

## **Organizational Guidelines for Innovation**

(R. C. Parker)

### Innovation and the Company Board

1. Express company purpose in a generic form thereby extending awareness of possible growth in related markets
2. Review environmental factors and forecast market needs that are likely to prevail when new products are expected to be ready for sale
3. Consider all company products and classify them into their business sector prospects and associated competitive attributes; it is convenient to construct a matrix
4. Review the group's strengths and weaknesses, appraise likely competitors' activities, and issue brief corporate plan indicating likely growth areas
5. Consider the implication of the above examination and for each product decide whether it should be phased out of production, continue unchanged, or be earmarked for development
6. Decide on possible new market segments and export territories for growth, and list the actions needed to gain business from main competitors
7. Review the various possibilities for new products; i.e., in-house, development, licensing arrangements, joint ventures, and acquisitions, and consider possible divestments
8. Classify activities according to whether they are service projects or projects with a high or low probability of success; draw up budgets for each class and monitor capital and revenue expenditure

### Innovation and Company Directors

1. Draw up a list of design and development modifications for products whose market share needs increasing
2. Determine areas in which innovative changes in manufacturing processes and production engineering will lower product cost and improve performance
3. Investigate selling, distribution, and pricing policies, and seek ideas for a higher growth and larger market share
4. Obtain innovative ideas for new products to meet unsatisfied market needs and ideas likely to create a need
5. Group the ideas according to whether they concern selling and distribution, cost-saving, product-improvement, or a new product
6. Forecast for each idea the expected financial benefit, cost of achievement, and the time needed for completion
7. Select the best idea, on the basis of available resources, and their benefit/cost ratio, and incorporate them in a board strategy that is in line with the group corporate plan

### Innovation and the Company Environment

1. Arrange for the innovation plan to be sponsored by a board member who will be seen to have influence and enthusiasm
2. Tell employees of the plan so that they know the likely time scale, probable risks, and the radical changes which may follow
3. Maintain the fewest number of management levels, remembering that an innovating organization needs an organic rather than an hierarchical structure
4. See that the salary and status expectations of the non-line specialist are in no way inferior to those of line management
5. Evaluate staff abilities and contrive to make use of their full potential, and provide opportunities for continual growth
6. Create an awareness that inspiration is important and heighten the creative ability of staff by suitable training
7. Set up synectics [brainstorming] groups for the purpose of formulating new and feasible opportunities
8. In designing the organization and planning the layout of offices and laboratories, heed must be paid to those factors which control the flow of necessary information

### Organizing Research, Design, and Development for Innovation

1. Secure the commercial exploitation of the output from research, design, and development activities by forming a team to deal with each group of related products; these teams should be made accountable for the development of new products
2. Set up a product/process department responsible for prototype production, and a plant design department to provide a manufacturing plant capable of meeting product specifications and target costs
3. Form support teams of scientists and engineers needed to service the above groups together with an administrative department responsible for servicing information, cost, planning, output, and other needs
4. Use appropriate methodologies for the more functional tasks as appropriate; e.g., functional cost analysis, value engineering, morphological analysis
5. Take action on chosen ideas by constructing planning networks for all developments and by using resource-leveling techniques
6. Establish *ad hoc* working parties with the purpose of facilitating effective communication between company divisions, especially marketing, sales, manufacture, research, design, and development
7. If use of the products involves expertise with which the customer is unfamiliar, provide training and after-sales service

### Innovation in Research and Development

1. Gain innovative advances in existing products by looking for instances of anomalous good behaviour and finding the cause
2. Describe each product in terms of its elements and sub-elements and see whether they can, with advantage, be assembled in a different manner
3. If elements and sub-elements with different properties are thought likely to be advantageous, decide upon the wisdom of achieving such changes either through empirical or scientific approaches
4. Actively search for benefits from technology transfer and periodically re-assess earlier unsuccessful attempts to introduce novel techniques
5. Seek entirely new ideas from all sources, first, with reference to existing technical, manufacturing, and marketing expertise, and second, without restriction
6. If company growth is urgent and is critically dependent upon marketing new products, establish a small venture group organization
7. Eliminate potential conflict by initiating simple procedures which clarify the manner in which responsibilities are shared among, or passed to, appropriate departments

### Innovation and Design

1. The head of the design function must be a senior executive who co-ordinates all activities relevant to the product, especially the marketing, production, and finance functions
2. Appoint designers of the highest possible competence
3. Expertise will be required in the following facets of engineering: industrial, materials, maintenance, reliability, safety, quality assurance, and purchasing
4. Cultivate an awareness of current technologies and methodologies, and take cognisance of psychological researches into creative thinking
5. A retrieval system must be designed whereby every previous design part can be located and adapted wherever possible
6. An engineering design and a design detail office should be set up, the first dealing with concepts conveyed through drawings or sketches, and the second meeting the needs of the various activities listed in (3) above
7. For large projects, institute a separate design scrutiny function to guard against mistakes that arise through overfamiliarity with a design