The Language of Innovation

Transforming Ideas into Awesome Products

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Ron Itelman

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Apress®

Ron Itelman
Denver, CO, USA

Dedicated to those whose hearts desire to be a light unto others.

Introduction

You can practice shooting eight hours a day, but if your technique is wrong, then all you become is very good at shooting the wrong way. Get the fundamentals down and the level of everything you do will rise.
—Michael Jordan

In 1991, the Chicago Bulls stood on the precipice of greatness. Despite boasting Michael Jordan, the world's most electrifying player, championship glory had eluded them. Enter Phil Jackson, regarded as one of the greatest basketball coaches of all time.

Phil implemented the triangle offense – a transformative systems-thinking approach to basketball – which created a formalized way of thinking about positions and movement. This unlocked the ability to have a shared understanding, enabling spontaneous and creative decisions by individuals as they adapted in real-time to the challenges they faced.

This was a remarkable departure from the top-down approach of running plays or relying on any one individual's talent. Having a shared way of thinking allows individuals and the collective team to synchronize their efforts far more effectively. Implementing the shared language of the triangle offense resulted in six NBA championships in eight years. Phil continued to use the triangle offense with the Los Angeles Lakers, securing five more titles.

In the arena of business innovation, we face a similar challenge. Brilliant individuals and groundbreaking ideas abound, yet transformative success often remains frustratingly out of reach. Why? Because we lack a common language to synchronize our efforts, to turn individual flashes of genius into sustained, championship-level performance.

The Language of Innovation offers a unique approach; each chapter provides a real-life innovation story of triumph or tragedy and distills them down to practical guiding principles that you can directly apply in almost any innovation endeavor. As you journey through this book, remember the words of martial arts legend Bruce Lee: *I fear not the man who has practiced 10,000 kicks once, but I fear the man who has practiced one kick 10,000 times.*

Lee's insight applies equally to innovation. True mastery emerges not from a vast arsenal of disconnected techniques, but from deep understanding and relentless refinement of fundamental principles. This book equips you with those fundamentals – a shared language of innovation that you can practice, refine, and master. Each chapter explores innovation successes and failures across various industries, distilling two key elements:

- *Principles:* General approaches distilled from innovation lessons of success and failure.
- *Tools:* The tactical, actionable steps you can implement immediately.

Principles will be illustrated visually and accompanied by concise explanations, as demonstrated by this example in Figure 1.
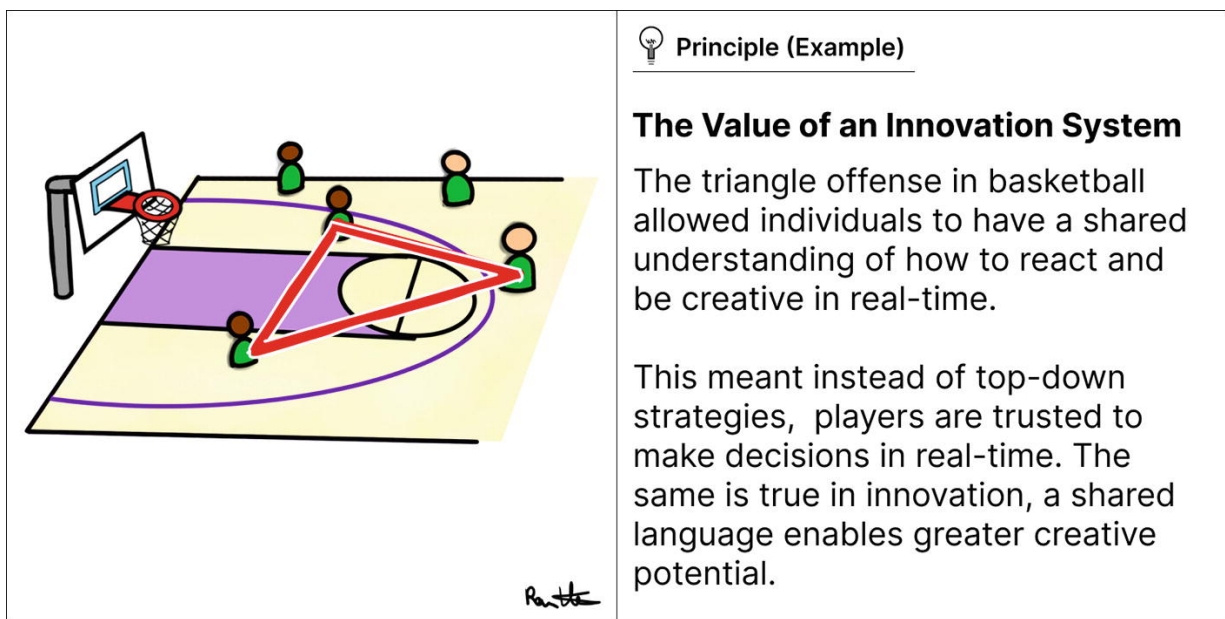
Figure 1 An illustration of the triangle offense in basketball as a metaphor for the Language of Innovation

Tools will often be presented in table format, as shown in Table 1.

Table 1 Tool 1: An example of an Objective & Key Result (OKR) to illustrate how tools are represented

Objective	Key Result	Outcome
My goal is…	How I measure if I achieved my goal.	True/False, did I achieve the goal as defined by my measure of success.
Help a company find talent	The company hires a	True

Objective	Key Result	Outcome
without using resumes.	candidate we recommend.	

The Language of Innovation is meant to ground you in fundamental principles that you can continue to practice toward mastery, providing you and those you collaborate with a way to balance and focus, so you may fully channel your creative energy to reshape reality and unleash your vision of how to make things awesome.

WARNING Caution, mortal! The knowledge contained within these pages is not for the faint of heart or weak of mind. Once consumed, this forbidden wisdom cannot be purged from your consciousness. Side effects may include, but are not limited to

- Spontaneous eruptions of genius-level ideas at inconvenient moments

- Uncontrollable urges to redesign everyday objects

- Inexplicable attraction to whiteboards, sticky notes, and unconventional thinking spaces

- Transformation into a being of pure, unadulterated awesomeness

Any source code or other supplementary material referenced by the author in this book is available to readers on GitHub. For more detailed information, please visit https://www.apress.com/gp/services/source-code.

Acknowledgments

The greatest thing you'll ever learn is just to love and be loved in return.
—Eden Ahbez, American songwriter and recording artist

If innovation is the art of making things better, then the greatest innovation in my life was marrying my wife Steph, and having my two children, Alexa and Maya.

Thank you, reader, for trusting that this book will impart some knowledge and benefit your life. I hope it meets your expectations and that you might use the wisdom within to create something to better the world.

This book started as my journey seeking knowledge and a writing career for my personal benefit, and I quickly learned that if I want to be successful, I need to focus on how to help others.

I want to thank the team at Apress for making this book possible: Shivangi Ramachandran, James Markham, Jessica Vakili, and Krishnan Sathyamurthy.

Additionally, I would like to thank Aaron Black for making the introduction to Shivangi and being a coach, mentor, and friend in the world of publishing.

Lastly, to those that supported and challenged me, this book would not have been possible without your influence.

May we all be a light unto each other.

Love,
    Ron

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About the Author

Ron Itelman

helps teams and companies work better together by building systems that combine human and artificial intelligence. He is the co-author of *Unifying Business, Data, and Code* (O'Reilly 2024). Through his consulting services, Ron helps organizations transform their innovation capabilities, identify and solve efficiency bottlenecks, and build lasting innovation success through hands-on workshops and strategic guidance. His approach brings together insights from learning sciences, technology, and design.

1. Your Innovation Superpowers

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The control room at the Jet Propulsion Laboratory was thick with tension as engineers frantically cross-checked their calculations. On the main viewscreen, the telemetry data painted a grim picture – the Mars Climate Orbiter was hurtling toward the red planet at a perilously low altitude.

A feeling of dread and disbelief slowly crawled over the control room's brilliant and dedicated minds. In a few moments, they began to helplessly watch as their prized life's work, the collective careers of thousands of people that trusted their leadership, and the many hundreds of millions of dollars were literally bursting into flames.

Careers would be forever derailed. The pioneering mission's noble mandate to revolutionize our understanding of Martian climate patterns would disintegrate in a blaze of flames. And Congressional budget hawks would seize on the catastrophic failure as justification to permanently cripple NASA's funding for deep space exploration.

In the burning wreckage of political battles that occurred to find who and what were to blame, a shockingly mundane root cause emerged: a unit conversion error, the mars equivalent of an architect making measurements in inches while the construction crew used centimeters.

This sobering cautionary tale underscores a core premise of organizational effectiveness – the paramount importance of alignment. In today's era of complex systems and daring technological frontiers, innovations are seldom the work of a single brilliant mind. They emerge from cohesive teams and partnerships striving in unified alignment.

And the most powerful tool any individual or company can leverage to identify and achieve alignment is language. This book is about the language

of innovation, how to think of information and communication between teams, ideas, and technology, as one would think of music. If you can't agree what key and tempo to play in, your group will never play well together, some of you will be using inches, while others centimeters.

A Rosetta Stone for Innovation

The catastrophic failure of the Mars Climate Orbiter serves as a sobering reminder of the paramount importance of alignment in any complex, innovative endeavor. A shockingly mundane root cause – a simple unit conversion error – led to the disintegration of a pioneering mission that cost hundreds of millions of dollars and represented the collective work of thousands of brilliant minds.

This cautionary tale illustrates a fundamental truth: in today's era of intricate systems and audacious technological frontiers, groundbreaking innovations rarely emerge from solitary genius. Instead, they are the product of diverse teams and partnerships working in lockstep toward a unified vision. And the most potent tool for forging this alignment is a shared language.

This book is about mastering the language of innovation – learning to think about the flow of information and ideas between people and technology as a conductor regards a musical score. Without agreeing on the key and tempo, even the most talented orchestra will produce only dissonance. The same holds true for any ambitious collaboration.

Throughout these pages, you'll uncover the principles that form the vocabulary and grammar of innovation, providing a framework to harmonize your efforts and translate audacious concepts into world-changing breakthroughs. Welcome to your innovation Rosetta Stone.

The Principle Behind the Principles

Leadership involves having a vision, communicating it so others can understand it, and reaching a consensus on a shared vision.
—Steve Jobs, co-founder of Apple

While popular narratives often depict innovation as a series of brilliant flashes by lone visionaries, the reality is that breakthrough ideas rarely

emerge from solitary minds. True innovation is almost always the very hard work of aligning diverse teams and talent, each with their own ideas and perspectives, toward a unified vision.

The fundamental approach of this book – the principle behind its principles – is to study both triumphs and failures in innovation, distilling their lessons into a guiding light. Like a lighthouse helping ships navigate treacherous waters, these principles illuminate the path forward when goals, ideas, and reality collide. Through careful examination of real-world stories, we've extracted repeatable, reliable, and actionable guidance to improve how you communicate and align with others on your innovation journey.

Alignment: The Heart of Great Innovation

Get the fundamentals down and the level of everything you do will rise. This powerful insight from Michael Jordan, one of the greatest basketball players of all time, encapsulates a core premise of organizational effectiveness – the paramount importance of alignment as the core foundational principle to great innovation.

Just as Jordan understood that mastering the basic techniques of shooting was essential for elevating his overall game, organizations must recognize that aligning their teams around a shared understanding of the fundamental principles of collaboration and communication is the key to unlocking their full potential.

Our species' unprecedented ability to reshape the planet stems not from physical superiority, but from our unique capacity for large-scale cooperation. By aligning our ways of thinking and thus our efforts through shared language, we can transcend individual limitations to achieve feats unimaginable to any other species.

However, as the Mars Climate Orbiter disaster tragically illustrates, this superpower of collaboration is contingent upon maintaining unified alignment. The following principles underscore why alignment is the lynchpin of successful teamwork and innovation.

Principle #1: Collaboration Is Our Superpower

Homo sapiens, like other human species that came before, are not the strongest, fastest, or most physically formidable creatures on the planet. Yet, we have managed to reshape the entire globe to suit our needs and desires,

leaving an indelible mark on the geological record that will persist long after our extinction.

What is the secret to our unprecedented success as a species? It lies not in any biological advantage but in our unique ability to cooperate flexibly in large numbers. Humans alone can create and share intricate fictions – imagined realities that exist solely in our collective minds.

Whether it is religions, nations, corporations, or currencies, these shared myths enable us to form coherent groups and work together toward common goals that transcend our individual limitations. No other species can collaborate on such a massive scale toward ambitious, long-term objectives that require the coordination of countless individuals over vast expanses of time and space.

This superpower of cooperation, illustrated in Figure 1-1, is rooted in our capacity for language and communication. We can transmit intricate knowledge, beliefs, and instructions from one mind to another, allowing us to pool our cognitive resources and build upon the achievements of previous generations.

For example, the Mars Climate Orbiter, a mission that represented the collective efforts of thousands of individuals, each contributing their specific expertise and labor toward a shared vision. Such a feat would be unimaginable without our ability to communicate complex ideas, align our efforts, and collaborate toward an abstract, collectively-held goal that extended far beyond the lifetimes of any individual involved.

It is this very capacity for large-scale cooperation that has allowed our species to erect towering cities, construct intricate transportation networks, and even launch exploratory probes into the depths of our solar system – all through the coordination of countless individuals who will never meet or know each other's names.

Principle #1

Collaboration is our superpower.

Our ability to collaborate and align our efforts towards shared goals is what gives us superpowers.

When people are united in purpose, we can achieve the seemingly impossible when we work together.
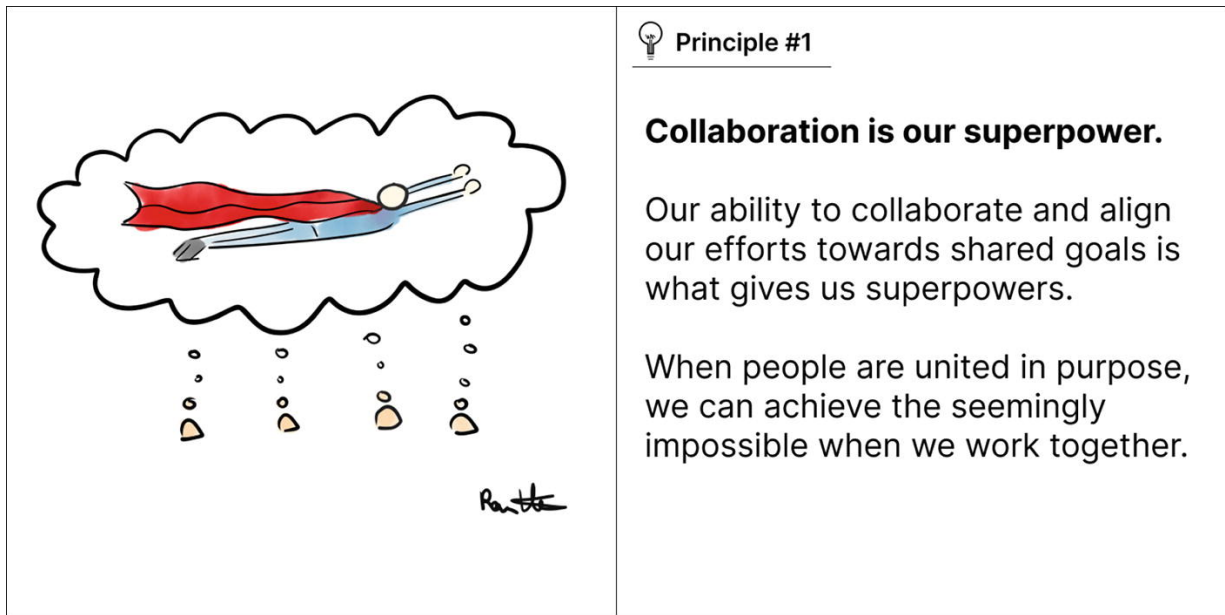
Figure 1-1 A group of individuals sharing a thought bubble with a superhero inside flying

Yet, as the tragic failure of the Mars Orbiter demonstrates, our superpower of collaboration is not without its perils. Misalignment, miscommunication, and the breakdown of our shared myths can lead to catastrophic consequences, undermining our collective efforts and squandering our hard-won achievements.

