

## INFINITY

Knowledge Hub | Consulting Guide

# THE PRODUCT DEVELOPMENT ROADMAP

## A Consulting Guide for Small Manufacturers in India

*From Ideation to Market — and the Wisdom to Navigate Every Stage*

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## A Word Before You Begin

*Bringing a new product to market is, for a small manufacturer in India, among the most consequential decisions a business can make. It deserves a guide — and a guide who has walked this road before.*

This document is not an exhaustive technical manual. It is a consulting companion — a clear, honest map of the product development journey, written to help you understand what lies ahead, where the real risks are, and how the right guidance at each stage can mean the difference between a successful launch and an expensive lesson.

At INFINITY, we work alongside manufacturers through the complete development journey — from the earliest stirring of an idea through to market launch and beyond. We have seen what goes right when each stage is respected, and what goes wrong when it is not. What follows is our distilled view of that journey, offered to you as a starting point for a conversation.

*“Every great product begins not with an answer, but with the right questions. We help you ask them.”*

## The Twelve Stages of Product Development

A product does not arrive in the market by accident. Behind every successful launch is a disciplined sequence of stages — each building on the last, each with its own demands, risks, and decisions. Below is the

INFINITY Product Development Roadmap: twelve stages, from the first articulation of an idea to the management of the product through its market life.

Phase	Key Deliverables	Gate — Before Proceeding
<b>Phase 1 Ideation</b>	Defining the real problem. Identifying the customer. Mapping what already exists and where the gap lies.	<i>Problem is validated as real and addressable</i>
<b>Phase 2 Conceptualisation</b>	Shaping the idea into a product direction. Evaluating concepts. Selecting the approach best suited to your resources and market.	<i>Preferred concept selected with documented rationale</i>
<b>Phase 3 Research &amp; Feasibility</b>	Testing the ground: market validation, technical feasibility, commercial viability, and IP landscape — before committing significant investment.	<i>Go/No-Go decision supported by evidence</i>
<b>Phase 4 Mobilisation</b>	Assembling the team, the plan, the budget, and the supplier relationships needed to develop the product with discipline.	<i>Funded plan signed off; team assigned</i>
<b>Phase 5 Functional Architecture</b>	Writing the Product Requirements Document: defining what the product must do, to what standard, under what conditions — unambiguously.	<i>PRD approved by all stakeholders</i>
<b>Phase 6 Design &amp; Engineering</b>	Translating requirements into detailed engineering: drawings, BOM, DFM/DFA analysis, design review, and formal design release.	<i>Design released; drawings issued</i>
<b>Phase 7 Prototyping</b>	Building to learn: Proof of Concept through to Beta prototype, Design Verification, Design Validation, and a resolved design history.	<i>Beta prototype meets PRD; issues resolved</i>
<b>Phase 8 Tooling &amp; Process</b>	Designing the manufacturing system: production tooling, process flow, control plans, work instructions, and supplier qualification.	<i>First-off trials accepted; process documented</i>
<b>Phase 9 Pilot Production</b>	The first run on production tooling. Proving the manufacturing system. Measuring process capability. Reconciling actual cost with target.	<i>Product meets spec on production tooling</i>
<b>Phase 10 Validation &amp; Regulatory</b>	Field trials with real users. Obtaining all required certifications: BIS, BEE, CDSCO, FSSAI, PESO, Legal Metrology, and others as applicable.	<i>All certifications in hand; trial issues resolved</i>
<b>Phase 11 Launch &amp; Documentation</b>	Technical documentation, sales collateral, channel training, warranty infrastructure, and a staged, evidence-based market entry.	<i>Product commercially available; support in place</i>
<b>Phase 12 Lifecycle Management</b>	Post-launch monitoring, engineering change discipline, next-generation planning, and end-of-life management.	<i>Structured review cadence established</i>

Each of these stages carries its own critical decisions, its own common pitfalls, and its own gate criteria — the conditions that must be met before the next stage begins. Skipping a stage, or passing a gate without

meeting its criteria, is the single most reliable way to convert a promising product into a costly failure.

INFINITY guides clients through each of these stages with the combination of technical depth, commercial judgment, and India-specific regulatory knowledge that each one demands. We do not offer generic advice — we work with the specific realities of your product, your organisation, and your market.

## What INFINITY Brings to Your Development Journey

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Product development consulting is only as valuable as the quality of judgment behind it. At INFINITY, our engagement with your product development programme goes well beyond framework and checklist. We bring:

- **End-to-end ownership:** We work with you across all twelve stages — not as intermittent reviewers, but as a consistent development partner who understands the full arc of your programme.
- **India-specific depth:** Regulatory navigation, domestic supply chain development, cost-realistic design, and market entry strategy — all grounded in the actual environment Indian manufacturers operate in.
- **Honest assessment:** We will tell you what you need to hear at each gate, not what is convenient. A gate not enforced helps no one.
- **Cross-sector experience:** Our practice spans mechanical, electronic, consumer, industrial, agri-input, and healthcare product categories — giving us the pattern recognition that sector-specific consultants often lack.
- **Structured documentation:** Every engagement produces a product development file that belongs to your organisation — the accumulated record of decisions, test data, and approvals that will serve you through the product's entire life.

Whether you are at the very beginning of an idea, partway through a development programme that has lost direction, or preparing for a launch and unsure what you may have missed — we welcome the conversation.

### Is your product development journey ready to begin?

Whether you have a fully formed concept or just the beginning of an idea, INFINITY can help you navigate every stage of the journey ahead — with the rigour, honesty, and India-specific expertise that your product deserves.

**Reach out to us at [infinitynixai.com](https://infinitynixai.com) — we would be glad to start the conversation.**

## A Question Worth Sitting With

*Before management theory. Before engineering handbooks. Before every framework ever written.*

### **Nature was already perfecting products.**

Long before the first human entrepreneur asked ‘what does my customer need?’, the coconut tree had already answered that question — completely, precisely, and without a single wasted element. It defined its customer. It designed its product for function, durability, and distribution. It tested its prototype in the harshest conditions on earth. It packaged its product for protection and portability. It built a distribution system that crossed oceans. And it has been producing, refining, and sustaining that product for millions of years.

Every stage of the twelve-phase roadmap you have just read exists, in perfect form, in the life cycle of a single coconut. Ideation. Feasibility. Architecture. Prototyping. Quality control. Packaging. Distribution. Lifecycle management. All of it — executed with a rigour no human process has yet surpassed.

At INFINITY, we believe that the deepest insights in product development — and in every domain of consulting — come not from management literature, but from the natural world. Nature is the original innovator, the most rigorous quality system, and the most patient teacher. We draw from it constantly, and it shapes how we think about every client’s challenge.

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***Would you like to know how the coconut tree developed its product — and what every small manufacturer in India can learn from it?***

*Ask us. The answer may change how you think about your next product.*

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### **INFINITY | Comprehensive Product Development Services**

Ideation · Design · Prototyping · Tooling · Validation · Launch · Lifecycle

**infinitynixai.com**