

Strategic Product and Service Design

The essence of an organization is the goods and services it offers

.....Every aspect of the organization is structured around them..

Product and service design – or redesign – should be closely tied to an organization’s strategy

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What Does Product & Service Design Do?

1. Translate customer wants and needs into product and service requirements
2. Refine existing products and services
3. Develop new products and services
4. Formulate quality goals
5. Formulate cost targets
6. Construct and test prototypes
7. Document specifications
8. **Translate product and service specifications into *process* specifications**

Involve Inter-functional Collaboration

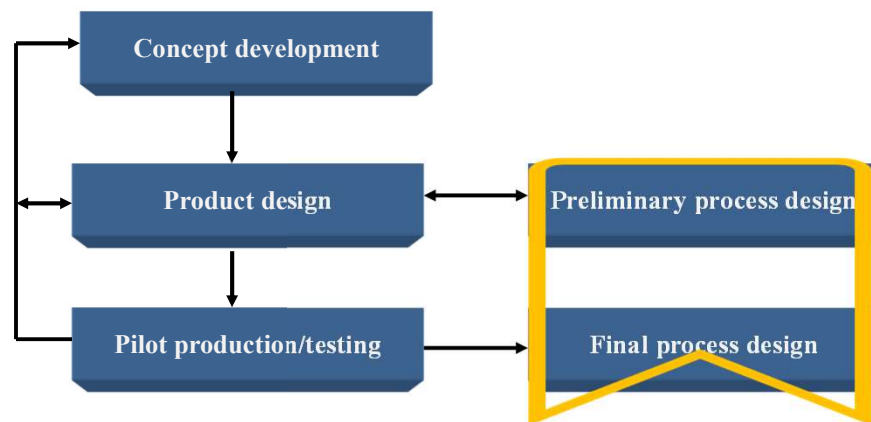
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Key Questions

1. Is there a demand for it?
 - Market size
 - Demand profile
2. Can we do it?
 - **Manufacturability** - the *capability* of an organization to produce an item at an acceptable profit
 - **Serviceability** - the *capability* of an organization to provide a service at an acceptable cost or profit
3. What level of quality is appropriate?
 - Customer expectations
 - Competitor quality
 - Fit with current offering
4. Does it make sense from an economic standpoint?
 - Liability issues, ethical considerations, sustainability issues, costs and profits

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New Product Design Process



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Process Design

- ❑ Process design decision influences processing time, in-process-inventories and processing costs.
- ❑ It influences capability of an organization to make timely deliveries.
- ❑ A cost effective process design helps in procuring jobwork / contract work

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Process Design.....contd.

A proper process design ensures that:

- Production is completed by delivery date.
- Goods or services are of desired quality
- Processing costs are optimal thus leading to Cost competitiveness

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Idea Generation - Competitor-Based

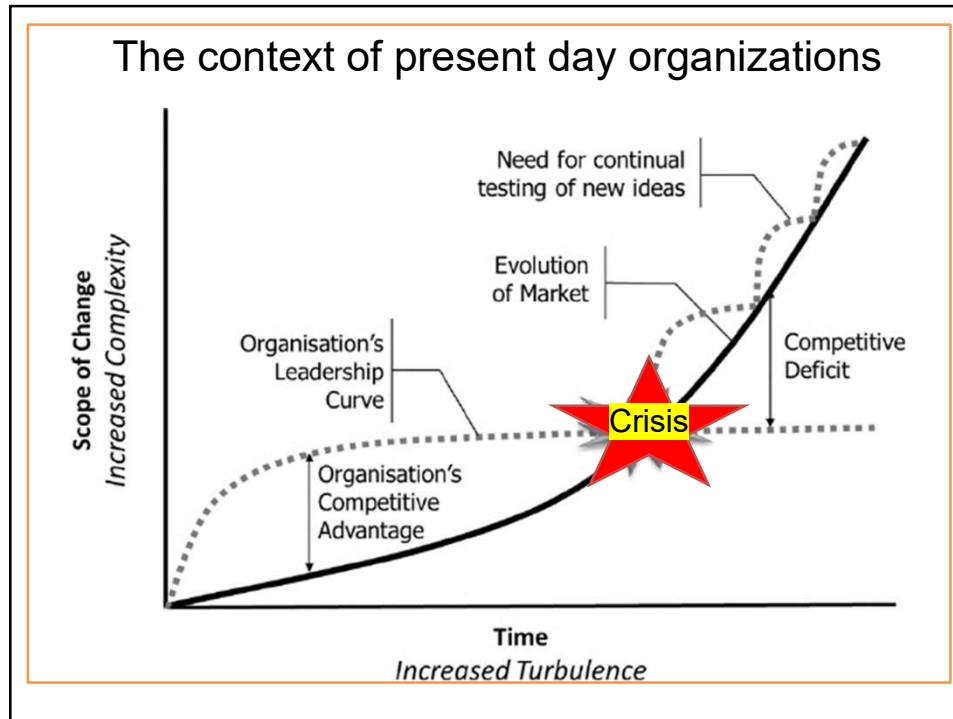
- By studying how a competitor operates and its products and services, many useful ideas can be generated
- Reverse engineering
 - Dismantling and inspecting a competitor's product to discover product improvements