If collaboration is our superpower, then misalignment is our kryptonite, our Achilles' heel that we must be self-aware about to carefully nurture our investments of reputation, effort, and money, toward success.

Principle #2: Alignment Is the Key to Effective Collaboration

If collaboration is our superpower, then how do we learn to wield it? In the book *The Boys in the Boat*, there's a great line that captures the essence of alignment. It goes like this: *What mattered more than how hard a man rowed was how well everything he did in the boat harmonized with what the other fellows were doing.*

Think about that for a second. You could have the strongest rowers in the world, but if they're not rowing in sync, if they're not working together toward a common goal, they're never going to win the race. In fact, if they aren't rowing in sync, not paying attention as individuals as to how to get in sync, they will be very inefficient, ineffective, and may veer off in the wrong direction entirely, as illustrated in Figure 1-2.

Principle #2

Alignment is the key to effective collaboration

Just like a rowing team must synchronize their efforts to efficiently propel the boat forward, innovation teams need to align their goals, communication, and actions to achieve breakthrough results.

Without this alignment, teams will work against each other, wasting energy and veering off course.
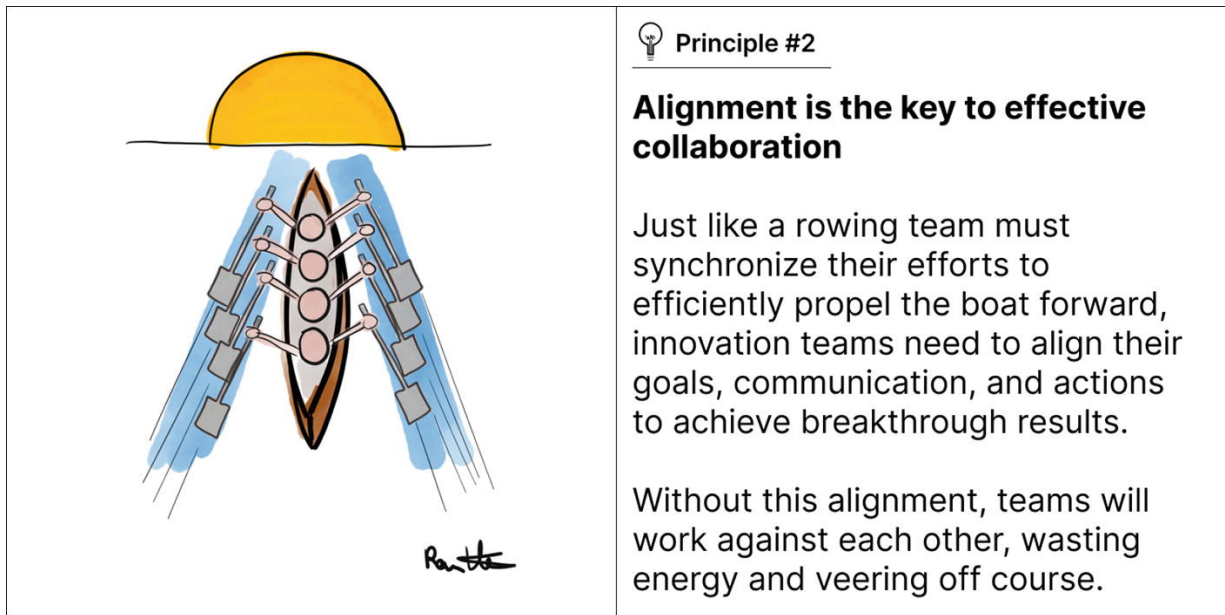
Figure 1-2 A team of rowers in sync with each other headed in a common direction

Asking people to work harder, or faster, if they are not aligned, literally is the same as asking them to fight each other's efforts and overcorrect. It's exhausting and pointless.

The same is true in innovation. You could have the smartest engineers, the most creative designers, and the most experienced product managers, but if they're not aligned, if they're not working toward the same vision, you're going to end up with a mess.

I've seen it happen time and time again. A company sets out to innovate, but everyone has a different idea of what that means. The engineers are focused on building the most technically advanced solution, the designers are obsessed with creating the most beautiful interface, and the product managers just want to get something, anything, out the door.

That's why, before you even begin an innovation project, you need to make sure everyone is rowing in the same direction. This means having a clear and compelling vision that everyone understands and buys into. It means breaking that vision down into specific, measurable goals that everyone can work toward.

That's why our next principle tackles the problem of how to get people aligned, and that's where language comes in.

Principle #3: Misalignment Is Catastrophic

The Mars Climate Orbiter disaster stands as a stark example of the catastrophic consequences that can result from even seemingly minor misalignments. A simple unit conversion error – the equivalent of an architect measuring in inches while the construction crew used centimeters – led to the complete failure of the mission, the waste of hundreds of millions of dollars, and the derailment of countless careers.

This sobering incident, illustrated in Figure 1-3, underscores the reality that misalignment, no matter how seemingly insignificant, can have severe consequences when working on complex, innovative projects. Even the most brilliant minds and cutting-edge technologies are rendered ineffective if they are not aligned and working toward the same goals.

Principle #3

Misalignment is catastrophic.

It doesn't matter how talented your team is, how great your technology is, and how much money you spend if there's misalignment.

The consequences of not being aligned is that people will be working on different goals with lots of assumptions that lead to severely costly mistakes.
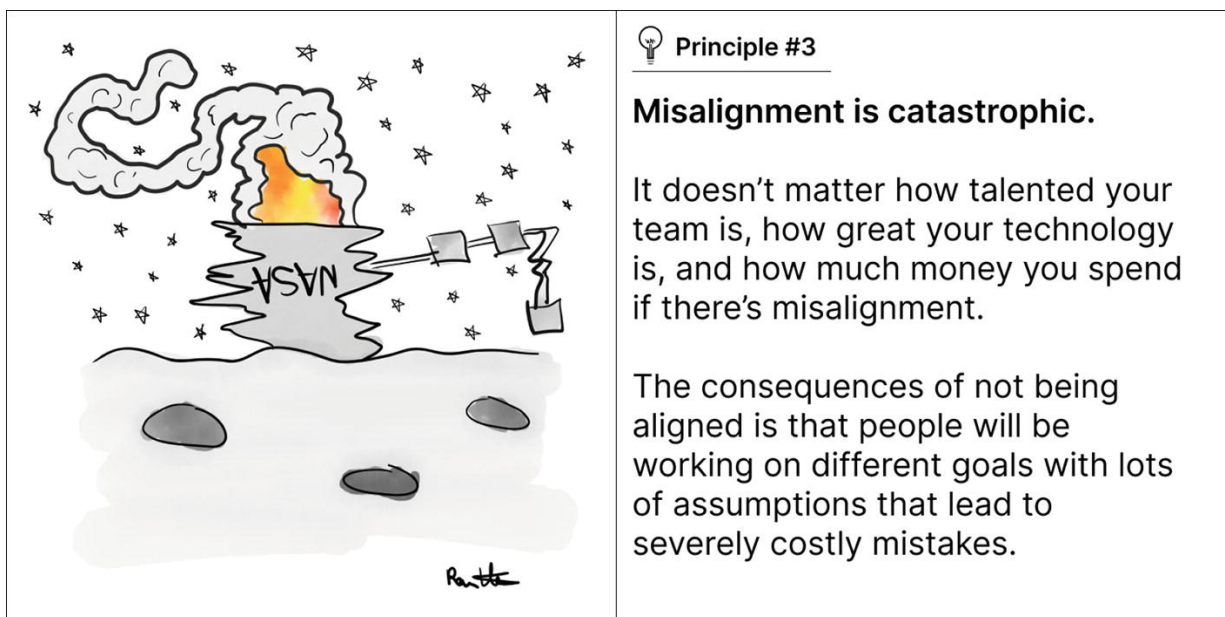
Figure 1-3 An image depicting the crashed Mars Orbital Lander as the fatal consequence of misalignment to the mission

Misalignment isn't purely about whether or not we agree on the meaning of words, it's about whether we *understand* and *agree* on our goals, way of working, meaning of words, and why we are working together. We can agree on the meaning of words, but that doesn't mean we agree on how to achieve goals.

The price to pay for misalignment can be quite high, especially in larger organizations with lots of complexity, because just like the game of telephone operator, the more distributed information across systems and teams, the more likely that there will be different ways to look at things.

This is why we want to treat the art of innovation as a language, a way to communicate how we think and convey actions that we can take, that can be universally shared amongst people, processes, and technology.

The Path Ahead

In conclusion, mastering the language of innovation is not just about learning a set of buzzwords or frameworks; it's about internalizing the fundamental principles that govern the way ideas are born, refined, and brought to life through collaboration. By understanding these principles and applying them to your own work, you can unlock your team's creative potential, break down the barriers that hinder progress, and achieve the kind of alignment that turns audacious visions into reality.

The path to innovation is rarely smooth, and setbacks are inevitable. But armed with the insights and strategies outlined in this chapter, you'll be better equipped to navigate the challenges, learn from your failures, and ultimately triumph in your pursuit of groundbreaking solutions. As you embark on this journey, remember that every great innovation begins with a shared language – a way of communicating and collaborating that brings out the best in each individual and enables the collective to achieve the extraordinary.

Summary

In this chapter, you learned that alignment is at the heart of great innovation, as well as three key principles to discuss with your co-workers and internalize in your thought processes. These principles are fundamental to a shared language of communication and collaboration that are essential for effective innovation.

Key points covered in this chapter include the following:

- Collaboration is our superpower as a species, enabling us to cooperate flexibly in large numbers and achieve incredible feats. This superpower is rooted in our capacity for language and communication.
- The key to effective collaboration is alignment. Just as a rowing team must harmonize their efforts to succeed, innovation teams must work in

sync toward a shared vision. Misalignment is the kryptonite that undermines our collective efforts.

- Misalignment is catastrophic, as exemplified by the Mars Climate Orbiter failure. Even brilliant minds and cutting-edge technologies are rendered ineffective if not aligned toward the same goals.

The next chapter will discuss key concepts in systems thinking and why it is so critical for the language of innovation.

2. Systems Thinking for Innovation

Ron Itelman[1] ✉
(1)   Denver, CO, USA

In the wake of World War II, Japan faced the daunting challenge of resurrecting its devastated economy. The nation, once a formidable power, lay in ruins, its industries obliterated and its citizens grappling with the harsh realities of a bleak and resource-scarce environment. Amidst this overwhelming sense of hopelessness, a company emerged, forged through the fires of innovation and built upon an uncompromising dedication to excellence. This company was the Toyota Motor Corporation, and its story would forever change the face of industry.

At the heart of this audacious venture was the Toyota Motor Corporation, and at its helm stood a visionary leader named Taiichi Ohno. Ohno was a man who understood that true greatness could only be achieved by challenging the status quo, by stepping beyond the boundaries of conventional wisdom and into uncharted territory.

As Ohno surveyed the ruins of Japanese manufacturing, he saw not merely the wreckage of a broken system, but the seeds of opportunity. Where others may have perceived only obstacles, Ohno envisioned a path forward – a path that would require a fundamental reimagining of the very principles upon which the industry had been built.

At the core of Ohno's philosophy was a revolutionary idea: that the key to unlocking Toyota's potential lay not in blindly emulating the mass production techniques of the West, but in forging a new approach altogether – one that harnessed the power of systems thinking, continuous improvement, and an unwavering respect for people.

To bring this vision to life, Ohno and his team set out to create what would become known as the Toyota Production System (TPS) – a

groundbreaking approach to manufacturing that sought to maximize value and minimize waste at every turn. But Ohno understood that true transformation could never be achieved through mere technical innovation alone. To truly succeed, Toyota would need to undergo a profound cultural shift – one that empowered every individual within the organization to think creatively, to experiment boldly, and to take ownership of their work.

Under Ohno's guidance, Toyota became a living laboratory of learning and growth. Workers at every level were encouraged to identify problems and propose solutions, to collaborate across boundaries, and to embrace change as an opportunity for continuous improvement. This ethos of *kaizen* – the relentless pursuit of perfection – became the driving force behind Toyota's remarkable rise.

As Toyota's vehicles swiftly gained a reputation for being above their peers in quality, dependability, and efficiency, the world's attention turned to the unassuming Japanese automaker. Before long, the Toyota Production System had ascended to the pantheon of industrial paradigms, becoming the undisputed paragon for manufacturers across the globe. The ripple effects of Ohno's groundbreaking philosophy extended far beyond the realm of automobile production, as the core tenets of TPS found themselves woven into the very fabric of divergent fields such as software and academia. Taiichi Ohno's legacy had transcended the boundaries of a single company or industry – it had become a beacon of inspiration for all those who dared to dream of a better way.

The remarkable story of Toyota's rise from the ashes serves as a powerful testament to the transformative potential of systems thinking. By examining the core principles that underpin this approach, we can begin to understand how to approach innovation using systems thinking.

Systems Thinking Is Incredibly Powerful

You rarely improve an organization as a whole by improving the performance of one or more of its parts.
—Russell L. Ackoff, pioneer in the field of systems thinking and management science

This profound statement by Russell L. Ackoff captures the essence of systems thinking. It challenges the conventional approach of focusing on

individual parts of an organization, emphasizing instead the importance of understanding and optimizing the interactions between these parts.

The power of this approach is exemplified by the revolutionary Toyota Production System (TPS) developed by Taiichi Ohno and his team at Toyota. Ohno realized that blindly emulating Western mass production techniques was not the answer for Toyota. Instead, he took a holistic, systems-based approach focused on maximizing value and minimizing waste at every level of the organization.

Ohno understood that optimizing individual parts of the production process was insufficient – the key was getting all the components to work together seamlessly as an integrated whole. For example, rather than just trying to make each individual machine run as fast as possible, Ohno looked at how the entire production line flowed from start to finish. This allowed him to identify bottlenecks and imbalances that would have been missed by a purely part-focused approach.

By taking this systems view, Ohno was able to pioneer innovations like just-in-time manufacturing and autonomation ("intelligent automation") that optimized the interactions between workers, machines, and materials. The result was dramatic improvements in efficiency, quality, and responsiveness to changing customer needs.

Systems thinking – analyzing the components of a system and the way they work together – can uncover powerful opportunities for learning and improvement that are invisible from a piecemeal perspective.

A crucial tool we can employ to help our innovation efforts is to begin to include systems thinking in how we understand problems and design solutions. Systems thinking is simply breaking down something into its components and their connections, to understand how they work together.

Collaboration is ultimately a type of system made of people, technology, and working together in tandem. In the language of innovation, we want to have a shared way to understand and communicate about systems, so that as you collaborate, you can get those you work with to view your efforts from a systems perspective.

The story of TPS and the insights of pioneers like Ackoff and Ohno serve as a powerful reminder that in the pursuit of innovation, we must never lose sight of the forest for the trees. By embracing systems thinking – by continually striving to understand and optimize the complex web of

interactions that define our organizations and our world – we unlock the potential for truly transformative breakthroughs.

In an era where the challenges we face are increasingly interconnected and multifaceted, this holistic perspective is no longer just an advantage – it is an imperative. As innovators and collaborators, it falls upon us to carry this torch forward, to make systems thinking a cornerstone of our shared language and our shared quest for a better future.

Systems Design Patterns

Systems, whether they are technology, processes, or how people interact with them, have certain patterns, and even rules. Learning these patterns and rules is crucial for effective innovation and being efficient with understanding and executing on change within complex organizations. What exactly are *systems*, and what is *systems thinking*?

