios.

There is a wide range of sources for knowledge in product idea generation and it is important to recognise them and not to work in too narrow a knowledge base. Some important areas are shown in Table 3.1.
### Table 3.1 Some knowledge sources for new product idea generation

<table>
<thead>
<tr>
<th>Consumer:</th>
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<tbody>
<tr>
<td>• Researching consumer life changes</td>
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<td>• Researching changes in eating patterns</td>
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<tr>
<td>• Studying what consumers need now and in the future</td>
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<td>• Studying what consumers want now and in the future</td>
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<tr>
<td>• Studying the growing consumer concerns</td>
</tr>
<tr>
<td>Technology:</td>
</tr>
<tr>
<td>• Basic research on food properties and reactions</td>
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<tr>
<td>• Research on processing and manufacturing engineering</td>
</tr>
<tr>
<td>• Research on new raw materials and ingredients</td>
</tr>
<tr>
<td>• Research on transport and storage methods</td>
</tr>
<tr>
<td>• Invention of new types of equipment</td>
</tr>
<tr>
<td>• Adaption of other technologies</td>
</tr>
<tr>
<td>Market:</td>
</tr>
<tr>
<td>• Researching social, cultural, economic changes</td>
</tr>
<tr>
<td>• Studying competing products</td>
</tr>
<tr>
<td>• Looking for a gap in the food market or a specific target market</td>
</tr>
<tr>
<td>• Studying new products on the food market</td>
</tr>
<tr>
<td>• Improving present products</td>
</tr>
<tr>
<td>• Looking for a different market or market segment</td>
</tr>
<tr>
<td>• Studying marketing changes, particularly distribution channels</td>
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**Think Break 3.4**

*Systematic focused idea generation: food buying trends*

Many of the next generation of women will have lived, as children, in homes where the adults worked and therefore meals were bought semi-prepared and ready-to-serve apart from meals for special days, such as Christmas. What effect will this have on their food buying?

Develop ideas for new food products to serve this market.
3.4 Free idea generation

Free or lateral thinking can be used by the group or the individual. Brainstorming, by a group of people, is common in companies who want to foster creativity in the company, and for product ideas it is called the PIG (Product Idea Generation) group to focus it onto product ideas and away from general brainstorming. The individual, often called the inventor, is the person who develops their own creative techniques to develop new ideas. Individuals can be taught techniques to improve their creativity.

3.4.1 The group

Brainstorming (or the product idea generation, PIG, session) is a group technique to develop ideas concerning a specific problem. It can be either informal, free brainstorming, where the general problem area is described and then ideas allowed to generate, or a formal, nominal group technique where the general problem is described, members write down 3 to 4 ideas and produce these for the discussion. It is useful to use a variety of people, for example an engineer (knowledge of processing), salesperson (knowledge of the market), purchasing person (knowledge of the raw material and ingredient market), customer/consumer (knows their needs and wants), graduate trainee (new to company), retailer (knowledge of available products). One question is - do you have them in a mixed group or in separate groups? A variety of people stimulate discussion into a wider area, but sometimes they can be antagonistic or competitive and this stifles the creative atmosphere. For example, in food service product development, the chefs can be suspicious of each other and it can be more useful to have a mixed group of chefs, product developers and restaurant customers. In developing ingredients for a group of food manufacturing companies, it may be impossible to bring a group of the companies' product developers together because of secrecy and competitive influences. It is important to select groups for each project to give the idea generation required, and not always have the same group - creativity may go stale. There are various techniques that can be used in idea generation and they are selected according to their suitability for the task.

Quantity of ideas is wanted, so that original ideas can develop in the discussion. Modification or combination of one idea with another idea, and development from one idea to another, are encouraged. Unusual, remote or wild ideas are sought. Wild ideas are useful because they often open completely new areas of thought. There is no criticism of ideas.
All ideas are valid at this stage. No member is allowed to either pressurise the group to accept their idea or to make 'fun' of any idea.

