NANO TOOLS FOR LEADERS®

REDUCE RISK AND INCREASE PROFITS WITH ADAPTIVE EXPERIMENTATION

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: Yoram (Jerry) Wind, PhD, The Lauder Professor Emeritus of Marketing; Academic Director, The Wharton Fellows Program; Director, SEI Center for Advanced Studies in Management, The Wharton School, University of Pennsylvania

THE GOAL:

Make innovation more cost-efficient and less risky through continuous, adaptive experimentation.

NANO TOOL:

Let’s say your team comes up with ideas for two new projects. You choose project A. Revenue the first year surpasses expectations and the project is declared a success. But what if project B would have generated even greater revenue, as well as driving interest to other existing company offerings? In the “choose one” model, you have to base your decision on instinct — with no way of comparing the potential of both projects.

Alternatively, the most innovative and agile companies today are using adaptive experimentation (AE) to conduct continuous real-world experiments that provide rapid insights and improve business decisions. Not confined to innovation projects, it can also be applied to decisions about budget allocation, advertising campaigns, pricing, and more. Experimenting with variations can tell you what effect each action is having, and what to do next. By pursuing several approaches, you can learn which alternatives will add the most value, and which ones are likely to waste resources. Using this “fail fast, fail cheap” experimental approach can help you identify the decisions that could lead to the best outcomes, yielding better results with each step.

Because measuring success or failure is embedded in the process, and because failure yields valuable information, permission to fail is an integral element. AE also creates a compelling competitive advantage: continuous experimentation means your competitors can’t discern your master experimental design.

HOW COMPANIES USE IT:

- The audacious experiments and achievements of Google’s famous X Labs include self-driving cars, balloons that broadcast wi-fi around the world, and contact lenses that can measure glucose levels. Google uses “rapid eval” to test multiple ideas — rejecting most of them — and embraces a culture in which failure isn’t the goal, but is in many respects the means.
• In 2014, Facebook launched the Airlock platform for testing and refining new features on its mobile interface. The mobile A/B testing infrastructure lets them expose users to two versions of every new app, which are the same in all aspects except for a specific test variable. Airlock lets them compare metric data from each version and various tests, and then decide which version to ship or how to iterate further.

• During the summer of 2014 Uber was in competition with Lyft for the New York market. Uber ran pricing experiments in real time to understand how price-sensitive the demand for rides was. The experiment helped them understand when and how to adjust prices to ensure optimal outcomes for customers and drivers.

**ACTION STEPS:**

Adaptive Experimentation is a continuous loop, rather than a linear process. The learning that takes place in Step 5 lets you refine your approach and decide on your next objectives as you circle back to Step 1 — which means you improve your outcomes over time.

1. **Determine your objectives:** what achievement(s) is worth the time, effort, and resources needed to run an adaptive experiment?

2. **Create a culture of innovation:** involve your organization's architectural processes and structures, including technology, reward systems, and incentives. To get buy-in from everyone involved and encourage innovation, assure them that performance areas will not be penalized, and compensate as if the old strategy was being used.

3. **Design the experiment:** develop many full execution ideas, including a selection of different markets in which to implement them. Strategies should be innovative, involving multiple approaches that are significantly different and that employ radically different methods for resolving a challenge or taking advantage of an opportunity.

4. **Implement in a controlled and regulated manner:** put an ongoing measurement system in place to evaluate your efforts as well as to monitor markets and control for external effects.

5. **Analyze your results:** use lessons about what worked and what didn’t to develop your next series of experiments.

Whether used to develop new products and services, target marketing programs, or create better customer experiences, AE can help you encourage breakthrough ideas and create an innovation culture.

**ADDITIONAL RESOURCES:**

• *Beyond Advertising: Creating Value Through all Customer Touchpoints*, Yoram (Jerry) Wind and Catharine Findiesen Hayes (Wiley, 2016). Offers a concrete set of principles, including Adaptive Experimentation, based on the insights of 200 of the world’s most forward-thinking executives, innovators, and academics.