Principle #4: Systems Combine Interacting Parts

A system is a group of interrelated, interdependent components that collectively function as a unified whole. The key is that a system cannot be fully understood simply by analyzing each individual part in isolation. The interactions and relationships between the parts are equally or even more important in determining the system's behavior and outputs.

Systems thinking involves studying how the system's constituent parts influence each other within the whole context. It's a framework for seeing interrelationships rather than things, for observing patterns of behavior over time rather than snapshots.

In Figure 2-1, we can see the various parts of a car – the tires, engine, steering wheel, etc. But it's how these parts are combined and interact together through an organized process that allows the larger system (the car) to operate and serve its purpose of transportation.

Parts

Combine

System

💡 **Principle #4**

Systems combine interacting parts

Systems are more than the sum of their parts, they are how parts combine to interact together to serve a shared purpose on a higher scale.

The components and higher-scale system are interdependent.
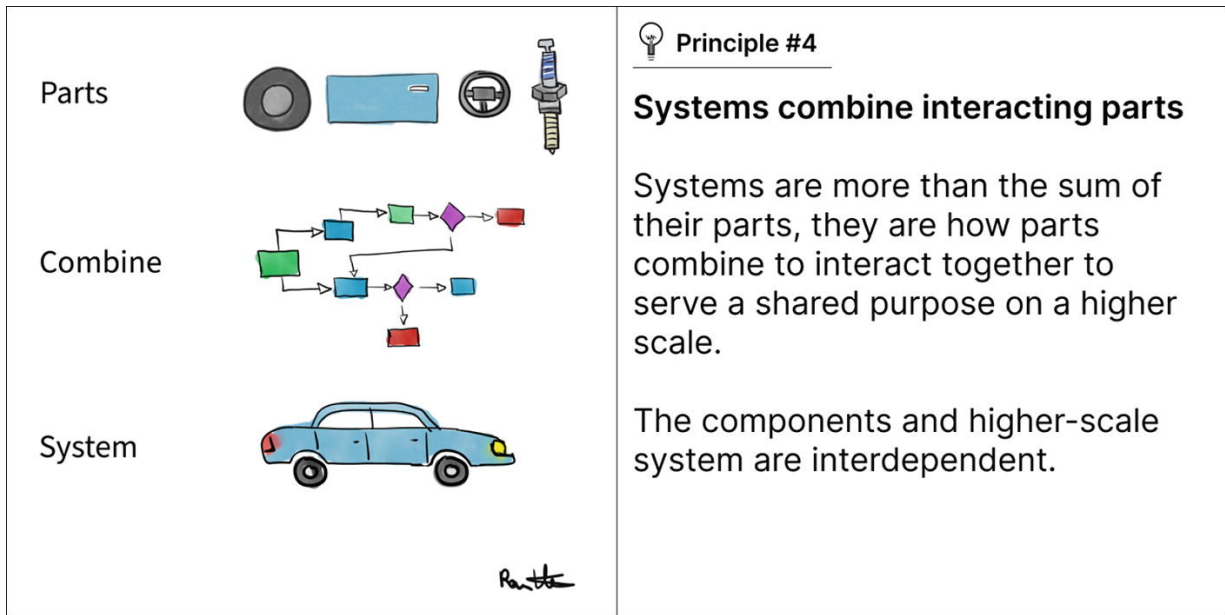
Figure 2-1 An illustration of the parts of a car, a process map of how they are combined, and the larger system (a car)

The parts themselves are relatively simple and static. It's their dynamic interaction within an overarching structure that leads to the emergent behavior of the whole system. This systemic perspective reveals properties and behaviors not visible when studying the parts in isolation.

It's crucial to understand that assembling the best parts from different top-performing cars, such as the engine from a Ferrari, the suspension from a Lamborghini, and the steering wheel from a Rolls Royce, would not result in a functional car. These parts are not designed to fit and work together seamlessly, highlighting a critical dimension of a system: the way parts combine and interact effectively. A system is not merely the sum of its parts; it is the product of their interactions.

Principle #5: Map Organizational Systems

The phrase "systems thinking" means that you will begin to visualize things, such as your business, or the interactions between customers and your business, or interactions between suppliers and your business using this network-based approach.

The work to do here is get out of silos that you know, and out of the silos of the people whose problems you will be solving in your innovation project. The most valuable knowledge you can gain is understanding what connections exist and descriptions of them, as visualized in Figure 2-2. In

this example a "fire" icon on a process and technology connection can be used to visualize a problem in that connection.
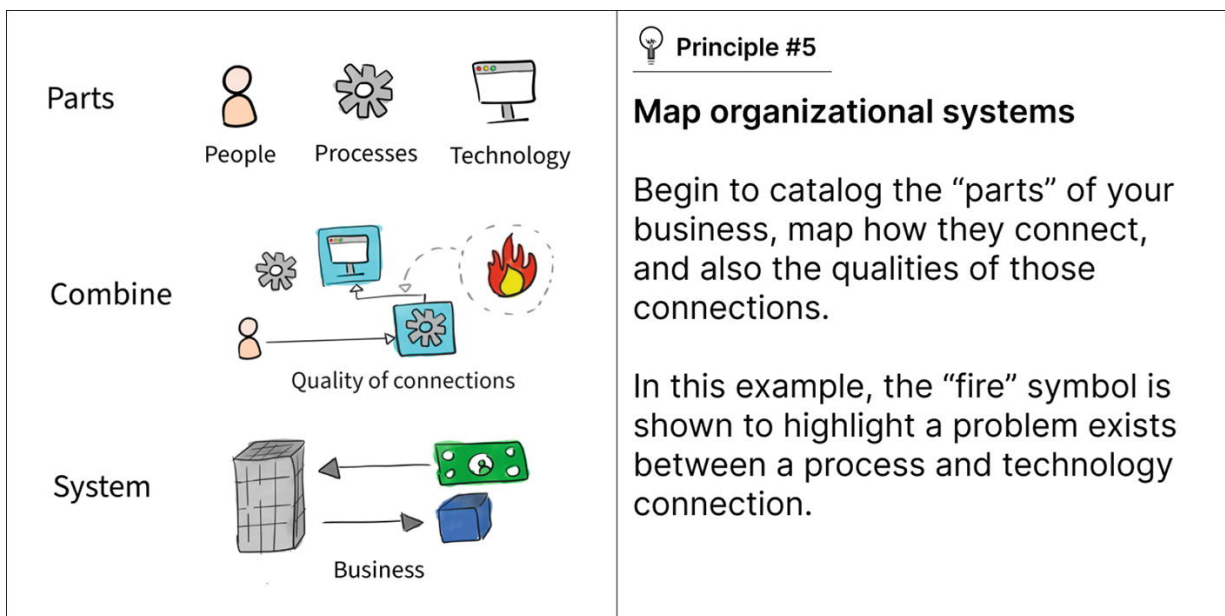
Figure 2-2 The parts, how they combine, and the system analogy used in Figure 2-2 is now applied to the business

You can use this format to map the problem you are working on as it currently is, the way think it should work in the future, and even how you will collaborate with people to solve a problem. You don't need to get fancy, literally a whiteboard will do. The goal is for you to be able to get all the connections you see down on paper and have discussions with others to share what you see and learn from them what you might be missing.

Principle #6: Small Changes Have Ripple Effects

In our increasingly interconnected world, successful companies understand that innovation cannot happen in isolation. The best innovation leaders view their organizations as complex systems, recognizing that treating problems and solutions as isolated challenges can lead to far-reaching, unintended consequences.

Consider the metaphor of traffic lights. In a siloed approach, changing a series of how traffic lights operate on one road might appear to solve a localized problem. However, without considering the broader system, that single change can lead to suboptimal traffic flow and cascading issues downstream, as shown in Figure 2-3.
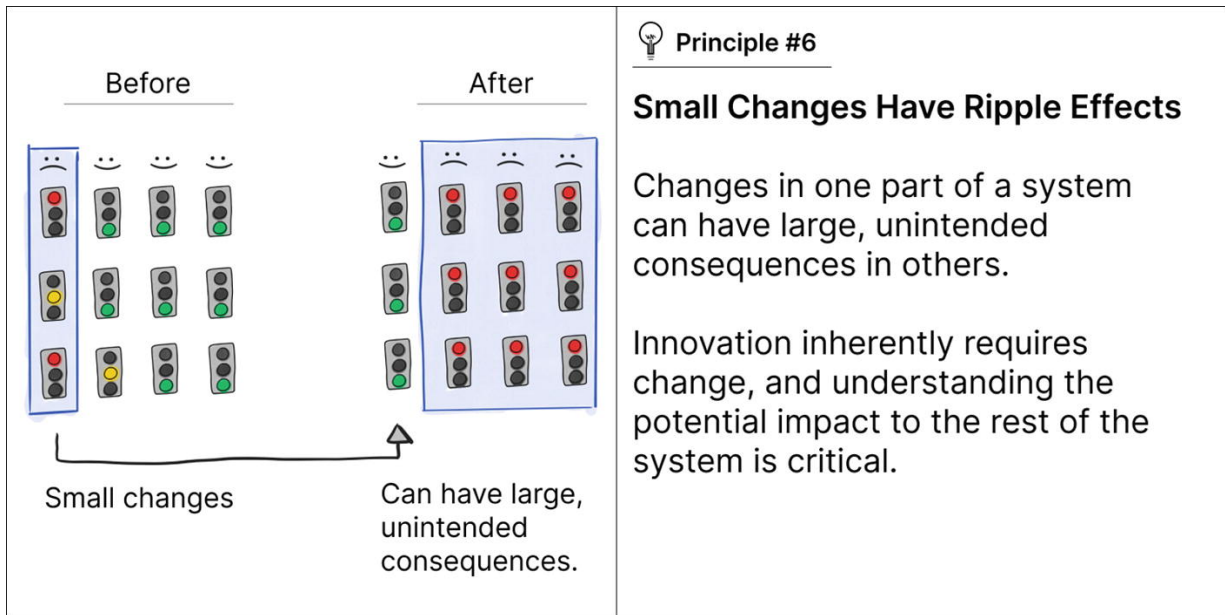
Figure 2-3 Drivers are unhappy in one traffic flow, but changing the light timing causes unintentional inefficiencies to far more people across other traffic flows

The same principle applies in business. Implementing a new software tool in one department might improve efficiency in the short term, but if it doesn't integrate with existing technologies or requires extensive training, it can hinder collaboration, create data silos, and disrupt interconnected workflows.

Note   A popular phrase for this principle is "the butterfly effect", which has to do with *chaos theory*. Essentially it means that tiny random fluctuations (chaotic) that cannot be predicted can have monumental and unexpected impact. In the example of butterflies, an analogy is that a butterfly could flap its wings on one side of the world, and that simple, isolated event can trigger a cascade of many other smaller events that interact and combine, eventually resulting into a huge storm on the other side of the world.

The solution lies in systems thinking – the art of seeing the whole chessboard. By zooming out to examine the intricate web of cause and effect, leaders can anticipate the second and third-order implications of their decisions. They can design innovations that not only solve the immediate problem but also harmonize with the broader organizational ecosystem.

This holistic mindset is the hallmark of great companies. They diagnose root causes rather than symptoms, engage diverse stakeholders to identify potential ripple effects, and orchestrate change in a way that optimizes overall performance. Like a grandmaster strategically advancing their pieces, they navigate complexity to create enduring value.

Risks to Systems

Because of feedback delays within complex systems, by the time a problem becomes apparent it may be unnecessarily difficult to solve.
— A stitch in time saves nine.
—Donella H. Meadows, author and pioneer in the field of systems theory.

In the Toyota Production System (TPS), Taiichi Ohno identified seven key areas of waste that can hinder efficiency and effectiveness:

1. Delay, waiting, or time spent in a queue with no value being added

2. Producing more than you need

3. Over processing or undertaking non-value added activity

4. Transportation

5. Unnecessary movement or motion

6. Inventory

7. Defects in the product

While these wastes were initially identified in the context of manufacturing, the underlying principles can be applied to various systems, including software development, creative processes, or any other domain. The specific manifestations of waste may vary depending on the context, but the fundamental idea remains the same: identifying and eliminating activities that do not add value to the end product or service.

What is important for you is to begin to map out your innovation goal in the context of a system and identify the biggest possible sources of waste. This will give you quickly a list of areas you can improve or completely disrupt. Usually, waste comes from misalignment, as TPS shows: all of the unnecessary actions are because of misalignment between connected parts.

The next set of principles you will learn are not about moving physical parts in systems, like a manufacturing plant, but rather geared toward knowledge, product, and software processes. In other words, our parts are largely shaped by language and ideas, and the way we combine them can lead to the creation of value or the generation of waste.

Because systems are highly interconnected at small scales and often large and complex to understand when we zoom out, there is a particular risk to system design and thinking. When misalignment occurs, it can be challenging to identify the root cause. Moreover, if your system is highly efficient at working well, it can also be highly efficient at doing unintended things, specifically because of the numerous dependencies and connections.

Misalignment can ripple out and create other components downstream to do what they are intended, be coupled with upstream processes and components, resulting in cascades of problems and errors that are extremely challenging to untangle. Therefore, being able to identify, repair, and prevent these sources of misalignment is very valuable.

Just as the TPS revolutionized manufacturing by focusing on the elimination of waste and the continuous improvement of processes, applying a similar mindset to the design and management of knowledge, product, and software systems can lead to significant gains in efficiency, quality, and innovation. By staying vigilant to the risks of misalignment and proactively addressing them, we can create more resilient, adaptable, and value-generating systems that drive our organizations forward.

Principle #7: Misalignment Is Contagious

Misalignment is a contagion. Left unchecked, it spreads swiftly, infiltrating departments, technologies, and processes across the organization. The Mars Orbiter story serves as a stark illustration of this phenomenon.

What began as a single point of misalignment – the unit conversion error – had ripple effects that quickly cascaded across the entire project, impacting the work of thousands of people and multiple systems. As the misalignment went undetected and uncorrected, it infected various aspects

of the mission, from calculations and simulations to the final tragic outcome.

Misalignment is contagious because it introduces inconsistencies and contradictions that can propagate throughout an organization's knowledge, processes, and outputs. These inconsistencies can then fuel further misalignment, creating a vicious cycle that becomes increasingly difficult to break as it spreads.

To prevent this contagion, as illustrated in Figure 2-4, it is crucial to establish robust mechanisms for identifying and addressing misalignment early, before it has a chance to proliferate. This may involve implementing rigorous review processes, fostering open communication channels, and empowering team members to raise concerns and challenge assumptions.

💡 Principle #7

Misalignment is contagious.

The "bugs" in code can have real-world impact people on what they believe, and what organizational decisions are made.