**Think Break 3.5**  
*Free idea generation: reviving snack bar sales*

A confectionery company has two snack bars which have major shares in the snack bar market. One has a sticky, chewy centre with nuts and is coated with chocolate; the other is a hard crisp sugar based centre with a chocolate coating. Sales are decreasing, and consumer research has shown that the bars are regarded as ‘bad for you’, so although many consumers think they are delicious, they buy them rarely. Collect a group of people together and ask them to develop new product ideas for the company to revive the sales of their snack bars.

**3.4.2 The individual**

The inventor is always important in all areas of idea generation. Such people may be scattered throughout the company - the consumer researcher, the product developer and the product designer are expected to be creative, but often the operational people in production and marketing have original ideas because they are constantly presented with problems which need solutions. The question is how to collect these ideas and develop them further. The old version of the suggestion box and its modern version of the e-mail and text message is an avenue for ideas in the company, but there is also a need for personal contact, both for encouraging ideas and collecting them. Many senior staff have difficulties in providing the creative stimulus to the individual and also in keeping the communication gate open.

The individual can help their own creative ability by ‘doodling’, keeping an ‘ideas’ notebook, ‘playing’ with the products and with equipment. We have all met them in companies - the person at the Monday morning tea-break who produces the weekend's inspirations. They can be annoying but they are often the ones with original ideas.
3.5 Product characteristics and idea generation

3.5.1 Product characteristics or attributes

These are the features that identify the product to the company, the market and the consumer. Each product is a complex of tangible and intangible characteristics which define the product, its use and value. Product characteristics can be viewed as technological, consumer and market:

- technological: raw materials, composition, structure, size/shape, processing method, storage method, product type;
- consumer: convenience, sensory properties, use, nutrition, safety, psychological, social;
- market: type of market, marketplace, sales, price, promotion.

Variation of the characteristics and addition of new characteristics can make the product more appealing to the consumer and indeed give a unique product. Comparison with the characteristics of competitive products can define the positions of the different products in the market; this can reveal gaps in the market where there are no products, and also give better direction to 'me-too' products.

Think Break 3.6
Free idea generation: how innovative are your product ideas?

Either take a product area where your company wants an innovative product. Or imagine that you are in a dairy company which markets dry ingredients based on milk to ice cream manufacturers, and it has recently dried yoghurt successfully and produced a dried yoghurt powder which is still biologically active.

Take a notebook and in the next few days write down ideas for new products. Rank your ideas, 1 being the most innovative product. Then ask a colleague also to rank them. Are there differences in the ranking? Why are there differences in the ranking? How many ideas were innovative to you and your friend?
A product has a number of characteristics, and they can be ranked in importance not only to the consumer, but also technically and for the market. The important characteristics are combined to give a **product profile**. Each product has a unique product profile with a number of characteristics, some being more important than others. Some product characteristics can be needed or wanted by the consumer and are often called **consumer product benefits**. Other characteristics can be disliked by the consumer! Product types have characteristics with different 'strengths', for example fruit juices could vary from slightly sour to very sour, slightly sweet to very sweet, cheap to expensive, subdued to gaudy packaging, ordinary to prestigious.

Studying product characteristics is widely used in developing product concepts both within the company and more often with consumers. Two important uses of product characteristics for product idea generation are in product morphology and in product positioning.

### 3.5.2 Product morphology

Product morphology breaks a product area into characteristic types and then into characteristic descriptions. Ingredients are a type of product characteristic and they can be varied: in canned beans, the ingredients could be types of beans, sauce, meats, vegetables. Nutrition could be the focus: in a formulated dairy product, the nutritional characteristics could be fat, protein, sugars, calcium, vitamins. Psychological characteristics are important: in a take-away food they could be fun, comfort, prestige. Ideas can be developed under each heading; in the canned beans, there could be five types of beans, six types of sauces and they could be combined in different ways to give new product ideas, for example kidney beans with bacon in a salsa sauce, soybeans with tofu in black bean sauce. Through product morphology, an individual or a group can develop ideas for product characteristics and also many product ideas by combining the characteristics in different ways.

