

Taking Research to Business

TCS' New Products and Solutions Development (NPSD) framework

TCS Research aims to solve real-world problems and create value for TCS' business and to society. TCS now places a greater emphasis on patents, platforms, and products. This has created a strategic focus on Research and Innovation (R&I). To build rigor into IP-based assets, TCS R&I created the New Products and Solutions Development (NPSD) Framework. NPSD functions as a governance framework to assist and review the conceptualization, assetization, and commercialization phases of all innovative products in TCS.

A Matter of Scale

TCS has a dedicated R&I unit and has been investing in it consistently for four decades. Since 2015, it has expanded the R&I footprint in each of its industry units—it crowdsources ideas; it encourages entrepreneurs in residence; it co-innovates with its ecosystem technology partners and customers; it incubates research projects and high-impact business ideas. This scaling of innovation across the organization ensures a steady stream of new ideas and experiments. Candidate

ideas with strong business potential have to pass through the NPSD gateways (Figure 1) to attain market maturity. NPSD brings research and business stakeholders together in a stronger and more purposeful journey towards new business offerings.

The Three Lenses

As research should lead to a business prototype, NPSD works like a lean canvas, asking the right questions at the right time. It examines the offering from multiple lenses, chief of which have been succinctly termed "Desirability, Feasibility, and Viability" by [Ideo](#). Among other things, the framework forces researchers to answer the following questions about their work:

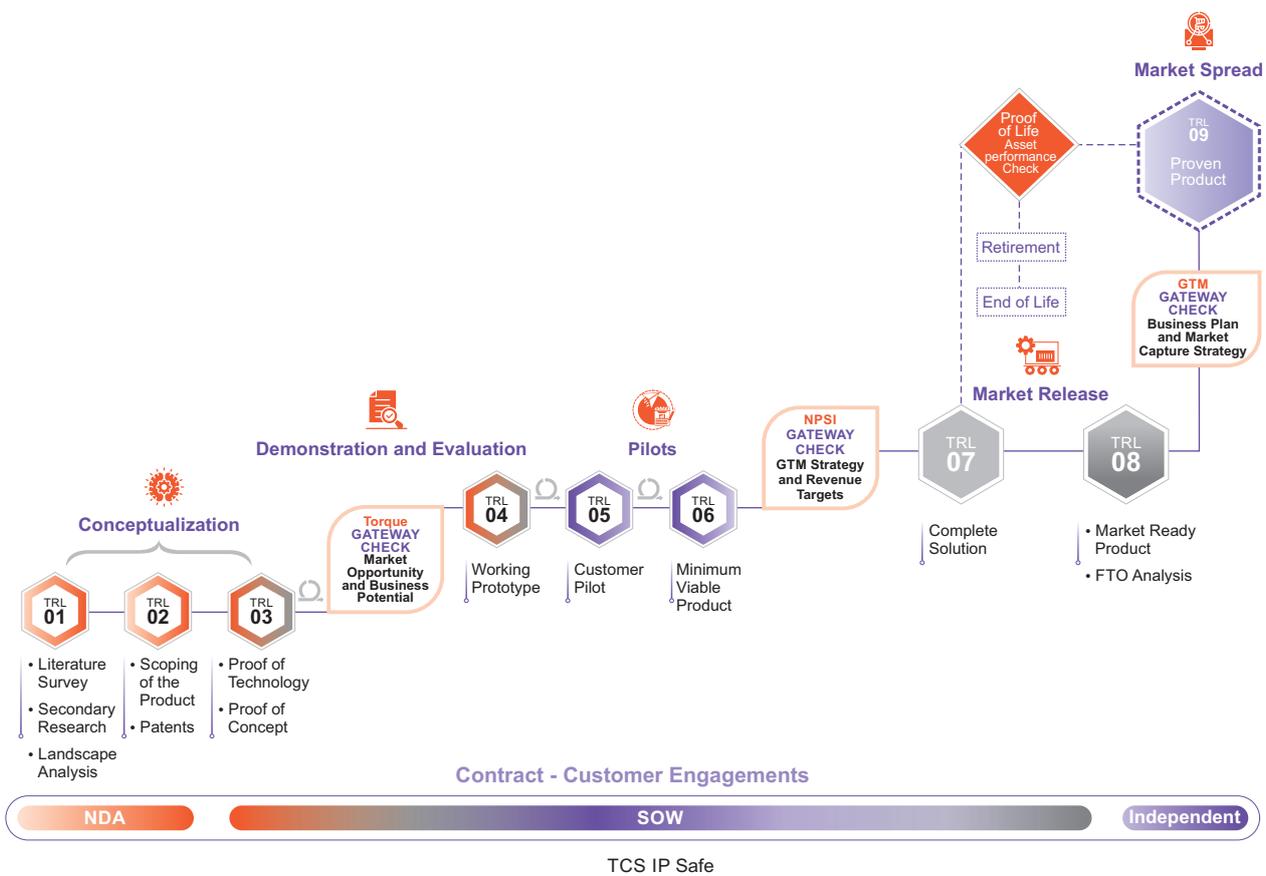
- Who needs this?
- Is it possible to do this effectively?
- Will this create value?