Additionally, the same is true in reverse: when leaders have "bugs" in their thinking, their decisions impact what people believe, and how they create code.
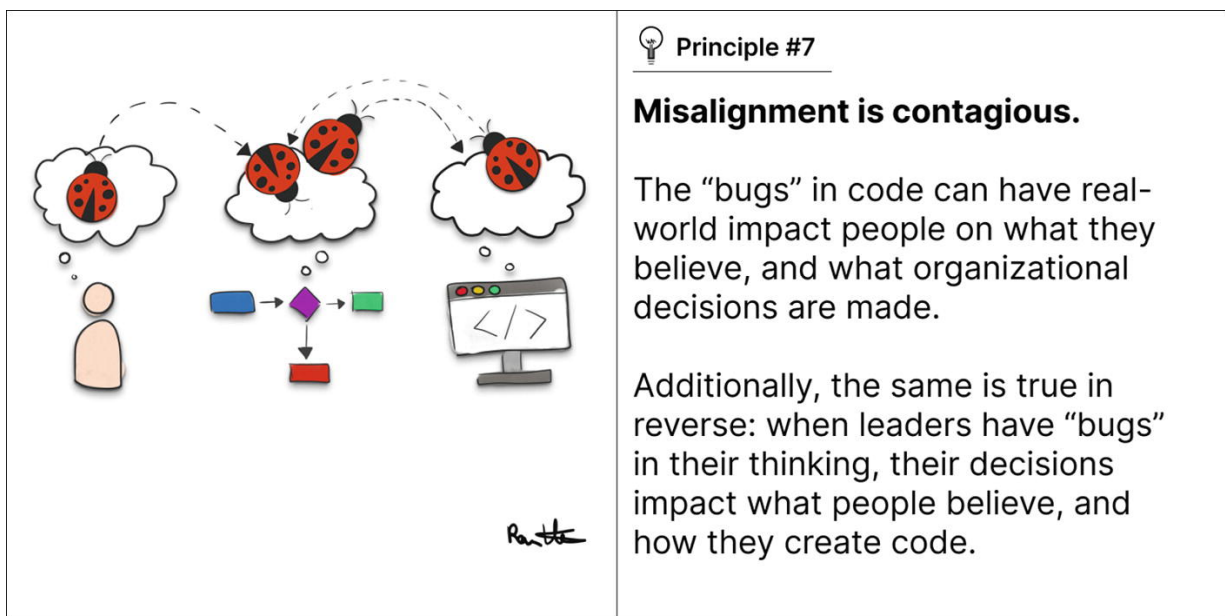
Figure 2-4 A computer, a person, and a business process all sharing thought bubbles, with a "bug" going back and forth between them

Returning to our "butterfly effect" analogy, whether there is a "bug" in the logic of an executive's beliefs or a "bug" in the operational rules and processes employees are told to follow, the results can combine and amplify across systems, similar to how a disease spreads.

A common example is when I collect employee complaints about their workflow during consulting work, I ask employees why they do something a certain way, they often will respond "this is just how I was trained to do it", or "this is how everyone does it", without questioning whether the

process is still relevant, useful, or efficient. The output of their work then impacts other teams that depend on them. Quite often, simply giving employees the option to "think outside the box" and get out of what "everyone else does" mode, enables them to come up with their own solutions.

Principle #8: The Big Impact of Little Details

Innovation is akin to surgery on an organization, requiring the precise dissection of problems and processes, and the careful integration of new technologies or tools. Just as a surgeon must maintain strict hygiene to prevent infection, innovators must practice meticulous "hygiene" in their thinking and actions to avoid unintended consequences that could harm other parts of the organization. This mental and operational hygiene is crucial to ensuring that innovation efforts lead to positive, holistic change.

The story of Ignaz Semmelweis and handwashing in hospitals serves as a powerful illustration of how small steps can have a massive impact, particularly in the realm of innovation and alignment.

In the mid-19th century, Semmelweis discovered that a simple practice – requiring doctors to wash their hands before treating patients – dramatically reduced mortality rates in maternity wards. This straightforward measure, which seems obvious in hindsight, revolutionized medical practices and saved countless lives.

Similarly, in the case of the Mars Climate Orbiter, a seemingly small step – ensuring proper unit conversion – could have prevented the catastrophic failure of the mission. Just as handwashing was a simple yet transformative step in the medical field, adhering to a consistent set of units could have been the key to aligning the efforts of the thousands of people involved in the Mars mission.

The "Wash Your Hands" principle, illustrated in Figure 2-5, emphasizes the critical importance of attending to even the most minor details when pursuing alignment and innovation. Seemingly inconsequential oversights, if left unchecked, can cascade into catastrophic failures that undermine the entire endeavor. By proactively identifying and addressing these small but crucial elements, teams can create a solid foundation for successful innovation and prevent the accumulation of misalignment that can derail even the most promising initiatives.
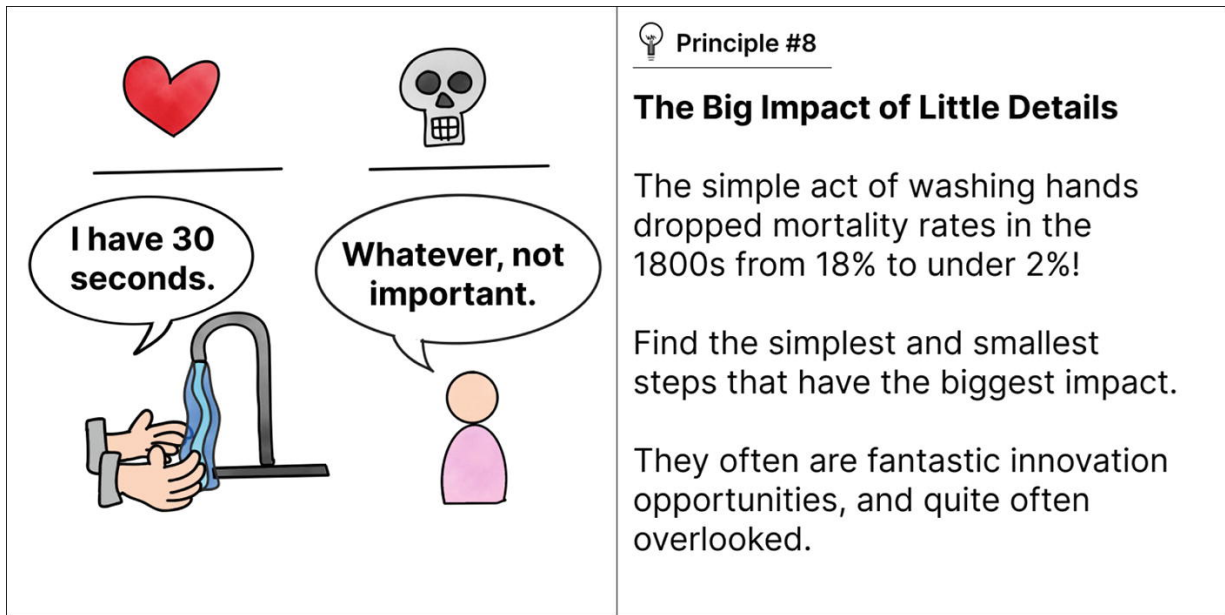
Figure 2-5 An image of a person washing their hands, with a heart on one side, and a skull on the other, representing how a simple act can be the difference between life or death

Applying the concept of "washing hands" to systems may seem abstract, but there are tangible strategies for designing systems that foster more intelligent collaboration and prevent the spread of misalignment. By implementing clear communication protocols, establishing shared mental models, and creating feedback loops that allow for early detection and correction of inconsistencies, teams can create resilient systems that are less susceptible to the detrimental effects of misalignment. These concrete approaches to systems design are essential for ensuring that innovation efforts remain coherent and aligned throughout the process.

Sources of Misalignment

Misalignment, as we learned in Chapter 1's story about NASA Mars Orbital Lander, is the silent killer of innovation – a creeping malignancy that metastasizes beneath the surface, eating away at the coherence of our efforts until the whole endeavor collapses. In this chapter, we learned that aligned systems are highly efficient, but why are some systems more aligned than others?

Picture a team, fueled by passion and united by a common goal, setting out on a journey of innovation. Yet, despite their best intentions, they find themselves gradually drifting apart, their once-synchronized efforts now a discordant symphony. What insidious force allows this dysfunction to take

root, quietly eroding the foundation of their collaboration? In this section, we'll uncover the most common culprits behind misalignment, exposing how the silent assassins of communication breakdowns, unchecked assumptions, and the contagion of ambiguity can derail even the most promising endeavors.

By developing the ability to recognize these warning signs, you'll be empowered to fortify your initiatives against the destructive influence of misalignment. The act of proactively identifying, eliminating, and preventing these issues from the outset is a highly innovative and valuable approach in itself. Moreover, these red flags can serve as powerful guideposts, steering your innovation projects toward success by ensuring that your team remains aligned and focused on the shared vision.

Principle #9: Assumptions Are Invisible and Dangerous

Waste is hidden. Do not hide it. Make problems visible.
—Taiichi Ohno, creator of Toyota's Production System

Invisible assumptions harbored by various team members or stakeholders are a key contributor to misalignment. These unspoken beliefs can lead to divergent interpretations and expectations, ultimately causing projects to veer off course.

In the story of NASA's Mars Orbital Lander in Chapter 1, their team and Lockheed Martin made assumptions about the units of measurement which led to a catastrophic failure. By failing to bring these assumptions to light and ensure everyone was on the same page, the team inadvertently set the stage for a breakdown in collaboration and alignment.

Assumptions are the invisible puppet masters, pulling the strings of our thoughts and actions from the shadows of our subconscious. These deeply ingrained beliefs and expectations, forged by the diverse tapestry of our backgrounds, experiences, and perspectives, often go unstated and unexamined. Like a silent force, they shape our thinking and decision-making in profound ways, guiding us down paths we may not even realize we're treading. It is only by shining a light on these hidden influences that we can begin to break free from their control and align our efforts toward a shared vision.

To avoid the pitfalls of misalignment, it is crucial to surface and challenge these invisible assumptions, illustrated in Figure 2-6, bringing

them into the open for scrutiny and alignment. This requires a concerted effort to foster an environment of open communication, where assumptions can be freely expressed, questioned, and reconciled.
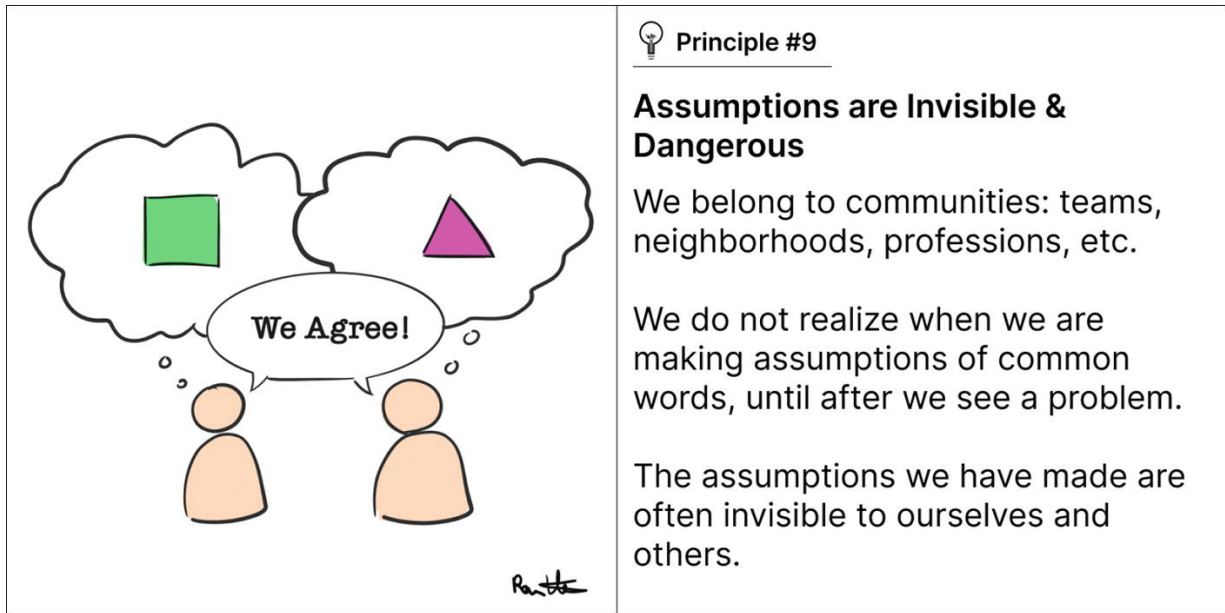
Figure 2-6 Two people saying they agree, when in fact their understanding of what they are agreeing to is different: one thought bubble is of a triangle, the other a square

Principle #10: Assumptions Come from Ambiguity

Ambiguity can manifest in many forms, from vague or imprecise language to incomplete or inconsistent documentation. When ambiguity exists, team members are left to fill in the gaps with their own assumptions, increasing the likelihood of misalignment.

To combat ambiguous situations, as illustrated in Figure 2-7, it is essential to strive for clarity and precision in all communication and documentation related to an innovative project. This may involve developing a shared vocabulary, establishing clear definitions and standards, and implementing rigorous review and validation processes to identify and eliminate ambiguities before they can lead to misalignment.
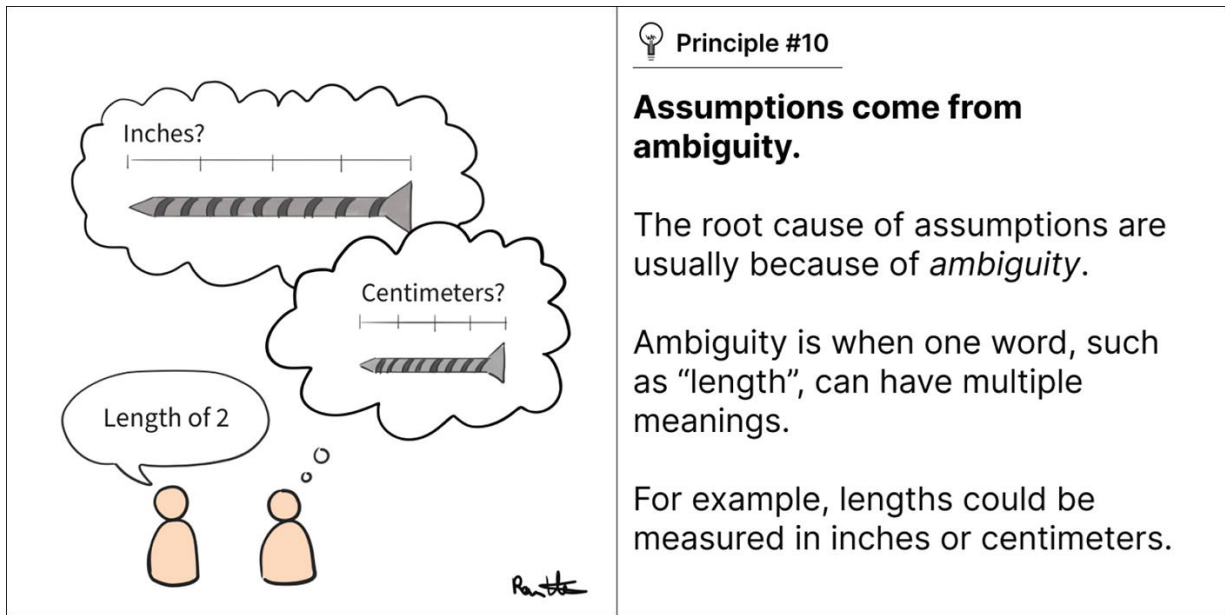
Figure 2-7 Two screws, one measured in inches, the other in centimeters

Sometimes, the simplest solutions, like getting everyone together to make sure everyone is on the same page can prevent much bigger problems in the future. When working with cross-functional teams, where language can certainly vary, it is critical to take the time and review any differences in language for goals and measures of success.

Summary

As you embark on your own innovation journey, armed with the insights and strategies from this chapter, remember that the path to success is paved with the stones of systems thinking. By embracing this holistic mindset, by seeking to understand and optimize the complex interactions that define your work, you will unlock the door to transformative breakthroughs and enduring impact. The road ahead may be challenging, but with the light of systems thinking guiding your way, you are well-equipped to navigate the twists and turns and emerge victorious in the pursuit of innovation excellence.

True progress is not merely a matter of technical prowess or individual brilliance, but rather a symphony of alignment, a harmonious interplay of people, processes, and purpose. Amidst the beauty and efficiency of seeing the relationships of people, processes, and technologies in the interconnected world of systems thinking, we have also glimpsed the

shadows of misalignment, the silent forces that can unravel even the most meticulously crafted plans.