### 3.5.3 Product positioning

In product positioning, competitive products are placed on a number of linear scales, one for each product characteristic. The scales are rated from low (or none) to high for the product characteristic. Two or three scales can also be combined in a multi-dimensional space. New product ideas can be found by moving the company's product on the scales, making its characteristics weaker or stronger. A product characteristic can be magnified or
reduced in strength, the product characteristics can be combined in different ways, or a new characteristic can be introduced - all leading to new product profiles and new products.

**Think Break 3.7**  
**Product morphology and positioning – use in developing new canned beans products**

- List different types of beans, sauces, meats and vegetables which could be in canned beans. Combine them together in different ways to give ten new product ideas
- How many new product ideas could be obtained by varying all your ingredients in different combinations? How could one cope with so many ideas?
- Identify 5 canned bean products presently the leaders on the market. Rate them on the following scales: strength of flavour, nutritional value, fun for children, price, attractive packaging. From this product positioning, develop 5 new product ideas.

### 3.6 Product ideas screening

The aim in idea screening is to retain the successful ideas and eliminate the ideas which could be failures - much easier to write than to carry out in practice! If in doubt, keep the idea until more information is obtained. Idea screening can be based on tacit knowledge of the individual and of the company, with little new explicit information sought in or outside the company. But the aim in successive screenings is to build up the necessary information for the decisions to be made in a quantitative, objective way. Screening is both a reiterative and a progressive process, so there is a need to relate to the first screening even in the last screening in case the product description has changed and it no longer fits the screening criteria first set out.

The components in idea screening are product idea descriptions or concepts, screening factors and screening techniques. There is a need to have product idea descriptions that everyone involved in screening understands and is evaluating in the same way. The choice of screening factors is of course fundamental - obviously the direction of choice is strongly
influenced by the criteria. Lastly the people who do the screening, and the techniques they use, affect the screening results.

3.6.1 Product idea descriptions
These must be clear and concise. They include:

- a clear description of the product;
- the use of the product;
- the target market segment;
- the relationship to the company's present products;
- the relationship to competing products.

For example, the new product idea in an ice-cream company could be a range of liqueur ice-creams. What is meant by a liqueur ice-cream - is it a liqueur flavour, or does it have drops of liqueur embedded in it? Is it targeted at sophisticated diners at home or in restaurants? Is it to be the top of the company's ice-cream range? Is the nearest competitor the specialty ice-creams made in high-class restaurants? Should problems be anticipated from sections of the community such as teetotallers or religious groups or will there be legal difficulties with excise duties?

The initial description is usually kept broad so that ideas on the product, the market and the technology can be continually studied, but there is a need to focus the idea in a certain direction so that the people involved are not taking off in too many directions at once. As the product idea builds from a product idea description, to a brief product idea concept, to the final product concept, to the product design specifications and to the product specifications, the focus is being narrowed all the time.

One product idea description for the liqueur ice-cream was: ‘a line of plain based ice-creams with little jellies containing concentrated liqueurs, aimed as a gift to be taken to dinner parties, sold through higher-class supermarkets’

3.6.2 Screening factors
The strong screening factors, with which the product idea must agree, arise from the project aim and the project constraints. The overall aims of the company always take
precedence over other factors. No matter how brilliant a product idea is in isolation, it is rejected if it does not fit with the company's business strategy, in particular the product strategy. There may be an outstanding product idea which may change the direction of the company's business strategy, but it has to be taken from the project ideas and directed back into the top management area. This product idea has to be viewed in its scale and suitability for the company, and decisions within the company must be taken at top management level. The constraints identified at the beginning of the project are also important screening factors. A product may be dropped for many reasons: it does not meet the food regulations; there is not sufficient money to develop or to produce it; the managing director does not like it! The factors used in screening should be as objective as possible, but sometimes subjective decisions are made.

Think Break 3.8

*Product idea descriptions and screening factors: liqueur ice creams*

Develop two more product idea descriptions for the range of the liqueur ice-creams as discussed in 3.6.1 *Product idea descriptions*.