**ABOUT NANO TOOLS:**

*Nano Tools for Leaders®* was conceived and developed by Deb Giffen, MCC, director of Custom Programs at Wharton Executive Education. *Nano Tools for Leaders®* is a collaboration between joint sponsors Wharton Executive Education and Wharton’s Center for Leadership and Change Management. This collaboration is led by Professors Michael Useem and John Paul MacDuffie.
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THE GOAL:
Continuously refresh your thinking and that of your organization by using three methods for challenging your mental models.

NANO TOOL:
“We cannot solve our problems with the same thinking we used when we created them.” Albert Einstein

When Steve Jobs introduced the iPhone in 2007, he challenged the conventional assumptions of what mobile phones were by combining the iPod, phone, camera, and touchscreen into a single device. It was a revolutionary product — one that now accounts for more than half of Apple’s revenues. This success, like that of other Apple products, is largely attributed to the company’s ability to challenge its mental models and those of its industries.

This ability is particularly important, even critical to survival, in times of change. Today that change could be considered the only constant, as revolutionary innovations continuously transform the business landscape. Social media barely existed in the early-2000s, yet it’s now one of the most important sources of marketing and advertising for businesses. Technological advancements continue to move society toward a global economy in which everyone is more connected and everything is more transparent.

Although challenging mental models is essential, it’s not an easy task — especially for large, established businesses. The median turnover rate for the Fortune 500 list is 39 per year — up from 29 prior to 1995. To remain successful, your organization needs to establish practices that help you stay ahead in today’s dynamic environment.

ACTION STEPS:
To be most effective, you need to challenge mental models on both an individual and a team basis. Consider your weekly or monthly meetings, and challenge yourself and your team to find ways to build each of these three highly effective practices into your daily lives. In part two of this Nano Tool, you will learn more approaches that can be implemented at the organizational level.

1. **Zooming In and Out.** Whenever you make a business decision, consider the issue from both wide and narrow perspectives. Zooming out, how might the decision affect your shareholders, the community, or global markets? Zooming in, how could it impact your own life or that of a customer? Zooming in and out helps you avoid potential
blind spots and quickly identify new possibilities. It provides a reality check that ensures the decisions made by you and your team will be on track, even under shifting conditions or in complex environments.

2. **Lessons from Winners and Losers.** As you review your strategy or consider your competitive landscape, take time to learn from others’ mistakes. Consider businesses that competed in the past, identify the winners and losers, and translate those examples into lessons about challenging the mental models of your company or industry. Studying the losers, you’ll see why some businesses, like Kodak in photography or Sony in music, lost by not challenging their mental models. Likewise, other businesses, like Nikon, and Apple’s iTunes, created game-changing strategies by thinking outside the proverbial box.

3. **Visualizing the Future.** By visualizing yourself in five, ten, or twenty years, it’s easier to see the effectiveness of your current mental models. This approach is extremely powerful on both the individual and corporate level. Envision being named “2022 Person of the Year,” or being the 2020’s most innovative company, and identify the publication that bestowed the award; then, try to identify the mental models that helped earn that recognition — any differences between this vision of the future and your current situation are typically due to differences in mental models. Visualizing the future challenges you to change them.

**HOW LEADERS USE IT (OR SHOULD HAVE USED IT):**

- In response to the BP oil rig explosion in 2010, the company’s then CEO Tony Hayward did what any executive would have done: he worried about the negative impact on his company. Believing this was his primary concern, he zoomed in on the details of how the crisis would affect his company and his life, overlooking the full impact of the crisis. If he had zoomed out and surveyed the big picture — the environmental damages, the human devastation, and the overall gravity of the incident — he wouldn’t have angered hundreds of thousands of Americans or been pressured to resign. Zooming out also could have helped him realize that the company’s share- and stakeholders deserved his attention too, and adjusted his actions accordingly.

- Zappos.com became the largest online shoe store by challenging the mental model of how customers buy shoes. Department stores once had a commanding market share in the industry because they provided the only shopping experience consumers were familiar with. Zappos countered their advantage by selling its products online, offering free shipping both ways to encourage shoppers to try their selections at no risk. By keeping a virtual store and relying on word-of-mouth advertising, Zappos was able to significantly minimize its costs and win market share from the former leaders of the industry.

