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The simple rules of disciplined innovation

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Constraints aren't the enemy of creativity—they make it more effective.

When it comes to innovation, the single most common piece of advice may be to "think outside the box." Constraints, according to this view, are the enemy of creativity because they sap intrinsic motivation and limit possibilities.

Sophisticated innovators, however, have long recognized that constraints spur and guide innovation. Attempting to innovate without boundaries overwhelms people with options and ignores established practices, such as agile programming, that have been shown to enhance innovation. Without guidelines to structure the interactions, members of a complex organization or ecosystem struggle to coordinate their innovative activities.

How, then, can organizations embrace a more disciplined approach to innovation? One productive approach is to apply a few simple rules to key steps in the innovation process. Simple rules add just enough structure to help organizations avoid the stifling bureaucracy of too many rules and the chaos of none at all. By imposing constraints on themselves, individuals, teams, and organizations can spark creativity and channel it along the desired trajectory. Instead of trying to think outside the wrong box, you can use simple rules to draw the right box and innovate within it.

Simple rules cannot, of course, guarantee successful innovation—no tool can. Innovation creates novel products, processes, or business models that generate economic value. Trying anything new

inevitably entails experimentation and failure. Simple rules, however, add discipline to the process to boost efficiency and increase the odds that the resulting innovations will create value.

Simple rules are most commonly applied to the sustaining kind of innovation, often viewed as less important than major breakthroughs. The current fascination with disruption obscures an important reality. For many established companies, incremental product improvements, advances in existing business models, and moves into adjacent markets remain critical sources of value-creating innovation. The turnaround of Danish toymaker LEGO over the past decade, for example, has depended at least as much on rejuvenating the core business through the injection of discipline into the company's new-product development engine as it has on radical innovation.

Simple rules can also be used to guide a company's major innovations. In the early 2000s, for example, Corning set out to double the number of major new businesses it launched each decade. A team evaluated the company's historical breakthrough products, including the television tube, optical fiber, and substrates for catalytic converters. By identifying the commonalities across these past advances, the team articulated a set of simple rules to evaluate major innovations: they should address new markets with more than $500 million in potential revenue, leverage the company's expertise in materials science, represent a critical component in a complex system, and be protected from competition by patents and proprietary process expertise.

What simple rules are (and aren't)

Simple rules embody a handful of guidelines tailored to the user and task at hand, balancing concrete guidance with the freedom to exercise creativity. To illustrate how simple rules can foster innovation, consider the case of Zumba Fitness.[1] That company's fitness routine was developed when Alberto Perez, a Colombian aerobics instructor, forgot to take his exercise tape to class and used

[1] Leigh Buchanan, "Zumba Fitness: Company of the year," *Inc.*, December 4, 2012, inc.com.

what he had at hand—a tape of salsa music. Today, Zumba is a global business that offers classes at 200,000 locations in 180 countries to over 15 million customers drawn by the ethos "Ditch the workout. Join the party."

Zumba's executives actively seek out suggestions for new products and services from its army of over 100,000 licensed instructors. Other companies routinely approach Zumba with possible partnership and licensing agreements. In fact, it is deluged by ideas for new classes (Zumba Gold for baby boomers), music (the first *Zumba Fitness Dance Party* CD went platinum in France), clothing, fitness concerts, and video games, such as Zumba Fitness for Nintendo Wii. Zumba's founders rely on two simple rules that help them quickly identify the most promising innovations from the flood of proposals they receive. First, any new product or service must help the instructors—who not only lead the classes but carry Zumba's brand, and drive sales of products—to attract clients and keep them engaged. Second, the proposal must deliver FEJ (pronounced "fedge"), which stands for "freeing, electrifying joy" and distinguishes Zumba from the "no pain, no gain" philosophy of many fitness classes.