The framework's deep dive on each of these aspects compels projects to examine technical robustness and also provide proof

.....

NPSD functions as a governance framework to assist and review the conceptualization, assetization, and commercialization phases of all innovative products in TCS

.....



Technology Readiness Level is an estimate of the technology maturity and market feasibility of a given solution (product or service)

Figure 1: NPSD framework

points, study failure hypothesis, and prepare better for the market.

A Balancing Act

TCS' NPSD attempts a delicate balancing act to provide the required freedom that researchers need to explore, and to assure the business of a robust and novel solution. It assesses maturity along a "Technology Readiness Level" (TRL) scale that graduates from 1 to 9. (Figure 1). Stage 1 (TRL 1-3) provides plenty of freedom for research to explore new technologies. Stage 2 (TRL 4-6) examines the desirability

of the proposed offering and the technical feasibility in real-world scenarios. By Stage 3 (TRL 7-9), the offering must have gained in technology robustness and shaped itself for business viability.

A Business Thinking Tool

NPSD prepares research for the long haul. If the potential research-based offering does not seem capable of technical efficacy or have market viability, it is sent back to the drawing board. TCS invests in blue sky research projects. But there are several projects that

NPSD works like a lean canvas, asking the right questions the right time

work on real-world problems too. NPSD enables these projects to understand business expectations. It also invites business to take an interest in research as it progresses. Thus, NPSD nudges the business and technology teams to work closely as the new offering moves down the pipeline. It leverages synergies in the organization, strengthening the collective

understanding of the business potential of new technologies.

As a well-defined process, NPSD brings clarity not only to research and business teams but also to aspects such as engineering and functions, such as legal and marketing. Most importantly, NPSD enables leadership to look at the funnel of options and prioritize accordingly.

.....

NPSD leverages synergies in the organization, strengthening the collective understanding of the business potential of new technologies

.....



Chakravarthi Sathyanarayana

Sathya is a Principal Consultant with TCS Research and Innovation. He works in the area of Innovation Management. He has Masters degree in Computer Science from Indian Institute of Technology, Madras

All content / in Taking Research to Business is the exclusive property of Tata Consultancy Services Limited (TCS) and/or its licensors. This publication is made available to you for your personal, non-commercial use for reference purposes only; any other use of the work is strictly prohibited. Except as permitted under the Copyright law, this publication or any part or portion thereof may not be copied, modified, adapted, translated, reproduced, republished, uploaded, transmitted, posted, created as derivative work, sold, distributed or communicated in any form or by any means without prior written permission from TCS. Unauthorized use of the content/information appearing here may violate copyright, trademark and other applicable laws, and could result in criminal or civil penalties.

TCS attempts to be as accurate as possible in providing information and insights through this publication, however, TCS and its licensors do not warrant that the content/information of this publication, including any information that can be accessed via QR codes, links, references or otherwise is accurate, adequate, complete, reliable, current, or error-free and expressly disclaim any warranty, express or implied, including but not limited to implied warranties of merchantability or fitness for a particular purpose. In no event shall TCS and/or its licensors be liable for any direct, indirect, punitive, incidental, special, consequential damages or any damages whatsoever including, without limitation, damages for loss of use, data or profits, arising out of or in any way connected with the use of this publication or any information contained herein.

©2020 Tata Consultancy Services Limited. All Rights Reserved.

Tata Consultancy Services (name and logo), TCS (name and logo), and related trade dress used in this publication are the trademarks or registered trademarks of TCS and its affiliates in India and other countries and may not be used without express written consent of TCS. All other trademarks used in this publication are property of their respective owners and are not associated with any of TCS' products or services. Rather than put a trademark or registered trademark symbol after every occurrence of a trademarked name, names are used in an editorial fashion only, and to the benefit of the trademark owner, with no intention of infringement of the trademark.