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Idea Generation - Research Based

- Research and Development (R&D)
 - Organized efforts to increase scientific knowledge or product innovation
 - **Basic research**
 - Has the objective of advancing the state of knowledge about a subject without any near-term expectation of commercial applications
 - **Applied research**
 - Has the objective of achieving commercial applications
 - **Development**
 - Converts the results of applied research into useful commercial applications.

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Sustainability

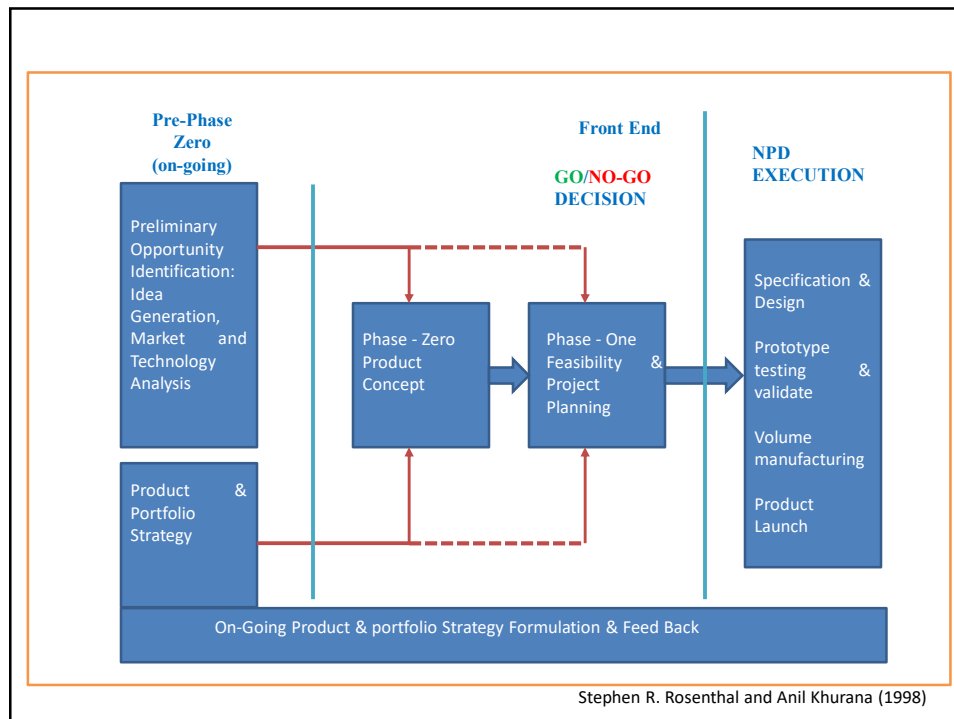
- Sustainability
 - Using resources in ways that do not harm ecological systems that support human existence
- Key aspects of designing for sustainability
 - Cradle-to-grave assessment (Life-Cycle assessment)
 - End-of-life programs
 - The 3-Rs
 - **Reduction of costs and materials**
 - Re-using parts of returned products
 - Recycling

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Other Design Considerations

- Strategies for product or service *life stages*
- *Standardization*
- Product or service *reliability*
- Product or service *robustness*
- Degree of *newness*

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