What screening factors could be used for these liqueur ice-creams which would reflect your society’s cultural and religious attitudes to the consumption of alcoholic drinks?

Some product screening factors are shown in Table 3.2.

**Table 3.2 Factors for product screening**

**Marketing factors:**

- Potential market size
- Compatibility of market image with company's product lines
- Relationship to competing products
- Compatibility with existing or specified market channels
- Access to suitable physical distribution systems
- Fits into an acceptable pricing structure
- Relationship to promotional methods and resources
- Marketing resources needed to produce success

**Production factors:**

- Compatibility with existing product lines
- Availability of processing equipment
- Availability of raw materials and ingredients
- Availability of technical skills to produce the product
- Availability of production time
- Agreement with any legal requirements
- Cost and availability of new resources required
Table 3.2 Factors for product screening (cont.)

<table>
<thead>
<tr>
<th>Development factors:</th>
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<tbody>
<tr>
<td>• Knowledge needed for development</td>
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<tr>
<td>• Available knowledge and skills</td>
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<td>• Available time and human resources</td>
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<tr>
<td>• Development funds needed and available</td>
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<tr>
<td>• Compatibility with existing strengths</td>
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<td>• Development difficulties and risks of failure</td>
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<table>
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<tr>
<th>Financial factors:</th>
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<tr>
<td>• Compatibility of development costs with financial resources</td>
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<tr>
<td>• Capital investment resources needed and available</td>
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<tr>
<td>• Finance needed and available for market launch and ongoing product support</td>
</tr>
<tr>
<td>• Profits or returns on investment required</td>
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Significant factors are many and these are just a few that often occur. The choice of screening factors depends on the type of ideas, the company and its resources, the company's environment and the level of innovation. There could be many factors but it is not humanly possible to use them all, so that the factors are ranked in importance and only the most critical chosen in the first screening, although others may be checked later. Factors can be rated as crucial, most important, important and minor.

**Think Break 3.9**

**Product idea screening factors: fruit slice snacks**

A bakery company is at present producing wrapped cakes to be sold in supermarkets on ambient shelves. It has decided to develop a line of fruit slices, such as apricot and almond, berry fruit and hazelnuts, which could be eaten by the consumer as snacks. The aim is to launch these products in supermarkets, mainly for adult consumers.

- Identify the factors that could be used in screening the product ideas.
- Rank the factors from most important to least important and give them ratings to show their relative importance.
- Divide the factors into crucial, very important, important and minor
3.7 Product ideas screening procedures

Screening is usually done in stages. Simple methods may be used in the early stages with more detailed screening undertaken as the number of products is reduced and more technical, marketing and financial information becomes available. As screening proceeds, the number of product ideas decrease, the amount of information increases, the number of screening factors increase and the accuracy improves. A possible screening sequence could be:

(25 ideas)
Pass/fail screening using aim and constraints
↓
(10 ideas)
Checklist screening using market suitability and technical possibility
↓
(2 ideas)
Economic evaluation using predicted market size, prices and production costs
(1 idea)

First the ideas are studied to see if they are compatible with the aim, constraints and any other crucial factors in a sequential, pass/fail screening in which the product idea is considered against each crucial factor in sequence, and a simple pass/fail decision is made. If they fail, they are dropped from further consideration. The remaining ideas are scored against each other on the important factors in a checklist screening, the scores added to give a total score and the lowest scoring ideas are dropped. The scales used can be 0 - 5 or 0 - 10 depending on the accuracy of the knowledge used. Probability screening is also used; instead of giving a single score on a factor for the product idea, the probabilities of achieving the different scores on the scale are predicted. At this point, detailed information on prices, production and distribution costs, market potentials and investment costs are collected and an economic evaluation made to select the product which has the predicted highest sales revenue, profit, rate of return on investment or some other financial criterion. This economic evaluation is repeated at different stages of the project, together with a check on all the factors used in earlier screenings. Minor factors are included on a checklist at the end of the product idea screening to see that they are being met in the final product concept. The packaging and the promotion can be screened on these factors as well as the products.
Consumer screening of product ideas is shown in Example 3.1.