These two principles for screening innovation proposals illustrate the four characteristics of effective simple rules. First, Zumba's rules are few in number, which makes them straightforward to remember, communicate, and use. They also make it easy for the founders to describe the kinds of innovations most likely to be chosen and to explain why specific ones weren't. Capping the number of rules forces a relentless focus on what matters most, as well. Zumba's success depends on the passion of its instructors and the differentiation of its offering from less playful exercise options. The rules encapsulate the essence of the company's strategy.

Second, effective simple rules apply to a well-defined activity or decision (in Zumba's case, selecting new products and services). To promote innovation, many executives embrace broad principles—like "encourage flexibility and innovation" or "be collaborative"—meant to cover every process. To cover multiple activities, rules must be extremely general, and often end up bordering on platitudes. These aspirational statements, while well intentioned, provide little concrete guidance for specific activities. As a result, they are often ignored.

Pitfalls to avoid when making rules

1. **Dictating rules from the top.** Simple rules are most effective when they are created by the people who will use them. Letting the users make the rules helps you draw on their firsthand experience and increases their level of buy-in.

2. **Shooting from the hip.** Some managers view simple rules as a license to lead by gut feeling. But shoot-from-the-hip rules can outweigh recent experience, reflect personal biases, and ignore anomalous data. The best rules, in contrast, draw on a thoughtful analysis of historical experience.

3. **Rolling out the rules before you test them.** A team of users can generate a first cut of rules. These are best viewed as provisional, subject to testing. One approach is to take a sample of past innovation projects and divide it in half at random. Use half of the sample to develop the rules and then test them on the other projects.

4. **Trying to develop general principles.** One Scandinavian technology company developed a set of broad principles meant to cover any activity, anywhere in the organization, that might affect innovation. The resulting rules—such as "recognize and reward practices that encourage innovation" and "reward creativity"—were at a very high level of abstraction. They failed to provide useful guidance to employees, who ignored them. Target a single bottleneck.

5. **Copying someone else's rules.** Many books, articles, and blogs lay out the innovation rules of successful companies, such as Pixar, and imply that other companies will get the same results by following them. But simple rules should be tailored to the specific strategy and culture of a company. Zumba's rules would never work at Under Armour and vice versa.

Third, simple rules should be tailored to the unique culture and strategy of the organization using them. Many managers want to transplant rules from successful companies without modification—a big mistake (see sidebar, "Pitfalls to avoid when making rules"). Finally, simple rules supply guidance while leaving ample scope for discretion and creativity. Zumba's simple rules provide a framework for discussing and identifying which innovations are attractive but

are not mathematical formulas where you enter the inputs and the answer pops out. The best simple rules are guidelines, not algorithms.

Simple rules to select innovations

Zumba's rules illustrate a common way that simple rules facilitate innovation—by helping companies select and prioritize the most promising new ideas. McKinsey research shows that the choice of which innovations to pursue is a critical factor influencing a company's ability to innovate successfully (see "The eight essentials of innovation," *McKinsey Quarterly*, April 2015, on mckinsey.com).

Although Zumba may seem like a quirky example, even the most serious research labs can use simple rules to select innovations. The Defense Advanced Research Projects Agency (DARPA), for example, is one of the world's most innovative organizations, routinely producing breakthroughs such as brain-controlled prosthetics and climbing gear that allows soldiers with full combat loads to scale vertical walls without using ropes or ladders. DARPA's achievements are even more impressive when you consider that the agency has a technical staff of only 120—about half the size of the Pentagon cafeteria staff. The agency uses two simple rules to evaluate which innovations to back: a project must further the quest for fundamental scientific understanding and have a practical use.

Simple rules can also help ensure that creativity is aligned with strategy, for an innovation process unmoored from strategy often produces intriguing ideas that fail to leverage corporate resources and capabilities. These innovations, viewed as risky distractions, rarely secure the support and resources required for execution. The strategy of the sportswear business Under Armour is to compete on technical innovation, and its simple rules reflect this. Every year, it hosts its Future Show, where thousands of entrepreneurs vie for a chance to pitch their ideas to management. The most recent Future Show, the Connected Fitness Innovation Challenge, was aimed at building "the next generation of game-changing digital experiences through apps and wearable technology." The rules for the competition, reflecting this strategy, require that an innovation should integrate with MapMyFitness (an exercise-tracking company

Under Armour acquired in 2013), emphasize inspiration and insight over information, and address a customer need within select areas, such as wellness or team sports.

