

DESIGN & DEVELOPMENT**Concept**

Product or Service development (NPD) is the complete process of bringing a new product or service to market. There are two parallel paths involved in the NPD process: one involves the idea generation, product design, and detail engineering; the other involves market research and marketing analysis. Companies typically see new product development as the first stage in generating and commercializing new products within the overall strategic process of product life cycle management used to maintain or grow their market share.

Objectives for Excellence

The initial design requirements are formally established for every product or service. The final results are checked against the initial requirements to guarantee that the objectives of design are met.

The different phases of design are identified, controls are done at the end of each of them.

The time for products development is a relevant indicator in the organisation.

Formal and documented reviews of the results of design are carried out, with the participation of all the groups concerned.

A validation of the design takes place to guarantee that the objectives of design are met, and the validation results are recorded.

A computer based system is used to monitor the different phases of the process. E-mail or other internet based technology is used as a tool of communication to speed up the information exchange among the people participating in the design and development of products or services.

Actions for implementation

It is adopted any procedure to define the stages to follow, the controls to establish, the costs estimations, etc, for the design process.

The responsibilities and authorities to control the process are defined.

The design process fed back with information coming from production, purchasing, sales, etc.

It is any specific computing tool utilized to help during the design process.

It is any technology used as a tool of communication to speed up the information exchange among the people participating in the design and development of products or services.

Best practice¹

Think about

The process. There are several stages in the new product development process:

1. Idea Generation. Ideas for new products can be obtained from customers (employing user innovation), designers, the company's R&D department, competitors, focus groups, employees, salespeople, corporate spies, trade shows, or through a policy of Open Innovation. Formal idea generation techniques can be used.
2. Idea Screening: Will the customer in the target market benefit from the product? Is it technically feasible to manufacture the product? Will the product be profitable when manufactured and delivered to the customer at the target price?
3. Concept Development and Testing: Who is the target market and who is the decision maker in the purchasing process? What product features must the product incorporate? What benefits will the product provide? How will consumers react to the product? How will the product be produced most cost effectively? What will it cost to produce it? Can test the concept by asking a sample of prospective customers what they think of the idea?
4. Business Analysis: Estimate likely selling price based upon competition and customer feedback; Estimate sales volume based upon size of market; Estimate profitability and breakeven point
5. Beta Testing and Market Testing: Produce a physical prototype or mock-up; Test the product (and its packaging) in typical usage situations; Conduct focus group customer interviews or introduce at trade show; Make adjustments where necessary; Produce an initial run of the product and sell it in a test market area to determine customer acceptance.
6. Technical Implementation: New program initiation; Resource estimation; Requirement publication; Engineering operations planning; Department scheduling; Supplier collaboration; Logistics plan; Resource plan publication; Program review and monitoring; Contingencies - what-if planning.
7. Commercialization (often considered post-NPD); Launch the product; Produce and place advertisements and other promotions; Fill the distribution pipeline with product; Critical path analysis is most useful at this stage

¹ Real case coming from the experiences of InnoSME users, to be incorporated in the future.

Resources and Links

servicedesign.org – SD is an open and shared discourse on the subject of Service Design.

[PDMA](#) – Product Development and Management Association provides resources for professional development, information, collaboration and promotion of new product development and management.

[Design Council online](#) - Helping businesses become more successful, public services more efficient and designers more effective.

[ICSID](#) - The International Council of Societies of Industrial Design (Icsid) is a global not-for-profit organisation that promotes better design around the world. ICSID facilitates co-operation and interaction and supports a global network through which design institutions worldwide can stay in touch, share interests, experiences, and resources.

[PDD](#) – Product Design and Development is a Resource for Students and Professionals in the Field of Product Design and Development.

[NextD](#) – NextD try to help raise awareness regarding how the challenges of cross-disciplinary innovation leadership have radically changed at the leading edge of the marketplace and how those changes are impacting designers.

[Servicedesign](#) – Resources and learning materials about service design and development.