Key points covered in this chapter include:

- The fundamental principles of systems thinking, a powerful framework for understanding the complex web of interactions and dependencies that shape our organizations and our innovative efforts.
- The story of the Toyota Production System, a shining example of how a systems approach, focused on eliminating waste and fostering continuous improvement, can revolutionize an industry and set a new standard for excellence.
- The seven key areas of waste identified by Taiichi Ohno, and how these principles can be adapted to various domains, from manufacturing to software development, to create more efficient and effective processes.
- The risks of misalignment in systems, the silent killer that can derail even the most promising collaborations, and the importance of proactively identifying and addressing these issues.
- The role of invisible assumptions and ambiguity in fostering misalignment, and the critical need for open communication, clear definitions, and rigorous validation to ensure everyone is working toward a shared vision.
- The power of systems thinking as a tool for innovation, enabling teams to identify opportunities for improvement, anticipate potential challenges, and create more resilient, adaptable, and value-generating solutions.

3. The Mother of All Invention

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In a small village in rural Kenya, a 32-year-old mother of two tends to her vegetable stand, her mind heavy with worry. Her husband works in a distant city, struggling to send money home. Today, she needs to pay her children's school fees, but anxiety grips her. The nearest bank is a full day's journey away – a trip she can't afford to make, as it means losing a day's crucial income.

For her, accessing money is a harrowing ordeal. The memory of her neighbor's misfortune is still fresh – robbed on the long trek home from the bank, losing months of hard-earned savings. Her husband's options for sending money are equally fraught: expensive wire transfers or entrusting cash to bus drivers, both risky choices that chip away at his meager wages.

This scenario, though fictional, mirrored the daily reality for millions of Kenyans – a population in desperate need of financial services but cut off from traditional banking. It was a glaring problem begging for an innovative solution.

Enter Safaricom, a Kenyan telecom company. In the early 2000s, they made a crucial observation: people were using prepaid airtime as a de facto currency, buying, selling, and transferring it among family members. This insight sparked a revolutionary idea – what if mobile phones could become a platform for financial transactions?

From this eureka moment, M-Pesa was born. This groundbreaking mobile money system allowed users to store and transfer money using only their cell phones. Its genius lay in its simplicity:

1. No bank account needed – just a basic mobile phone.

2. Person-to-person money transfers via simple text messages.

3. The ability to pay for goods and services directly from the phone.

The impact was staggering. By 2016, a mere decade after its launch, M-Pesa had penetrated 96% of Kenyan households. More importantly, it became a powerful tool for poverty alleviation, lifting hundreds of thousands of Kenyan households out of extreme poverty.

M-Pesa revolutionized financial inclusion in Kenya, proving that sometimes, the most transformative solutions are born from observing the everyday struggles of ordinary people and inventing solutions given the constraints of existing systems.

Understanding Your Innovation Context

Before diving into any innovation effort, it's crucial to understand exactly what type of game you're playing and what the rules are. These next three principles help you identify and align with stakeholders on both the type and degree of innovation you're pursuing. J

Just as M-Pesa succeeded by aligning their innovation perfectly with their market's constraints and needs, your success depends on clearly defining and communicating what kind of innovation you're undertaking and how far-reaching those changes will be.

Principle #11: What Innovation Game Are You In?

Grasping the specific type of innovation you're pursuing is paramount – it's like knowing the rules of a game before you begin to play. M-Pesa's triumph didn't come from creating a state-of-the-art app or expanding conventional banking networks. Instead, its success arose from innovating brilliantly within a highly constrained system, demonstrating the power of context-appropriate solutions.

By meeting users exactly where they were – with basic mobile phones and limited access to financial services – M-Pesa exemplified the power of context-appropriate innovation. This approach stands in stark contrast to other financial innovations like blockchain or feature-rich apps backed by

extensive marketing campaigns, which often fail to address the fundamental needs of underserved populations. M-Pesa's success underscores the importance of aligning innovation with the specific constraints and opportunities of the target market, rather than imposing solutions that may work elsewhere but are ill-suited to local conditions.

Imagine settling in for a game of chess, meticulously planning your opening moves, only to realize your opponent has set up a checkers board, illustrated in Figure 3-1. No matter how brilliant your chess strategy, you're doomed to fail if you're playing the wrong game entirely.
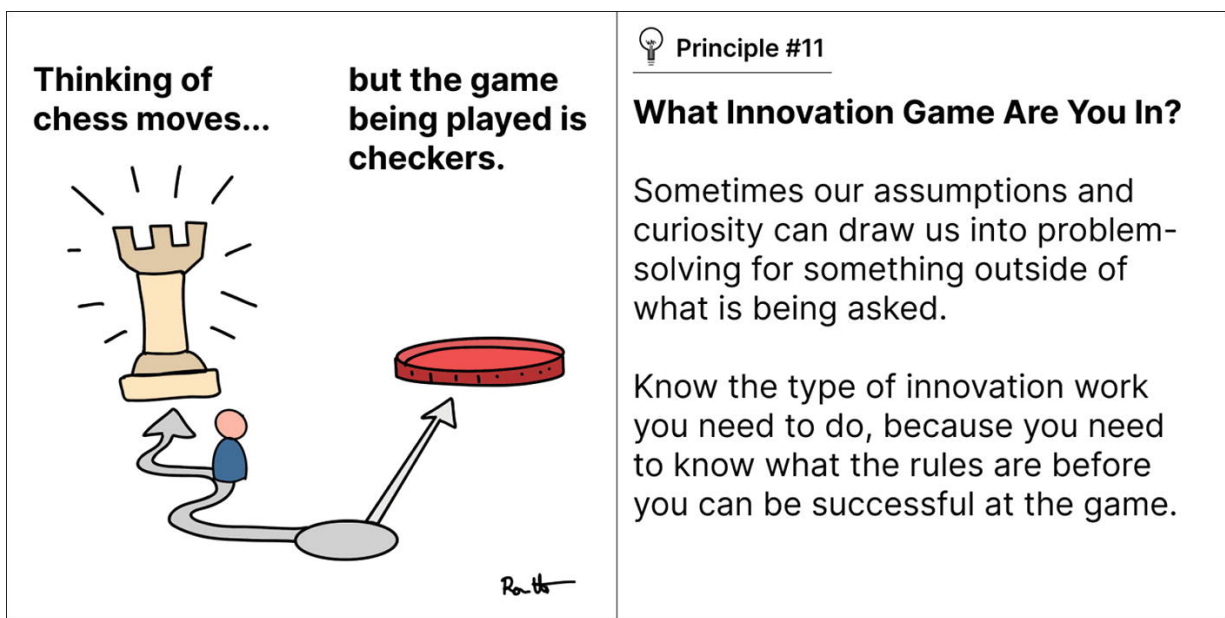
Figure 3-1 A person is taking a longer, more complex path, playing a different game than they've been invited to

Pouring resources into developing advanced technologies when your market needs a simple, accessible solution can lead to misaligned efforts and wasted resources.

In the world of innovation, this mismatch happens more often than you might think. Companies invest heavily in cutting-edge technologies, only to find they've misjudged the market's readiness or misunderstood the nature of the problem they're trying to solve. It's not enough to innovate; you must innovate in the right way, for the right reasons, in the right context.

Moreover, different stakeholders within an organization often pursue divergent innovation strategies simultaneously, creating a complex, multi-dimensional challenge. While the R&D team might be engrossed in

developing radical new technologies, the finance department could be laser-focused on incremental cost savings, and the marketing team might be championing a disruptive new business model. This misalignment of objectives and approaches can lead to organizational friction and inefficiency. Recognizing these disparate "games" within your organization is crucial for fostering a cohesive innovation strategy. By identifying and reconciling these different approaches, leaders can create a unified innovation ecosystem that leverages diverse perspectives while maintaining strategic alignment.

By understanding the type of innovation you're pursuing, you can ensure you're playing the right game, with the right rules, and the right strategy. This awareness allows you to allocate resources effectively, set appropriate expectations, and ultimately increase your chances of success in the complex and ever-changing landscape of innovation.

Now, let's examine the types of innovation and degrees of change more closely:

Principle #12: Four Primary Types of Innovation

Innovation manifests in various forms, and it's crucial to precisely define the type of innovation you're pursuing. This clarity ensures that all stakeholders share a common understanding and context. Without this shared perspective, misalignment can occur – akin to one person strategizing for chess while another prepares for checkers. By establishing a clear innovation framework, you create a common language that facilitates effective communication, aligns expectations, and guides resource allocation across your organization.

This is critical, because skipping this step can result in quite painful consequences. For example, you can think your role is to completely change everything about a product, including the revenue model, where your sponsors are thinking that you might be tasked with making the product experience better. Both of you will be using the word "innovation", but you will be thinking of entirely different types of innovation.

For the purposes of having a shared language of innovation, we'll focus on four primary types: *Process Innovation*, *Business Model Innovation*, *Product Innovation*, and *Marketing Innovation*, as shown in Figure 3-2, which we will examine further below.
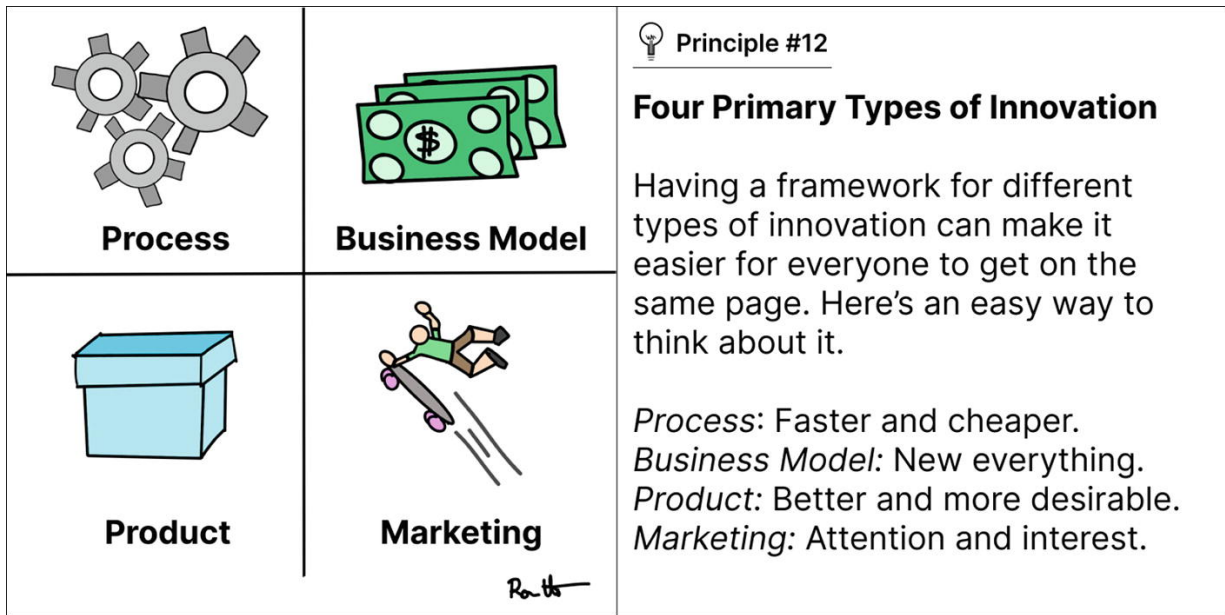
Figure 3-2 Four types of innovation: Process, Business Model, Product, and Marketing

In the next chapter, we will go into each of these in more detail. For now, here is a high-level description of different types of innovation:

- *Process Innovation:* This type focuses on enhancing operational efficiency and effectiveness. It involves reimagining and optimizing the way things are done within an organization. For example, if it currently takes ten minutes to process a batch of 500 bottles, process innovation might involve implementing robotic automation to double the output to 1000 bottles in the same time frame. This type of innovation can lead to significant cost savings, improved quality, and increased productivity.
- *Business Model Innovation*: This occurs when an organization fundamentally changes how it creates, delivers, and captures value. It often requires a comprehensive overhaul of multiple aspects of the business. For instance, shifting from a traditional grocery store model to a home delivery service necessitates rethinking everything from logistics and customer interaction to revenue streams and partnerships. Business model innovation can be highly disruptive but also offers the potential for significant competitive advantage.
- *Product Innovation*: This involves creating new products or significantly improving existing ones to better meet customer needs or create new markets. It can range from incremental changes to radical breakthroughs. For example, a beverage company might introduce a new soda with a unique flavor profile and redesigned packaging, leveraging existing

distribution channels and processes. Similarly, each new generation of smartphones typically represents product innovation, offering new features and capabilities while building on existing technological foundations.

- *Marketing Innovation*: This type focuses on finding new ways to promote and sell products or services without fundamentally altering the offerings themselves. It might involve adopting new marketing channels, developing innovative pricing strategies, or creating novel customer experiences. For instance, a company might leverage social media influencers or virtual reality experiences to market their products, while keeping the product, business model, and operational processes unchanged. Effective marketing innovation can revitalize brands, reach new customer segments, and drive sales growth.

This framework, while simplified, encompasses the majority of innovation work. It's important to note that real-world innovation often involves combinations of these types, creating hybrid approaches that can be particularly powerful. The key is to accurately identify the specific types of innovation you're tasked with and to understand the unique levers of influence available within each category. This nuanced understanding allows you to tailor your approach, allocate resources effectively, and maximize your impact across different innovation domains. By mastering this framework, you'll be better equipped to navigate the complex landscape of innovation, regardless of the specific challenges you face.

Principle #13: Four Primary Degrees of Innovation

Just as we categorize innovation into different types, we can also classify it based on the magnitude of change it brings. Understanding this dimension is crucial for setting realistic goals, allocating resources appropriately, and managing expectations. We can broadly categorize the degree of change into four levels, as illustrated in Figure 3-3 below.

Principle #13

Four Primary Degrees of Innovation
Understanding the constraints and goals of stakeholders is paramount.

Little changes you can make without buying anything new is a very different situation than a complete transformation to business logic.

Understand what degree of risk and change stakeholders actually want, and get everyone on the same page.

Figure 3-3 Four categories representing degrees of change: stability, incremental, optimal, and disruptive

- *Stability*: This category represents areas that leadership considers sacrosanct or too risky to change. Identifying these "untouchable" elements is crucial, as attempting to alter them could lead to immediate rejection of your ideas. Examples include maintaining core brand values or preserving critical legacy systems.
- *Incremental Innovation:* Minor improvements or updates to existing systems, products, or processes. This is about doing what we do, but better. Often this degree of innovation is about using existing components, and assembling them differently, with minimal or no change to understand them. There should be intuitive levels of change, such as riding a bicycle is easy to get, build, and learn to ride.
- *Optimal Innovation:* Significant enhancements that build on existing foundations. This involves substantial improvements, but within familiar frameworks. For example, you have an existing client relationship management (CRM) system that is old, and you are going to buy the latest and greatest version – the leadership wants every bell and whistle. There is a lot of complexity to implement the change, and a lot of education to get employees to understand the new system. However, employees do understand what a CRM is, as they had been using one previously.

- *Disruptive Innovation:* Transformative changes that create new paradigms or markets. This is about doing things in fundamentally new ways or creating entirely new offerings. Take, for example, the popular phrase "If I would have asked them what they wanted, they would have said 'faster horses'." This category means customers may not even know what problem it is you are solving, or why they should care.

Next, let's examine how we bring types and degrees of innovation into one visualization, that is helpful in getting stakeholders and innovation teams on the same page.

Aligning Innovation Efforts

Now that we understand the different types and degrees of innovation, we need a practical and actionable way to align teams and stakeholders around these concepts. Misalignment at the outset of an innovation project can doom even the most brilliant ideas.

> **Note** In the Language of Innovation, tools are presented as activities you can immediately use individually or in group collaboration that are relevant to the principles in this chapter.

The following tool provides a visual framework for having crucial conversations about expectations, constraints, and goals before significant resources are invested. By getting everyone on the same page early, you can avoid painful misunderstandings and increase your chances of sustained support.

