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Think Like a Rocket Scientist

The Innovation Show

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Take-Aways

- To boost creativity, stay curious and take time for play.
- To interrupt the power of the status quo, shed your old skin.
- Use “first-principles thinking” to get back to fundamentals.
- Look out for invisible rules that limit your thinking.
- Welcome uncertainty despite the fear.
- Value questions more than answers.

Recommendation

In this episode of *The Innovation Show,* host Aidan McCullen talks with Ozan Varol – speaker, author and former rocket scientist – about insights from his book *Think Like a Rocket Scientist: Simple Strategies for Giant Leaps in Work and Life*. Varol shares lessons learned from his own career, along with examples from science and business, to help people boost creativity and innovation, and take leaps in their personal life, career or business.

Summary

To boost creativity, stay curious and take time for play.

Most societies encourage conformity and foster it through their schools, smothering curiosity. But the most innovative thinkers hold onto their curiosity as adults, retaining the ability to think beyond the status quo. Deliberate practice has its place, helping people refine a skill and become expert – but deliberate play nurtures creativity and helps people find new ways forward.

> *"It's really hard to innovate when you're busy clearing out your inbox."*

Innovative ideas often come during slack moments, such as while you're showering, walking or playing music, when you've insulated yourself from distractions and aren't consciously thinking about a problem. For example, Reed Hastings conceived of Netflix's business model while he was working out at the gym. To invite insights, create slack times in your day by intention. Varol calls this "airplane mode," and he schedules these times on his calendar.

To interrupt the power of the status quo, shed your old skin.

The status quo can exert huge power to limit growth and change. Identity can become a prison: If you hold onto the story of who you are, you will find change difficult. For example, Kodak's identity remained connected to physical film, so when the company introduced digital photography, it disrupted its own business.

> *"You have to let go of what's no longer serving you to be able to do the next thing."*

Like snakes, people and organizations have to shed their old skin in order to grow. For example, the owners of the Chicago restaurant Alinea understood that restaurants often struggle to survive their own success. So in Alinea's most profitable year, the owners chose to rebuild the restaurant from scratch. When you undertake this kind of change, your existing skill base and credentials won't go to waste – they'll help you in your next endeavor.

Use "first-principles thinking" to get back to fundamentals.

When you rebuild after destroying the status quo, return to fundamentals – "first principles" – to discover ways to execute your original vision in a new form. Using first-principles thinking means examining your assumptions to strip away all but essential components. For example, Steve Martin, early in his career,

discarded standard notions of stand-up comedy – build-ups and punchlines – to reinvent his performances from first principles.

Elon Musk, in the early days of creating SpaceX, reasoned from first principles and discovered that he could build new rockets from scratch for a fraction of the price of purchasing and repurposing old ones. First-principles thinking also led Musk to conceive of producing reusable rockets and building rockets horizontally rather than vertically.

Look out for invisible rules that limit your thinking.

People and organizations often hold onto assumptions, beliefs, processes and procedures that might once have helped solve a problem – but now persist past their usefulness. These invisible rules hamper performance and stand in the way of change. To root them out, insist on current evidence for them. Question why you're doing what you're doing. Look at the ways past responses to problems might have conditioned your current responses.

Welcome uncertainty despite the fear.

Humans respond to uncertainty with fear – a result of both genetic conditioning and schooling. But breakthroughs and new discoveries have always occurred only amid uncertainty, when thinkers have leaned into it. The urge to move quickly to answers – to avoid uncertainty – leads people to seize on familiar solutions rather than innovating.

> *"Where certainty ends, progress begins."*

Often, the fear has no real basis: In today's world, uncertainty leads more often to joy and fulfillment than to disaster. Insisting on certainty before you make a move will only keep you from acting or keep you mired in the status quo. The same goes for companies.

Value questions more than answers.

Typically, in the workplace, people value answers too much – and they don't appreciate the value of asking questions. The desire for answers can cause people and organizations to jump too quickly to executing an idea – often resulting in disaster – rather than taking time to test and gather data. And questions have value in themselves: The simple act of asking a question can change a problem and reveal previously hidden answers. For example, during the development of the 2003 Mars Exploration Rovers, someone at NASA asked, "What if we sent two rovers instead of the usual one?" That question transformed the mission and led to its outsize success.

About the Podcast

The Innovation Show shares ideas on innovation, change, disruption, transformation and the future to empower new thinking. Host **Aidan McCullen** is a change consultant and works with organizations to improve how they collaborate and create the environment for change. **Ozan Varol**, a professor of law at

Lewis & Clark Law School, is the author of *Think Like a Rocket Scientist: Simple Strategies for Giant Leaps in Work and Life*.

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