**Example 3.1 Screening bakery products in Malaysia**

A bakery company was investigating the Malaysian market for Western style baked products. From pass/fail screening, seven product ideas remained which fell into four categories - cakes, buns, pies, pizza. There are two main ethnic groups in Malaysia, Malay and Chinese, so it was decided to find out which product categories and which individual products were preferred by each ethnic group. The consumers ranked the product categories from 1, the most preferred, to 4, the least preferred, and they also selected the product in each product category which they preferred. Seven Malay women and thirteen Chinese women were in the panel.

<table>
<thead>
<tr>
<th>Rank mean score</th>
<th>Malay</th>
<th>Chinese</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cakes</td>
<td>2.1</td>
<td>3.0</td>
<td>5.1</td>
</tr>
<tr>
<td>Buns</td>
<td>2.6</td>
<td>3.2</td>
<td>5.8</td>
</tr>
<tr>
<td>Pies</td>
<td>2.9</td>
<td>1.3</td>
<td>4.2</td>
</tr>
<tr>
<td>Pizza</td>
<td>2.4</td>
<td>2.5</td>
<td>4.9</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Number preferring product</th>
<th>Malay</th>
<th>Chinese</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cakes Carrot cake</td>
<td>2</td>
<td>4</td>
<td>6</td>
</tr>
<tr>
<td>Spice cake</td>
<td>5</td>
<td>9</td>
<td>14</td>
</tr>
<tr>
<td>Buns Hot cross bun</td>
<td>2</td>
<td>3</td>
<td>5</td>
</tr>
<tr>
<td>Cheese bun</td>
<td>5</td>
<td>10</td>
<td>15</td>
</tr>
<tr>
<td>Pies Macaroni and meat</td>
<td>4</td>
<td>6</td>
<td>10</td>
</tr>
<tr>
<td>Vegetable, mushroom</td>
<td>3</td>
<td>5</td>
<td>8</td>
</tr>
<tr>
<td>Vegetarian</td>
<td>-</td>
<td>2</td>
<td>2</td>
</tr>
</tbody>
</table>

There was a clear-cut preference by the Chinese for pies, but not for the Malays. There were no strong preferences by the Malays between the different varieties of baked goods and only one more woman preferred macaroni and meat pies over the other pies. The preference of the Chinese for macaroni and meat pie plus the high scores for this product in the technical screening were the reasons why the macaroni and meat pie went forward for further evaluation.

The advantages of a systematic screening approach are that it provides:

- uniform method of product idea evaluation;
- point of reference throughout the project;
- systematic approach;
- focus on business strategy and top management decisions.

3.8 People involved in idea screening

A variety of people are involved in screening products. The initial screening is carried out by company staff with a simple pass/fail on the aim, constraints and other crucial factors. This may be done by one person but it is preferable to have representatives from different areas of the company. Once product descriptions are written it is important to involve the consumer, or in industrial and food service marketing the customer. This usually involves focus groups initially, but as the number of products is reduced, consumer or market surveys on three to five products are carried out to give quantitative data on the acceptance and the predicted market potential. Company personnel are also involved - again in groups or by a survey. It is often useful to have individual people from different areas of the company to score the product ideas on several factors, and then bring them together. This highlights any problems which could occur in further development. Checklist or probability techniques can be used. The final screening is of course done by top management at the end of the first stage based on feasibility studies of the final product concept.

3.9 Summary

Idea generation and screening are used throughout the project, although the initial product idea generation and screening is the most important and has been emphasised in this chapter. All idea generation and screening needs to be creative, knowledgeable and systematic. This is not an easy mix to optimise, but it is important as it leads to innovative and successful products launched on the market.
Creative people are identified in the company and an atmosphere generated to encourage
their creativity and so build a strong knowledge base on marketing, technology and
consumers. The consumers for foods and the customers for ingredients are also involved in
idea generation and screening so that their needs and wants are incorporated. Various
operational areas in the company are actively involved as well as the product development
and R&D personnel. The process is systematic so as to involve all these people and to
develop and optimise the outcomes.