Tool #1: The Innovation Game Matrix

Now that we have a way to categorize the types of innovation and the degrees of innovation, we want to make sure that everyone is on the same page of the constraints, risk tolerance, and expectations. Failure to do this is going to create incredible amounts of uncertainty for you, so even if you can't get this agreed upon, introducing the Innovation Matrix, shown in Figure 3-4 is helpful to get people to start thinking about it. Continue to discuss with stakeholders and people you will be working with. It may adapt over time, and that's fine.

> **Note**   A *tool* in this book is an immediate action you and/or your co-workers can take, whereas a *principle* is a guide. Some tools may be a whiteboard approach activity, while others might be a table or "business canvas" activity.

The goal is to have those conversations, align, and understand each other. Otherwise, you will be playing different innovation games with co-workers, with different rules, and expecting wildly different outcomes.
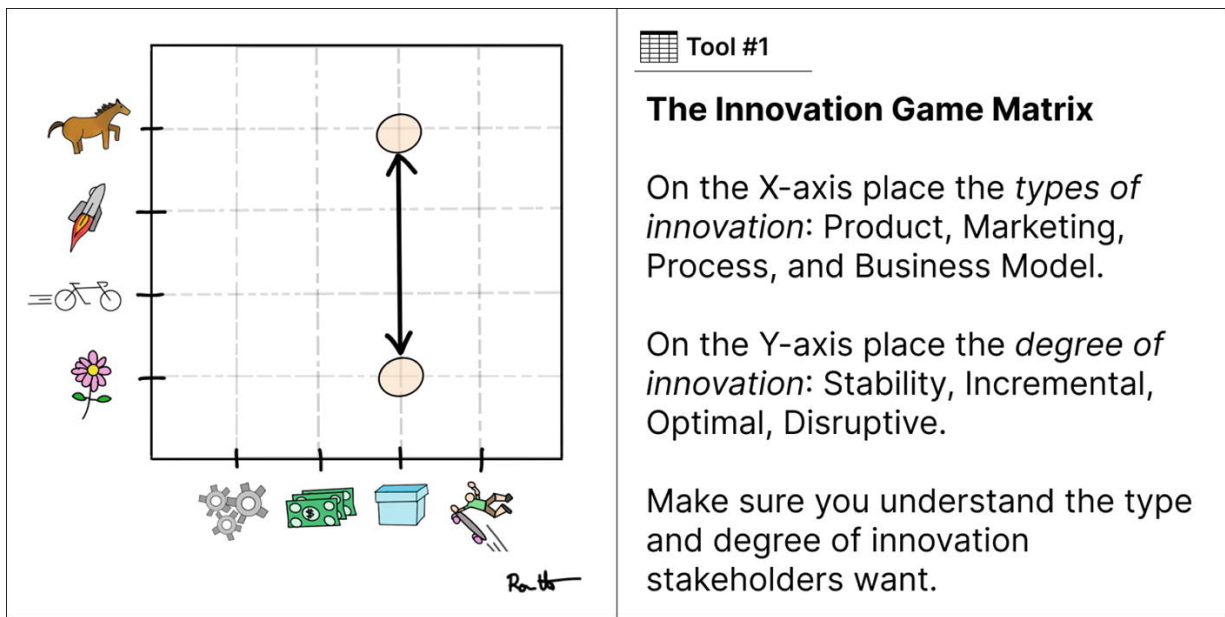
Figure 3-4   The innovation game matrix. Put a symbol for where you are, and where you want to be

In the example of Figure 3-4, it is clear that it is Product Innovation, but it is not clear to what degree. For example, do stakeholders want incremental change (the bicycle symbol), or to radically disrupt their industry (the faster horse symbol).

Because changing a product might require changes in processes, you may want to map that as well. Can you change processes, but only if you can keep existing ones mostly stable? Or does leadership expect you to focus only on maximizing efficiencies, even if it means changing everything top-to-bottom (the rocket ship, or optimal icon)?

Before you begin any work, make sure you understand what is expected of you. Ultimately, your innovation work depends on sponsors continuing to financially and politically support you.

Understanding Your Sponsors

In the realm of organizational innovation, it's crucial to distinguish between customers and sponsors:

- *Customers:* These are the end users of your company's products or services. They might be external consumers or internal employees.
- *Sponsors:* These are typically managers or leaders within your organization who provide the budget and mandate for your innovation work.

While aligning with customer needs is important, securing and maintaining sponsor support is often critical for the success of your innovation project. Sponsors hold the purse strings and can provide political backing within the organization.

It's rare but not impossible for customer-driven innovations to succeed despite initial sponsor resistance. For instance, one of Amazon's original recommendation engines, "Customers like you also bought...", was created by a data scientist against his manager's wishes. The successful test results turned it into a massive revenue-generating tool for Amazon.

However, such cases are exceptions. Generally, circumventing your manager or going over their head can be perceived as a threat, potentially leading to the quick termination of your innovation project. Therefore, balancing the desires of your customers with the expectations of your sponsors is a critical skill in driving innovation forward.

Summary

In this chapter, we explored the critical importance of understanding both the type and degree of innovation you're pursuing. This knowledge is fundamental in shaping your strategy, guiding resource allocation, and ultimately determining your chances of success.

Key points covered in this chapter include:

1. The importance of "knowing the innovation game you're in," illustrated by the M-Pesa case study.

2. The four primary types of innovation: Process, Business Model, Product, and Marketing.

3. The four primary degrees of innovation change: Stability, Incremental, Optimal, and Disruptive.

4. The Innovation Game Matrix as a tool for aligning expectations and strategies.

5. The distinction between customers and sponsors in organizational innovation.

6. The importance of preparing to pitch your innovation ideas to sponsors.

By mastering these concepts and tools, you'll be better equipped to navigate the complex landscape of innovation, align your efforts with organizational goals, and increase your chances of successful implementation. In the next chapter, we'll go deeper into process innovation.

4. The Exponential Power of Processes

Ron Itelman[1] ✉

(1)   Denver, CO, USA

Euphoria had gripped the business world in the late 1990s, it was a time when the rules of economics were being rewritten and billionaires were being made seemingly overnight because of this new thing called "the Internet." It was a new frontier of capitalism, and as meteoric as it was, it soon had a spectacular crash, known as the "dot-com bubble," which took many careers and companies as its victims, including the startup I worked for. I found myself jobless – just one among countless casualties in an industry-wide implosion that would reshape the tech landscape for years to come. But this event is what catalyzed my career path in innovation.

After struggling to find a job quickly, feeling a combination of shame, failure, and fear, I took a position I hadn't initially considered: I joined my parents' small family business, telling myself it would be temporary. Little did I know that this decision would lead to more than a two-decade journey, eventually culminating in the experience of being acquired by a much larger company.

This transition from the high-flying world of venture-backed startups to a small family business would prove to be a turning point in my understanding of innovation. It was here, in the most unexpected of places, that I would discover the true power of Process Innovation – a concept that would reshape my entire approach to business and problem-solving.

Process Innovation, at its core, is about reimagining and optimizing how things are done within an organization. Unlike the flashy product innovations that often grab headlines, process innovation focuses on the unsexy but crucial work of improving internal operations, workflows, and methodologies. It's about finding more efficient, effective ways to carry out

tasks, often leading to significant cost savings, increased productivity, and improved quality.

In the world of my family's jewelry business, I was given a rare opportunity – one that I didn't fully appreciate at the time. I had free rein to experiment, to learn what works and what doesn't, and most importantly, to understand why. The business became my innovation laboratory, where I could investigate, tweak the operational processes, and measure the outcomes. If an experiment didn't work, I didn't have to worry about getting fired. This unique environment allowed me to dive deep into the world of innovation, learning lessons that would shape my understanding of business efficiency for years to come.

In this chapter, we'll explore how small, seemingly insignificant changes can lead to dramatic improvements in business operations. We'll examine the unexpected value of "laziness" in driving efficiency, and we'll uncover practical techniques for implementing Process Innovation in your own organization. Through real-world examples and hard-won insights, you'll discover how the power of processes can transform the way you approach business challenges, regardless of your industry or the size of your organization.

Welcome to the world of Process Innovation – where small changes lead to big impacts, and where the most mundane aspects of business operations can become the source of your competitive advantage.

Introducing Process Innovation

While many associate innovation with groundbreaking products or clever marketing campaigns, true transformation often occurs in the less glamorous realm of Process Innovation. This powerful approach to improvement focuses on refining the underlying mechanics of how work gets done, often yielding financial impacts that rival or exceed those of flashy new products. By optimizing the unseen gears of an organization, Process Innovation can revolutionize efficiency, productivity, and ultimately, the bottom line.

As we navigate the complex landscape of business improvement, it's crucial to understand the different avenues for innovation. In Chapter 3, we explored various forms of innovation, each with its unique focus and

impact. Now, let's dive deeper into one of the most powerful yet often overlooked types: Process Innovation.

Process Innovation focuses on enhancing how things are done within an organization. Unlike Product Innovation, which creates new offerings, or Marketing Innovation, which finds novel ways to reach customers, Process Innovation works behind the scenes to optimize the very machinery of your business operations.

At its core, Process Innovation is characterized by its focus on

- Optimizing internal operations and workflows
- Increasing efficiency and productivity
- Reducing costs and eliminating waste
- Improving quality and consistency
- Enhancing the overall effectiveness of organizational systems

Why should organizations care about Process Innovation? In today's fast-paced, competitive business environment, efficiency and adaptability are not just advantages – they're necessities. Process Innovation allows companies to do more with less, respond quicker to market changes, and continuously improve their operations. It's the secret weapon that can turn good companies into great ones and help businesses of all sizes thrive in challenging times.

This chapter covers key principles and tools that will guide your approach to Process Innovation:

- Challenge long-standing assumptions about how things "should" be done.
- Create processes that minimize effort and maximize efficiency.
- Recognize the ripple effects of processes.
- Uncover and document critical information that resides only in people's minds.
- How to visualize processes and problems.

By mastering these principles and tools, you'll be well-equipped to unleash the power of Process Innovation in your organization. Whether you're looking to streamline operations, reduce costs, or improve quality, Process Innovation offers a pathway to transformative change. Let's embark on this journey to revolutionize how your business works from the inside out.

Processes, Paradigm Shifts, and Lazy Design

Much of Linux's success can be attributed to my own personality flaws: (1) I'm lazy; and (2) I like to get credit for the work of others.
— Linus Torvalds, creator of Linux and Git, technologies which revolutionized the world of open-source software and operating systems

Linus Torvalds' tongue-in-cheek quote about laziness isn't just a witty remark – it encapsulates a core principle of effective Process Innovation. In this context, "laziness" isn't about avoiding work, but about finding the most efficient path to a solution. It's the art of minimizing effort while maximizing output, a principle that often leads to the most elegant and effective innovations.

My first day at my family's jewelry business provided a perfect illustration of this principle. As I arrived, I found other employees already busy pulling merchandise from our safes and arranging them in trays on shelves. These trays were used by staff to prepare shipments, process returns, or examine items for customer inquiries.

Being new and unfamiliar with the system, I couldn't help with this process. Once the trays were out, I found myself struggling to locate specific items when taking sales orders. I'd wander around, asking colleagues for help, feeling increasingly embarrassed. As the boss's son, I felt an unspoken pressure not to appear incompetent.

The responses I received were vague and unhelpful: "these go over here," "those go over there." There seemed to be no discernible logic to the arrangement, just an organizational system known only to the most senior inventory manager.

After a couple of frustrating hours, I decided to act. Armed with a roll of yellow tape and a thick black marker, I began labeling the wooden shelves under the trays. "14KT Cable Chains" went on one, and I gathered all the relevant trays. As I worked through the inventory, creating more "columns" for different types and karats of chains, I could sense my father's growing unease. Here I was, on my first day, making changes without understanding the existing system or considering the potential consequences.

But something remarkable happened. The employee in charge of organizing the inventory saw what I was doing and got involved. She went

out and bought a label maker, and soon all the trays were labeled in alphabetical order. It was a simple change, but suddenly finding items became infinitely easier.

Yet, we weren't done. I noticed that the alphabetical system didn't align with how customers ordered over the phone. They specified chains by their width in millimeters, not by name. So, we adjusted again, fixing the labels to reflect the chain widths.

The impact was immediate and profound. Instead of relying on memory and experience to locate items, anyone could now easily find what they needed. This simple change dramatically reduced the time needed to find merchandise, prepare shipments, and most crucially, it significantly cut down on errors in sending the wrong items to customers.

All of these efficiency gains came not from a significant investment in technology, but from a few dollars spent on tape, markers, and a label maker. This is the essence of Process Innovation – small, "lazy" solutions that yield outsized results.

This experience taught me a valuable lesson: the most impactful innovations often stem from a desire to make our lives easier. By embracing this form of "laziness" – the drive to reduce unnecessary effort – we can uncover simple solutions to complex problems, freeing up time and mental energy for more critical tasks.

In your own quest for Process Innovation, don't underestimate the power of these seemingly small, "lazy" solutions. They often hold the key to unlocking significant improvements in efficiency, accuracy, and overall operational effectiveness. Remember, the goal isn't to work harder, but to work smarter – and sometimes, that means embracing your inner Linus Torvalds and letting a bit of "laziness" guide your innovation efforts.

Principle #14: Processes and Paradigm Shifts

Just as ancient civilizations once believed the Earth was flat, organizations often cling to outdated or inefficient processes simply because "that's how it's always been done, as illustrated in Figure 4-1". This principle challenges us to question long-standing assumptions and practices that may be holding our organizations back.

At any point in time, employees at the family business could have taken a piece of tape and could have created a simpler process, but for whatever

reason, "that's how it's always been done" was not questioned and remained accepted, even if difficult and inefficient.

Principle #14

Processes & Paradigm Shifts

People can operate within flawed models or processes simply because "that's how it's always been done."

Just as the image shows a flat Earth model, organizations often cling to outdated or inefficient processes out of habit or tradition. When these flawed models are corrected, many associated problems disappear.
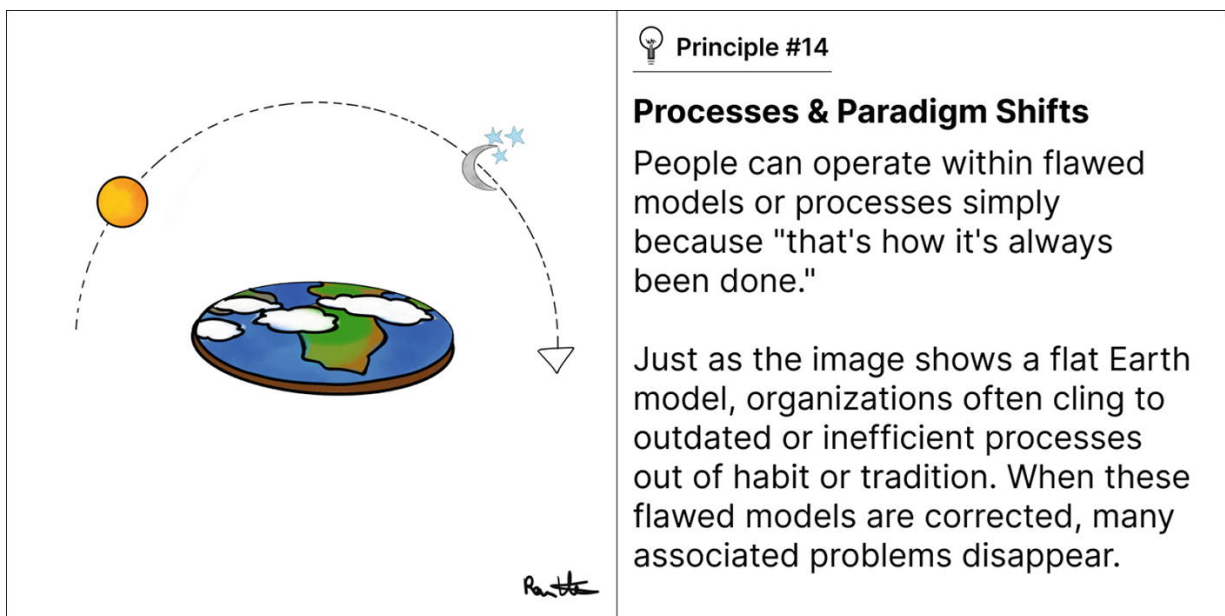
Figure 4-1 It is a common, natural experience to not question existing beliefs and processes

When meeting with stakeholders or users of your innovation project, it is important that you take the position of a "beginner's mind." Ask dumb questions, pretend if you have to, but ask questions assuming you don't know anything, in order to surface "why do we do it this way?" – and it will often yield valuable insights.