- In 2004, virtually no one knew who Mark Zuckerberg was. The Harvard student was studying psychology and computer science while writing code for a website initially called Thefacebook. Zuckerberg visualized himself making the world more open and putting information dissemination in the hands of individuals rather than a few media companies. That mindset and foresight guided him to achieve his goals: today the wildly successful Facebook boasts 1.35 billion users worldwide each month, and a 2013 study noted that one third of adults in the U.S. get news from Facebook.

**ADDITIONAL RESOURCES:**

- *The Power of Impossible Thinking: Transform the Business of Your Life and the Life of Your Business*, Jerry Wind and Colin Cook (FT Press, 2006). Offers a practical guide for understanding the powers and limits of mental models, and for making better sense of, and better decisions in, our rapidly changing environment.

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Part One of this Nano Tool shared three approaches that individual leaders and their teams can use to stay competitive by challenging their mental models. From “zooming in and out” to learning from winners and losers and visualizing the future, these powerful techniques work to disrupt conventional thinking, question the status quo, and encourage creativity.

The next three approaches are designed to work at the organizational level to help businesses stay ahead in today’s dynamic environment. They challenge the inertia and complacency that can inhibit competitive advantage and hold businesses back.

ACTION STEPS:

Challenging mental models on an organizational level requires substantial effort. It involves large numbers of people and benefits from ongoing work, both of which demand coordination and oversight. Like investors who maintain diverse portfolios of stocks to minimize risk, businesses should develop a portfolio of approaches to maximize their chance of developing new ways of thinking about business challenges and opportunities.

1. Seek diverse disciplinary perspectives. Most business challenges cannot be addressed by a single discipline. Instead, use many disciplines to gain access to a variety of different insights. What would Marketing say about the situation? How does Finance’s perspective differ? What do front-line employees see that others don’t? Gather input from across your organization, your industry, and even outside both. Doing so will help you think more carefully about your mental models and help you find better solutions to your problems.

2. Destroy your brand. Most employees are reluctant to challenge the decisions of those with higher authority, but challenging your organization’s brand can help keep your company relevant in the eyes of the customer. Meet with a number of employees (excluding the brand leader) who will act as newcomers to your industry charged with finding ways to destroy your brand. Typically this is accomplished by challenging its key mental models. After they present to the brand team, develop strategies to prevent such destruction.
3. **Collaborate with your customers to harness their insights.** The role of consumers is rapidly changing as they become more empowered and more skeptical of brands and companies. This approach challenges previous mental models by using consumers’ insights and engaging them as co-developers. Allowing consumers to participate in the production process as designers, producers, price setters, distributors, advertisers, and/or marketers will significantly help businesses develop more cost-effective strategies and better satisfy its customers.

**HOW COMPANIES USE IT:**

- The open innovation company InnoCentive helps organizations solve their problems by connecting them with diverse sources of innovation. They noticed that companies experiencing problems tended to access only knowledge that they are familiar with. InnoCentive instead encouraged those companies to venture away from their fixed views or personal knowledge bases, broadcast their solution requirements to the world, and thereby move from being problem solvers to solution seekers. From its “broadcast search,” InnoCentive revolutionized its industry by showing that the greater the diversity of scientific approaches used in a problem, the greater the likelihood of finding a successful solution. You can add to the “wisdom of the crowd” by checking InnoCentive’s current challenges.

- Google’s prominence can be attributed to many innovative factors, including its ability to maintain an open culture among its employees and managers. The company challenges conventional mental models by encouraging employees to be hands-on contributors. Google helps its employees feel comfortable with sharing their ideas and opinions by holding weekly meetings in which they converse directly with company leaders. The meetings allow Googlers to interact within and across teams, up and down the chain of command.

- In 2010, Ford recognized the growing power of consumers and launched its Fiesta Movement campaign by giving 100 consumers Ford Fiestas for 6 months and asking them to go on monthly adventures, documenting their experiences with their cars. Ford imposed no constraints on what the users could share. Instead of spending millions of dollars on an advertising campaign, they let consumers get the word out about the car. Ford spent minimally on standard ads, and received over 50,000 information requests for the Fiesta (virtually all from non-Ford owners), and sold 10,000 units in the first six days of sale.

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