3.10 Suggested readings

Earle, M.D. (1997) 'Innovation in the food industry' Trends in Food Science and
Technology, 8, 166-75.
Labuza, T.P. (1994) 'Shifting food research paradigms for the 21st century' Food
Technology, 48(1), 50-6.
Rochford, L. (1991) 'Generating and screening new product ideas' Industrial Marketing
Innovation Management, 11, 146-55.

More recent references

**Project Break 3.**

*Either* Continue with the company project, taking the project aim and constraints that you developed in the past Project Break.

*Or* Use Project 3 at the end of the chapter.

1. Develop 20 product ideas. It is suggested that you try three idea generation techniques - a PIG session with a consumer group, product morphology with some technical people in the company, and market analysis with some marketers.

2. Select the important factors for screening these ideas and rank them as crucial, very important, important, minor.

3. Using first a pass/fail screening on the crucial factors, remove any ideas that are unacceptable to the company.

4. With a consumer focus group, rank the remaining ideas.

5. Screen the highest ranking ideas with a group of company personnel, scoring on the very important factors in checklist screening.

6. Choose the products to develop further.
Richard Hagberg, an analyst of CEO (Chief Executive Officer) personality traits and performance, believes that many bosses fail at two crucial tasks: communicating strategy and aligning troops behind a vision. “They get so wrapped up in their own ideas that they fail to communicate strategies.” His research shows that about 70% of top executives are introverts. Not David Johnson. Johnson's command of emotional and quantifiable factors separates him from the CEO pack. His showmanship, combined with a laser-like focus on financial rigour, has paid off, imbuing the 127-year-old Campbell Soup with renewed vigour.

Johnson focuses his people on a single goal - increasing net earnings faster than competitors. He drives managers to search for the next big idea that could produce a blockbuster. “Bring me ideas supported by how much each will add to earnings”, he directed. For example, when low-fat cream soups became a hit in Britain, someone suggested that he transplant the formula to the USA - he did.

Looking to the future, the CEO is counting on his idiosyncratic brand of voodoo to power Campbell over two major hurdles: tepid sales growth and a limited international presence. In the USA, the company for all its earnings prowess, has been stewing in a food market that's been stagnant for years. It has been struggling to adapt to the American consumer's preference for eating out or bringing home freshly prepared meals. To boost growth, Johnson has launched a re-examination of the company's business portfolio that will winnow out hundreds of low-profit offerings, many in soup, and redirect investment dollars to products with the highest returns. Although Campbell now commands 80% of the US canned soup market, he lusts after a 90% share. He plans to achieve this by reinventing old favourites and producing new hits like cream of broccoli. Last year Campbell added one third more chicken to its chicken noodle soup and increased sales by 18%.

Growing the business overseas is more difficult. In Europe, the company languishes behind CPC International and Nestlé, makers of Knorr and Maggi dehydrated soups, and Heinz who claim 53% of the UK soup market. Campbell has launched beachheads
in Japan, Malaysia, Indonesia and Hong Kong. Unlike that of many consumer-products companies, Campbell's strategy is to customize its brands to local tastes. For example, Campbell's cream of pumpkin has become Australia’s top-selling canned soup, while in Hong Kong it sells watercress and duck gizzard soup.

The global excursion will require at least 10 years of superior execution before it can be judged a success. And critics argue that in the US, the company needs to take some creative quantum leaps to infuse new excitement into soup and to combine brands in intriguing new ways. Campbell did this last year when PepsiCo's KFC introduced chicken pot pies made with chicken swimming in what is essentially Campbell's Chunky Soup, covered by a Pepperidge Farm Crust. The pies are flying out the door so fast that KFC predicts sales will reach $300 million in 1996.

(From Grant, L. (1996) 'Stirring it up at Campbell', *Fortune*, 13 May, pp.50-3.)

When using this for the Project Break, it might help you to consider the following questions:

- What are the different product strategies described?
- What were the new products developed according to each new product strategy?
- What new product ideas can you suggest for each of these strategies and why do you think these will help develop this product strategy?