When you question existing processes, and begin to design better ones, you will almost invariably spark new ways of thinking, or *paradigm shifts*. These can be difficult for people at first, much like the resistance I got for changing the way a fundamental process was done, such as how the merchandise trays were being organized, as they initially take work to adopt and understand. Because of this, we want our process innovation to be easy to understand, or in other words, we want to *design for laziness,* our next principle.

Principle #15: Design for Laziness

In the realm of Process Innovation, true mastery lies in embracing the paradoxical power of "lazy" design. The most effective innovation leaders don't just ask, "How can we do this better or cheaper?" Instead, they pose three seemingly obvious, often ignored, but transformative questions that

end up being better or cheaper. They come from a user experience design perspective, when we care about how employee experience impacts the bottom line and efficiencies of completing work while minimizing errors:

- "How can we make this easier for you to complete your task?"
- "How can we make it easier to explain your work to other people?"
- "How can we make this easier for people to collaborate, self-organize, and solve problems together?"

These questions embody the essence of "lazy" design – a concept that, counterintuitively, leads to more efficient, effective, and resilient processes. It's about creating systems that are so well-designed, they appear to run themselves.

Key principles of "Lazy" design:

- *Minimal Physical Effort:* Design processes that reduce physical demands, increasing productivity and reducing fatigue-related errors.
- *Minimal Cognitive Load:* Simplify mental tasks to free up cognitive resources for complex problem-solving and creative thinking.
- *Error-Proof:* Create systems that naturally prevent mistakes by eliminating the complexity that creates opportunities for errors.
- *Self-organization:* Design processes that empower frontline workers to identify and solve problems autonomously. Create an environment where optimal solutions can emerge organically from those closest to the work, fostering a culture of continuous improvement and adaptability.

The goal isn't to oversimplify or strip away functionality. It's to find the sweet spot where ease of use, speed, error prevention, and adaptability converge. As the ancient Chinese philosopher Lao Tzu said, "To attain knowledge, add things every day. To attain wisdom, remove things every day," as shown in Figure 4-2.
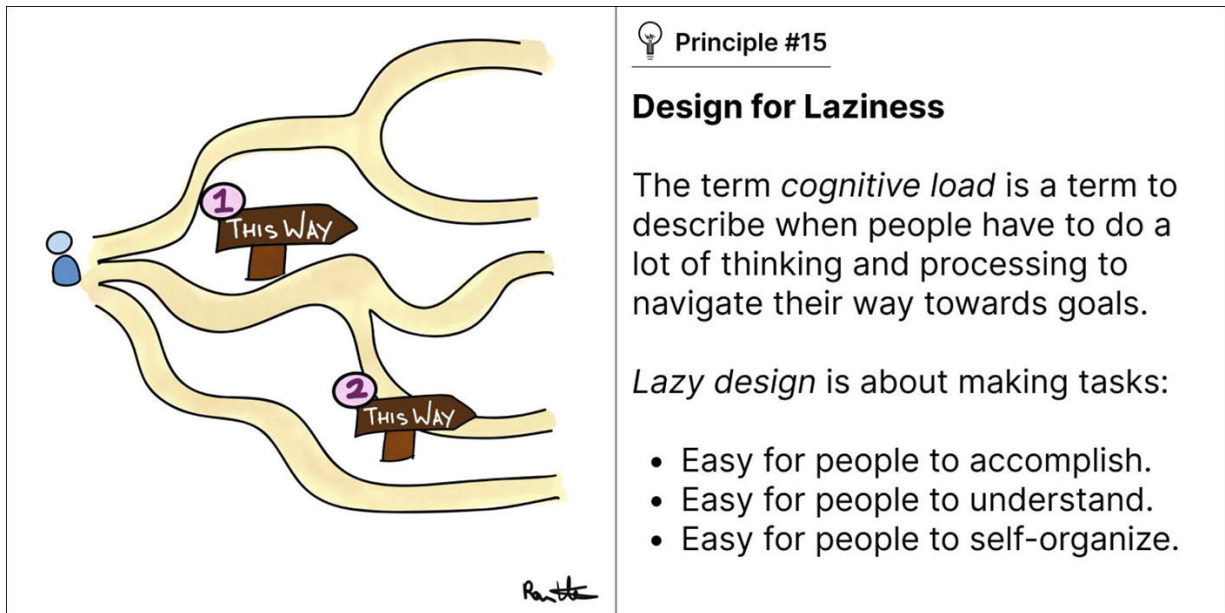
Figure 4-2 Lazy design can be as simple as putting signposts to guide a user, in order to reduce the cognitive and physical effort required, while minimizing mistakes

The goal isn't to oversimplify or to strip away necessary functionality. It's to find the sweet spot where ease of use, speed to completion, and prevention of errors are maximized.

In essence, the art of "lazy" design is about creating an ecosystem where efficiency and effectiveness are the path of least resistance. It's about making the right thing to do the easiest thing to do.

By embracing "lazy" design, you're not just making life easier for your team – you're creating more resilient, efficient, and adaptive processes that can give your organization a significant competitive advantage. It's a powerful approach that can lead to breakthrough innovations in how work gets done, allowing your organization to do more with less and adapt swiftly to changing conditions.

While I don't have hard facts to back this next statement, my belief is that failing to embrace lazy design means your company either (A) will have inefficient processes that make employees do extra work to accomplish tasks or (B) will have to utilize top-down control structures which are expensive, complex, and often ineffective.

Principle #16: The Pollination Effect of Processes

The true power of Process Innovation lies in recognizing the profound interconnectedness of processes that are often invisible. A seemingly insignificant change in processes can seemingly randomly spread like

pollen in the wind, creating a cascade of improvements that transform entire systems. Consider the humble act of improving the merchandise labels on shelves in our family business:

- Clear, alphabetically sorted labels reduced an individual's time to locate and get items, and locate and return items, totaling, for example, one minute of savings each time inventory was pulled.
- If each representative worked with merchandise 50 times a day on average, this would save 50 minutes per employee, per day, or 13,000 minutes per year per employee!
- With 14 employees working with merchandise every day, this meant the company was saving approximately $100K per year!

If this was the only savings, that already would be substantial; however, that was just the easy-to-calculate, low hanging fruit of value. The real value came from the pollination effect, as illustrated in Figure 4-3 – how one small change cross-pollinated improvements across the entire business.

- By far, the most valuable change was that clearer labels reduced mistakes by reducing the wrong merchandise being pulled. Frustrated customers, processing returns, and losing sales are huge customer service drains that were all avoidable losses. The fact that something so simple as using a sharpie to write labels below jewelry trays could end up reducing expenses and creating better customer service was like watching an unexpected cross-pollination spread through the business – its impact completely unknown to me at the time.
- Customers didn't have to wait as long when there was a problem, while the average time to pull merchandise might have been under a minute, when merchandise wasn't in the right place, or it was an item that wasn't commonly pulled so people didn't memorize where it was, finding the tray could take several minutes, with the customer having a bad experience waiting long periods of time on the phone.
- By shortening the time it took to get questions answered, it created a better customer experience, boosted satisfaction and loyalty, ultimately driving business growth and market positioning.

Principle #16

The Pollination Effect of Processes

The bee unknowingly impacts the tree's species, while the flower unwittingly benefits the bee.

Similarly, our work roles may limit our view of process impacts.

Identifying improvements with the greatest cross-system benefits is key to effective process innovation.
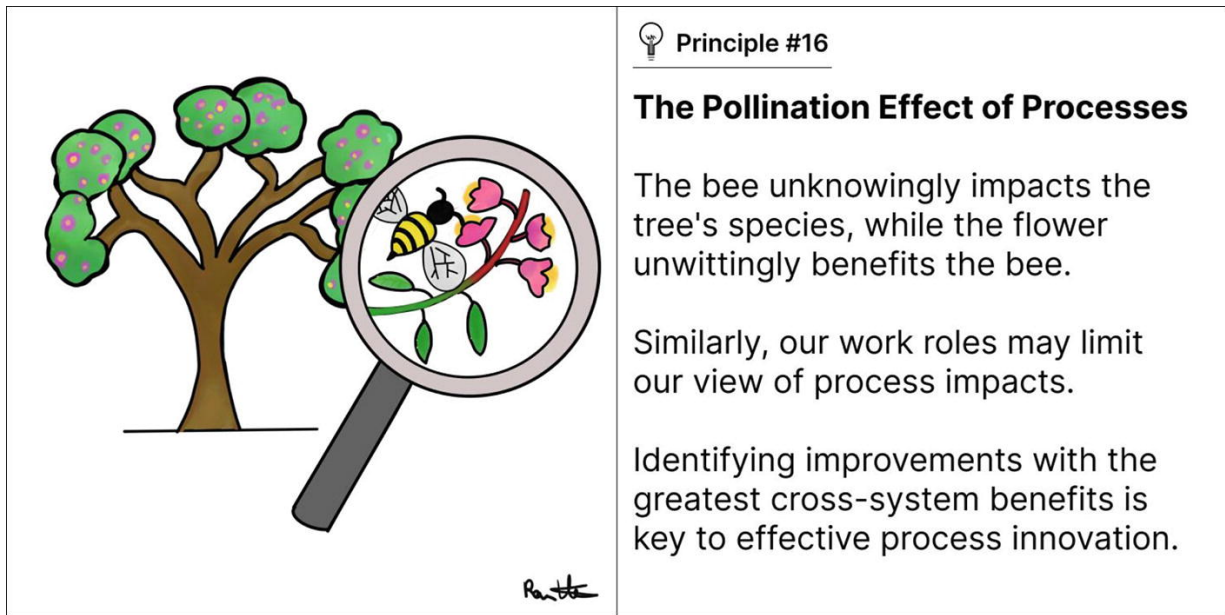
Figure 4-3 A bee doesn't know the impact it has on the survival of the plant species, and likewise the critical work of the bee is unknown to the plant, it is "invisible"

Processes are to organizations what pollination networks are to ecosystems – they connect and nurture every part, influencing overall health and growth. Just as a single pollinator's work can transform entire fields and forests, a small process improvement can revolutionize entire business functions.

The challenge – and the opportunity – lies in making the invisible visible. By mapping these pollination pathways across scales, measuring their impacts, and continually refining them, organizations can unlock a powerful source of competitive advantage. In the age of digital transformation and global competition, those who master the art of Process Innovation across scales will be best positioned to thrive.

Principle #17: Be on Alert for "Dark" Knowledge

This principle recognizes that critical process knowledge often resides solely in the minds of individual employees, creating "knowledge silos." Like icebergs, where only a small portion is visible above water, many processes have significant hidden components known only to specific individuals. Effective Process Innovation involves surfacing and capturing this hidden knowledge to create more robust, transparent, and sustainable processes. When knowledge is trapped in people's minds, it can be referred

to as *dark knowledge*; the deeper the knowledge and the deeper on any given individual, it creates greater risks, as illustrated in Figure 4-4.

For example, how is that knowledge verified, what if others need that knowledge, or what if the employee leaves? Because of this risk, if you find any "dark knowledge," it can often be a valuable opportunity to untangle and understand.

For example, when only 1–2 people knew how to manage where the inventory from the safes went onto the shelves, it meant only they could do the work. By creating simple labels for the merchandise, now anyone could place merchandise because there was an alphabetical way to sort it, not only the way that made sense to the person who placed it.

Principle #17

Be on Alert for "Dark" Knowledge

The greater the reliance and depth on knowledge trapped in individual's minds, without any organization system or process to guide the practice, the greater the risk.

Often this starts out because someone "owns" a responsibility, but as a business grows, it limits the ability for effective collaboration and business governance.

Figure 4-4 An iceberg with only the tip visible above the surface. Under the surface is a deep and vast hidden iceberg. The deeper the iceberg, the greater the risk

There were times I was in awe of my dad at work, where I felt like I was witnessing a virtuoso composer at work, except instead of a symphony, he was orchestrating our inventory of tens of thousands of items for the busiest quarter of the year. In his head he had to figure out what we had in stock, what we had to order, who to order it from, when it would be delivered, and what the fashion trends of that year would be.

As I observed this intricate dance of memory and intuition, a realization hit me like a ton of bricks: our entire business was balanced on the fulcrum

of my father's mental inventory management, and I had literally zero idea of how any of it worked.

Sure, we had a computer system that tracked sales and stock levels. But the real magic – the prediction of future demand, the understanding of shifting customer preferences, the knowledge of which suppliers were reliable and which ones needed a fire lit under them – all of that resided solely in my father's head.

Every time we bought merchandise, we effectively were making a bet. If you order the wrong merchandise, you are stuck with it. It's incredibly important and can absolutely sink a company, if not done well.

This wasn't just a problem for our modest family business. I later learned that this scenario plays out in companies of all sizes, across industries. Companies are at risk of major business losses due to the retirement of senior, experienced staff, and whenever experienced employees leave. In fact, the cost to an organization can be 2–4X the employee's salary when they leave, due to lost knowledge and time to find and train new employees. And some knowledge was invaluable, such as my father's entire decision-making process for purchasing merchandise.

The hidden knowledge trapped in my father's mind wasn't just about inventory. It was decades of market insights, customer behavior patterns, and hard-won lessons about the jewelry business. All of it crucial, and all of it inaccessible to anyone but him.

I decided to act and something remarkable happened. At first my father was totally skeptical that his buying process could be reduced to numbers. But by the end, after a few years of using the inventory analytics system I designed, he said he "wouldn't be able to operate without it."

The results were transformative. Our purchasing processes became more efficient, we were better prepared for seasonal fluctuations, and capital was free to be allocated to where it was needed most.

More importantly, we had begun the crucial process of extracting the wealth of knowledge from my father's mind and transforming it into a tangible asset for our business. It wasn't about replacing his expertise – far from it. It was about amplifying it, making it accessible to others, and creating a foundation for future innovation.

This experience taught me a vital lesson about Process Innovation: the most valuable knowledge in your organization is often the hardest to see

and the easiest to lose. It's trapped in the minds of your most experienced people, hidden in plain sight.

Your challenge – and your opportunity – is to find ways to surface this hidden knowledge. Document it. Analyze it. Share it. Build systems that not only capture this wisdom but also enhance it.

Because in the end, true Process Innovation isn't just about creating new workflows or implementing fancy software. It's about unleashing the collective intelligence of your entire organization. It's about finding those seemingly invisible processes that can have a massive positive impact on your organization's business.

Tools for Process Innovation

Process Innovation is the art and science of refining an organization's internal operations, workflows, and methodologies. While its primary objectives often include cost reduction, efficiency enhancement, and quality improvement, the true power of Process Innovation lies in its ability to transform the very DNA of how an organization functions.

At the heart of effective Process Innovation lies *process mapping* – a powerful visualization technique that unveils the complex tapestry of steps, decisions, and workflows comprising your business operations. By creating a clear, visual representation of your processes, you gain a bird's-eye view of your organizational landscape. This perspective is invaluable, allowing you to pinpoint bottlenecks, identify redundancies, and uncover hidden opportunities for improvement that might otherwise remain obscured in the day-to-day bustle of business operations.

