

NANO TOOLS FOR LEADERS®

THE INNOVATION MATRIX

Nano Tools for Leaders® are fast, effective leadership tools that you can learn and start using in less than 15 minutes — with the potential to significantly impact your success as a leader and the engagement and productivity of the people you lead.

Contributor: David Robertson, Practice Professor, Operations and Information Management Department, The Wharton School; author of *Brick by Brick: How LEGO Rewrote the Rules of Innovation and Conquered the Global Toy Industry* (Crown Business, 2013).

THE GOAL:

Increase and expand innovation success by using the Innovation Matrix.

NANO TOOL:

In many markets, it is not enough to develop one new product. To create a sustained advantage, you need more. Imagine if Apple came out with the iPod — without iTunes, without the FairPlay copy protection system, without the 99-cent-per-song pricing model, or without complementary products such as docks, skins, and chargers that enhance the user experience. Apple continues its domination of the online music market over a decade later because of the suite of products and services, the business models and core capabilities, and the marketing that supported its initial offering.

This holistic approach to innovation involves four innovation arenas: product, business, communication, and process; and then coordinates innovation efforts across the organization. It is not something many companies do well. But by using an Innovation Matrix, you can map out new products — from incremental improvements to revolutionary breakthroughs — and clearly identify where resources are needed, determine what other innovation efforts could support the product, and see where efforts need to be coordinated.

HOW COMPANIES USE IT:

In 2003, as LEGO emerged from a brush with bankruptcy and returned its innovation focus back to construction products, the company realized it couldn't compete on the brick alone. Given that all its brick patents had expired decades before, LEGO needed to compete on more than the product — a box of bricks. LEGO CEO Jørgen Vig Knudstorp and his team developed the innovation matrix as a tool to help identify, staff, and coordinate the different innovations needed for the development of a new product.

The development of the company's second generation of the LEGO robotics kit — MINDSTORMS® NXT — is one example of how they used the matrix. The MINDSTORMS team wished to leverage the skills of its fans who, according



to LEGO manager Søren Lund, “are often way ahead of our designers and see possibilities that we don’t.” Filling out the matrix illustrated that, while developing the new product was a significant effort, the biggest innovation for the company would be how it collaborated with key MINDSTORMS users in the development process. This helped management understand how the team should be staffed and funded, what risks to monitor, and which members of the management team should review the project.

The results were impressive. By engaging with key users, the MINDSTORMS team not only improved the design of the new kit, but also were able to go to market with a full suite of user-developed complementary products such as books, an educational curriculum, sensors, and software. And when the product was released, the LEGO Group leveraged their users to help promote it. As a result, LEGO MINDSTORMS® NXT was the top-selling product in the entire LEGO Group in 2006.

ACTION STEPS:

Use these four steps to help fill out and use the Innovation Matrix:

- **Meet with the team that has a new product or service concept, and place the innovation in the appropriate column in the matrix.** Locate it vertically by assessing how incremental or radical the innovation is; incremental improvements go near the bottom while “never seen before” revolutionary innovations are at the top. The MINDSTORMS product, for example, was a significant step forward, but not new to the world, so would be placed halfway up the “Product Offering” column.
- **Brainstorm complementary products, services, business models, etc., that could make the core innovation more successful.** What new service would help make a new product successful? Would a new pricing model distinguish the offering, or would a new sales channel help you reach more customers? Work your way across the matrix to identify these potential complementary innovations. The key complementary innovations for MINDSTORMS were an educational curriculum, a set of books that showed some possible inventions with the kit, and new sensors — produced by outside vendors — that allowed users to add RFID tag readers, compasses, and other capabilities to their robots. But the most significant of the complementary innovations was an internal enabling process: the involvement of the company’s most passionate fans in the early stages of product development.
- **Ask who will work on these complementary innovations.** How will they get information and how will they coordinate with the product team? To succeed in the educational market, the LEGO team worked closely with a group from the company’s educational unit. To coordinate with their outside inventors, the MINDSTORMS team hired a “Community Organizer” who structured the community and created a forum for fans to communicate with the LEGO team.
- **Consider staffing, funding, and review.** If you are going to work with a team that draws from business development, sales, operations, manufacturing, marketing, and/or customer support, who will represent them during reviews, where does their funding come from, and how will you measure and reward this extended team? If you have a reward system that encourages the product team to simply develop a better product, then that is what you will get. But if you want a set of complementary products that can help you take the market by storm, you must invest, staff, review, and reward that broader goal. Representatives from all the affected parts of LEGO attended the MINDSTORMS project review meetings.

Incremental Improvement to current market in existing category																	
New Offering in existing category with new value proposition																	
Redefine Category "Never seen before" offering																	
		Business Channel • Distribution • Retailers • Partners		Business Model • Revenue model • Pricing model		Product Offering • Products • Components		Product Suite • Collection of products & services that provide complete solution		Marketing • Branding • Messaging • Campaigns • Web sites • Catalogs		Customer Interaction • Customer Service • Community (online or not) • Events		Core Capability • Manufacturing • Supply Chain • Procurement		Enabling Processes • Legal/IP • Research • Product Development	
		Business		Product		Communication		Process									

Even if you don't have full control over the innovation process, you can use the Matrix as a communication tool, starting the conversation with management about what needs to be done and demonstrating a strategic approach to innovation. The Matrix will help identify what is under your control, what other resources you need, and what the coordination challenges will be.

SHARE YOUR BEST PRACTICES:

Do you have a best practice for innovation management? If so, please share it on our blog at Wharton's Center for Leadership and Change Management. <http://whartonleadership.wordpress.com/>

ADDITIONAL RESOURCES:

- *Brick by Brick: How LEGO Reinvented its Innovation System and Conquered the Toy Industry*, David Robertson (Crown Business, 2013). Reveal the ideas and techniques that have powered LEGO to record results in recent years, detailing its unique innovation guidance system and advancing a set of LEGO-tested business principles for building innovation into all of a company's activities — strategy, creativity, productivity, and leadership.

- *Innovation Prowess: Leadership Strategies for Accelerating Growth*, George Day (Wharton Digital Press, 2013). Shares proven methods for building a comprehensive strategy for driving continuous organic growth.
- *The Innovator's Dilemma: The Revolutionary Book That Will Change the Way You Do Business* Paperback, Clayton M. Christensen (HarperBusiness, 2011). Argues that as new technologies disrupt businesses, established firms have structures, processes, and reward systems in place that hinder their ability to respond. Only by carefully scanning the environment and responding to potential threats by starting up independent ventures sheltered from the influences of the main business, can a company hope to survive.
- David Robertson teaches in Wharton Executive Education's [*Innovation for Growth: Strategies and Best Practices and Wharton/IEL Strategy*](#) and [*Business Innovation Program*](#).

ABOUT NANO TOOLS:

Nano Tools for Leaders® was conceived and developed by Deb Giffen, MCC, Director of Innovative Learning Solutions at Wharton Executive Education. It is jointly sponsored by Wharton Executive Education and Wharton's Center for Leadership and Change Management, Wharton Professor of Management Michael Useem, Director. Nano Tools' Academic Director is John Paul MacDuffie, Wharton Associate Professor of Management, and Director of the Program on Vehicle and Mobility Innovation (PVMi) at Wharton's Mack Institute for Innovation Management.