In addition, simple rules can help ensure that innovations create value, by balancing novelty with the need to keep a lid on costs. The Zátiší Catering Group runs three of the highest rated restaurants in Prague, as well as a high-end cafeteria business serving the Czech operations of multinational clients. In the past, the chef at each cafeteria enjoyed complete autonomy to introduce new dishes, which proliferated so much that the company produced almost 1,000 distinct ones a year. This culinary creativity came at a cost. The chefs often used exotic, out-of-season ingredients. They rarely coordinated meal planning across cafeterias, which prevented the company from capturing economies of scale in purchasing. The relentless drive for novelty meant that the chefs rarely repeated popular meals, even when customers requested them.

The CEO wanted to make sure the chefs weren't generating novelty for its own sake but rather innovating in a way that created value. He assembled a team of chefs and cafeteria managers, who developed simple rules to guide menu selection. One rule was that three of the five dishes offered every day must be proven bestsellers, which built demand for meals. (This was important because customers could always go out for lunch if they didn't like the cafeteria food on offer.) Others were that no fewer than two dishes a day had to be available at all of the company's cafeterias and that 90 percent of the produce must be fresh and sourced locally. Chefs could still experiment with new dishes, but their creativity fell within parameters ensuring that the overall menu was profitable. Within a few months, revenues were up by one-third and profits doubled.

Rules requiring the reuse of existing materials or components are a particularly helpful way to balance efficiency with novelty. LEGO, for example, insists that designers reuse a certain number of existing pieces when developing a new play kit. That rule balances the need for novelty with control over the number of unique pieces (and the associated manufacturing and logistics costs).

Simple rules for how to innovate

Zumba and DARPA use simple rules to select innovations. Other organizations use them to decide how to pursue innovations. Individuals, teams, and organizations can codify their experience and data into simple rules to guide the innovation process in the future.

Consider the case of Tina Fey, who, with eight Emmy Awards, is one of the most successful comedians of her (or any) generation. In an insightful (and very funny) *New Yorker* article, she distilled the lessons she learned from working on *Saturday Night Live* into simple rules she used to produce her next show, *30 Rock*.[2] The rules, largely focusing on managing creative people, include "never tell a crazy person he's crazy," which acknowledges the link between eccentricity and creativity and the need to handle such people carefully. Another rule is "when hiring, mix Harvard nerds with Chicago improvisers and stir." The former experiment with clever ideas; the latter, such as members of Chicago's famed Second City improvisational-comedy group, have a keen sense of what will work in front of an audience. While CEO of Burberry, Angela Ahrendts followed a similar rule to ensure that key teams balanced analytical employees with creative types.

Companies can also codify innovation-process rules based on the experience of others. ONSET Ventures was a pioneer among accelerators designed to help early-stage start-ups.[3] When the founders established the firm (in 1984) they tried to identify which criteria were important to success by gathering information on 300 early-stage investments, both successful and failed, that had been funded by existing Silicon Valley venture capitalists. They found that a handful of variables accounted for over three-quarters of these outcomes and codified the key insights into five simple rules to incubate start-ups.

[2] Tina Fey, "Lessons from late night," *New Yorker*, March 14, 2011, newyorker.com.

[3] Michael J. Roberts and Nicole Tempest, "ONSET Ventures," Harvard Business School Case 898-154, March 1998.

The best predictor of failure, according to this research, was sticking doggedly to the original business plan. The business models of successful start-ups, in contrast, nearly always underwent at least one major revision (and countless minor tweaks) before they stabilized. This insight led to the first rule: all start-ups must fundamentally change their business model at least once before receiving their next round of funding. Research also taught ONSET's founders that start-ups were more likely to succeed if they waited until after the business model had stabilized before bringing a new CEO on board. That way, the founders and investors could specify the precise skills and expertise the CEO would need to scale the business.

Techstars, a top-ranked accelerator with 18 programs around the world, also uses simple rules to help start-ups get off the ground. The program in Chicago, for example, insists that portfolio companies can have only five key performance metrics at any point. These measures shift over time as companies develop, but the hard cap on five forces a ruthless prioritization at every step in the process.

Help members of a community innovate together

Innovation is rarely the product of lone inventors. More frequently, it emerges from the interactions of members of a community or ecosystem, who extend and build on one another's ideas. Communal innovation entails a deep conflict, however. By freely sharing ideas, members of an ecosystem can collectively create more value through innovation. Yet the open exchange of ideas can make it harder to protect intellectual property and potentially dampens incentives to innovate. Legal intellectual-property protection, such as patents or copyrights, mitigates this tension in many industries but doesn't work in all settings. Simple rules can protect intellectual property in situations where legal remedies don't apply.

Consider the case of magicians, for whom secrecy is everything.[4] If another magician steals your tricks, he steals your unique selling

[4] This wonderful example of simple rules among magicians comes from Jacob Loshin, "Secrets revealed: How magicians protect intellectual property without law," Yale Law School working paper, July 2007.

point, especially if he doesn't credit you. Even more worryingly, if the public learns how tricks are performed, the illusion is ruined for the audience. So it's essential for magicians to ensure that others can't use their proprietary magic and that the public doesn't know how they perform tricks widely shared within the professional community. Magicians cannot rely on the law to protect their intellectual property—they would have to reveal the details of a trick to patent or copyright it.

Instead, magicians rely on simple rules. The rule prohibiting the use of a trick that has not been widely shared, published, or sold to you protects magicians who want to keep their magic proprietary. Another rule—an old trick that hasn't been used for a long time belongs to the person who rediscovers it—revives classic magic for new generations. Finally, and most important, the golden rule of magic is "never expose a secret to a nonmagician." Those who violate these rules are ostracized by the magic community, including the owners of clubs, who book acts. Simple rules are common in communities (including those of chefs, stand-up comedians, and crowdsourcing) that rely on innovation but do not or cannot use the law to protect their intellectual property.

Sometimes innovation requires working with partners, and simple rules can help here too. Consider the case of Primekss (pronounced "preem-ex"), a European construction-supply company that is trying to disrupt one of the world's most traditional industries—concrete—with a product that not only allows for thinner layers and less cracking but also cuts the carbon footprint by up to 50 percent. (The production of cement, the critical ingredient in concrete, is the third-largest source of greenhouse carbon dioxide.)[5] After Primekss won a construction-industry innovation award, the founder was approached by over 100 contractors, but he estimated that the company could evaluate, train, and support only a few new relationships every year.

To select partners, the company developed a set of simple rules. Instead of putting new partners into head-to-head competition with existing ones, Primekss decided to select them in geographic markets with no current operations. A second rule was that a

[5] *Biotechnologies and Biomimetics for Civil Engineering*, edited by Fernando Pacheco Torgal et al., Springer: Cham, Switzerland, 2014.

potential partner should have a Laser Screed machine, a state-of-the-art concrete-spreading system that signaled technical sophistication and commitment to quality. Another rule—partners must sell the concrete within three months of signing a contract with Primekss—ensured that the relationship would be a high priority for partners. In the first year after implementing these principles, Primekss doubled its rate of new partnerships that succeeded and quadrupled its licensing exports.

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Too much constraint can stifle innovation, but too little is just as bad. A blank sheet of paper sounds nice in theory. In practice, pursuing novelty without guidelines can overwhelm people with options, engender waste, and prevent the coordination required for collective innovation. Simple rules can inject discipline into the process by providing a threshold level of guidance, while leaving ample room for creativity and initiative.

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