What is great about learning how to create process maps is that you can use it for virtually anything, whether it is decision-making, website design and user experience journeys, or business rules and how they are operationally implemented.

There are three important tools in process innovation, and while an entire book could be filled just about process mapping, these are the most important elements that will enable you to get started and find immediate value:

- *Process Maps:* Visualize the sequential flow of tasks and decisions.
- *Problem Maps:* Visualize where problems occur in processes.
- *Problem Analysis:* Understand how problems and processes combine.

Tool #2: Process Maps

A process map is simply a collection of *boxes, diamonds, arrows*, and *labels*, and is shown in Figure 4-5. The following symbols are what you need to know about to create a process map:

- *Box:* A specific point in a process, and also is referred to as a *state*. "In my office working," "making coffee in the kitchen," and "writing a document" are examples. Each of these describe a state, or a particular point in time, with a particular activity, or situation.
- *Diamond:* Decision points are broken down into yes/no or true/false questions. "Am I groggy when I wake up?" Yes I am. "If I am groggy, do I want coffee?" Yes I do. Each of these questions are different decision points.
- *Arrow: R*epresents a connection from one box to another in a flow. For example, the decision point of "Am I groggy?" can be followed next by "Do I get coffee?"
- *Labels:* These go on or in the boxes, diamonds, and arrows. For decision points, they will be mostly "yes" or "no."

Tool #2

Process Maps

Visualize how processes work by using a "square" symbol to show a steps in a process.

Then use a "diamond" symbol to show where decisions are made, try to frame them as yes/no questions.

If the answer is yes, draw a square to the right, if no, draw a square directly below.
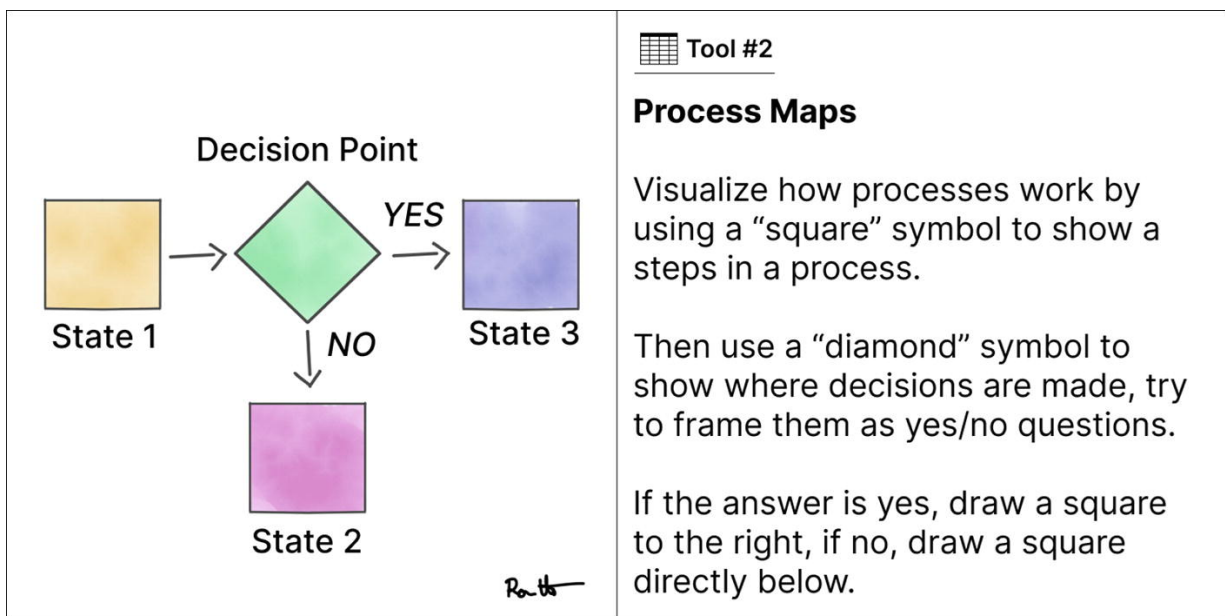
Figure 4-5 A process map is a sequence of steps and decision points

Process maps can be created for literally almost anything, user experience design, manufacturing process design, decision-making, you name it. It is an incredibly powerful tool. What a process map *doesn't* tell

you is where all of the problems are in a process, or *why* those problems exist in the first place.

Tool #3 Problem Maps

While process maps give us a quick way to visualize the steps and decision points in a process, *problem maps* identify where problems are in processes, and help describe the impact and type of problem.

 The following symbols, shown in Figure 4-6, are needed for creating problem maps:

- *Goal importance:* The importance of a goal to an individual person in a process, score it 1–5, with 5 being of "very high" importance, and 1 being a "very low" importance score.
- *Pain of Situation:* A description of the problem or how it impacts their individual work, score it 1–5, with 5 being a "very high" level of pain, and 1 being a "very low" level of pain.
- *Negative impact:* How the business is affected, on a scale of 1–5, with a 5 being a "very high" negative impact, and 1 being a "very low" negative impact to the business.
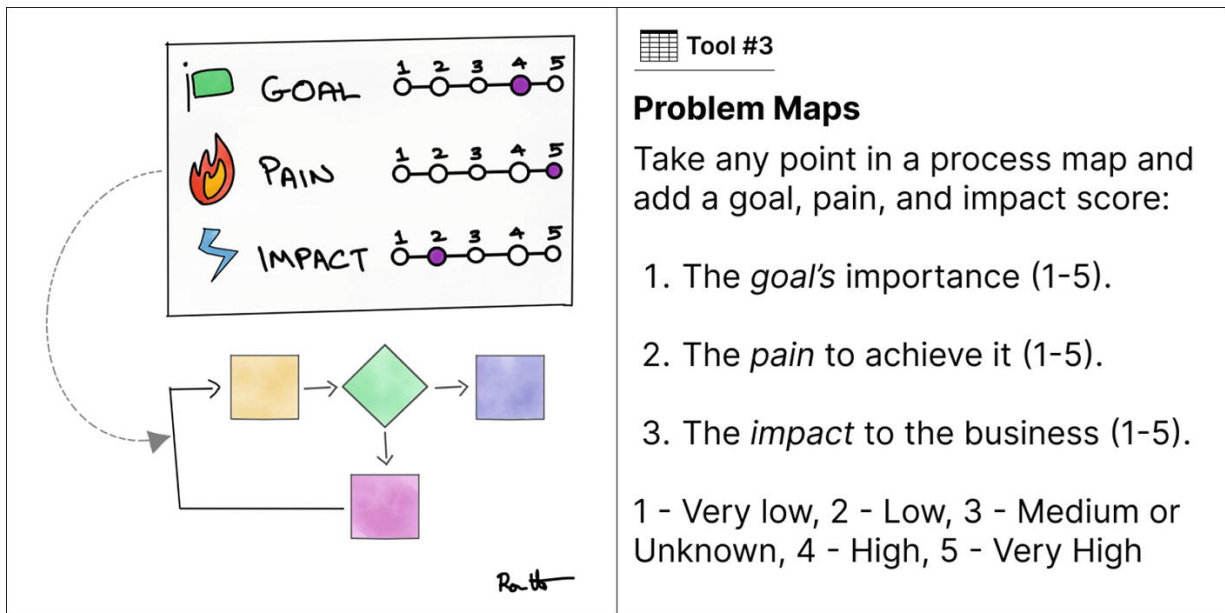
Figure 4-6 A problem map scores problems, goals, and business impact in a way that can be connected to process maps

In the example of Figure 4-6, the pain level is very high, for a goal that is very high to the individual, but the business impact of their pain might be minimal. This may not be what the individual wants to hear, but your job in process innovation is to find primarily how to create the best positive business impact first, and once you have identified that, then you can think about how to reduce the individual pain points through "lazy design."

Tool #4 Problem Analysis

Now that we have our maps of processes and problems in a way that standardizes how to score problems, we can do something very exciting: we can examine how their impact ripples across an organization.

Referring to the example of this chapter, that simply labeling the merchandise trays created unforeseen benefits that rippled across the organization, what if you could know which process innovation would have the biggest impact ahead of time? This would enable you to know how to create efficiency gains in a more structured and thoughtful manner.

When you create a process map, and then talk to individuals to create problem maps from their perspectives, you can combine them together, and it reveals that hidden information (see Table 4-1).

Problem analysis has the following steps:

- Can people even agree to what the process is? Usually, unless it is highly controlled, they have slightly different perspectives. If there's wide variation, then that means there's a problem around education/training or organizational management.
- Usually, because of pain points, there's the process people are *supposed* to follow that is different from the way *work is actually done*. If you find large variations here, that usually means there are exciting process innovation opportunities.
- Create a table that lists out processes, and their pain points, goals, and business impact. What you want to do is catalog a sufficient number of processes and problems and find where the biggest gaps are between individual perspectives, and how they cumulatively impact the organization.

You can collect multiple perspectives and average scores, or you can also sequentially connect how problems in one area of a business impact other teams. Without a way to visualize and score problems in connected

maps, it is very difficult to know what the most important and valuable problems are. For example, it could be reasonable to assume that hiring another customer service rep was the solution. Problem analysis lets you compare the costs and benefits of solutions so that you can ultimately make better decisions and recommendations.

Table 4-1   Mapping the discrepancies between individual and business-wide perspectives on problems and processes reveals key areas for strategic focus and improvement

Process Situation	Goal Importance (Individual)	Pain of Situation(Individual)	Negative Impact (Business)
Takes 1–2 minutes to find inventory	2	2	4
Poor customer service experience waiting on phone	2	2	4
Returned merchandise due to wrong items pulled	1	1	5

Summary

In this chapter, you learned about the power of Process Innovation and how small changes in organizational processes can lead to significant improvements in efficiency, productivity, and overall business performance. We explored the value of "lazy" design, the importance of questioning assumptions, and the impact of hidden knowledge on processes.

Key points covered in this chapter include

- *Design for Laziness:* Embracing efficient solutions that minimize effort while maximizing output can lead to elegant and effective innovations.
- *Paradigm Shifts and Process Innovation:* Challenging long-standing assumptions about how things "should" be done is crucial for identifying opportunities for process improvement.
- *The Invisible Impact of Processes:* Recognizing that processes exist at multiple scales and that small changes can have far-reaching effects is key to effective Process Innovation.
- *Hidden Knowledge Is Trapped:* Surfacing and capturing critical process knowledge that resides solely in employees' minds is essential for creating robust and sustainable processes.

- *Process Mapping Tools:* Visualizing workflows is a powerful tool for identifying bottlenecks, redundancies, and opportunities for improvement in business operations.

In Chapter 5, you will learn about the next type of innovation, Business Model Innovation.

5. Rewriting Your Business Playbook

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*The impediment to action advances action. What stands in the way
becomes the way.*
—Marcus Aurelius, Roman Emperor, author of the book
Meditations.

In the hushed corridors of Eastman Kodak's Rochester headquarters, a palpable tension hung in the air. It was 1975, and a young engineer named Steve Sasson had just presented his latest invention to the company's top brass: the world's first digital camera. As Sasson explained the revolutionary potential of this new technology, the room fell silent. The executives exchanged uneasy glances, their minds racing to comprehend the implications of this device that threatened to upend their entire business model.

For nearly a century, Kodak had reigned supreme in the world of photography. Founded in 1888 by George Eastman, the company had grown from a small startup into a global behemoth, its iconic yellow boxes a staple in households across America. By the 1970s, Kodak commanded a staggering 90% of the US film market and 85% of the camera market. The phrase "Kodak moment" had become synonymous with life's most precious memories.

The world's first digital camera was about the size of a toaster, was made out of parts Sasson found in Koda's junk bins, and played back digital photos on a black & white television. Kodak management reacted with curiosity and skepticism, and did not convey to Sasson that he had invented

something. The feeling in the room was that this was a very scary look at what could be possible in the future.

The digital camera posed a direct threat to Kodak's cash cow: film. With profit margins as high as 70% on film sales, the idea of cannibalizing this lucrative business seemed unthinkable. Fallon, like many leaders before him, faced a pivotal decision: embrace disruptive innovation or protect the status quo.

In the years that followed, Kodak would make a series of fateful choices that would ultimately lead to its downfall. Despite possessing the technology that would revolutionize photography, the company's leadership consistently chose to prioritize its traditional film business over digital innovation. This decision blinded Kodak to the seismic shifts occurring in its industry.

As the digital revolution gained momentum in the 1990s and early 2000s, Kodak's market share began to erode. Competitors like Fujifilm and new entrants like Sony eagerly embraced digital technology, leaving Kodak scrambling to catch up. By 2007, when Kodak finally launched its first digital camera, it was too little, too late. The company that had once defined the photography industry now found itself fighting for survival.

On January 19, 2012, Eastman Kodak Company filed for Chapter 11 bankruptcy protection. The once-mighty corporation, valued at $31 billion at its peak in 1996, had become a cautionary tale of corporate hubris and missed opportunities. As news of the bankruptcy spread, former employees and industry analysts alike shook their heads in disbelief. How could a company that invented the digital camera fail so spectacularly in the digital age?

The answer lay not in Kodak's technological capabilities, but in its inability to reinvent its business model. As Clayton Christensen, the renowned Harvard Business School professor, observed, "Kodak did not fail because it missed the digital age. It actually invented the digital camera". But it failed because it could not adapt its business model to the digital age.

Understanding Business Model Innovation

Business model innovation, a cornerstone of the four "Types of Innovation" introduced in Chapter 3, is the art of reimagining how a company creates,

delivers, and captures value. It's not just about making tweaks and improvements – it's about orchestrating a symphony of change that reverberates through every facet of an organization.

When executed successfully, business model innovation can catapult a company from industry laggard to trailblazer, reshaping not just its own destiny, but the entire competitive landscape. For these reasons, Business Model Innovation is by far the most challenging, and potentially the most rewarding of all the types of innovation introduced in Chapter 3.

Characteristics of Business Model Innovation

The essence of business model innovation lies in its transformative power. Let's explore the key characteristics that define this revolutionary approach:

- *Paradigm Shift:* It fundamentally alters the core logic of how a business operates, challenging long-held assumptions and practices.
- *Disruptive Force:* Often, it disrupts existing industry norms, reshaping market dynamics and competitive landscapes.
- *Value Creation:* By opening up new revenue streams or markets, it unlocks unprecedented potential for growth and profitability.
- *Organizational Overhaul:* It demands significant organizational change, requiring a company-wide commitment to transformation.

These characteristics underscore why business model innovation is both tremendously powerful and inherently challenging. It's not for the faint of heart, but for those willing to reimagine their entire business from the ground up. To illustrate how these characteristics play out in practice, let's consider a real-world scenario that encapsulates the essence of business model innovation.

Consider a traditional textbook publisher being asked to create an "AI for education" platform. This shift from selling physical books to offering real-time, AI-generated content challenges every aspect of the existing business:

- Sales team structure and incentives
- Product development processes
- Marketing strategies
- Quality control methods
- Revenue models

This level of change goes beyond simply creating a new product; it requires reimagining the entire business model. These types of projects are also often called *greenfield* projects, as they involve starting from scratch with no constraints from existing systems, processes, or infrastructure.

Like building on an undeveloped field, greenfield projects offer the freedom to design and implement entirely new solutions without the need to integrate with or work around legacy elements. This approach allows for maximum innovation and flexibility, but also comes with its own set of challenges, including higher initial costs, longer development times, and the need for comprehensive planning and risk management.

In this chapter, you will learn common challenges and specific tools that are useful for preparing your strategy when dealing with business model innovation:

- Why business model innovation inherently involves understanding risks.
- Key challenges that make business model innovation so difficult.
- Tools to understand and manage risk.

In this chapter, you will learn three new tools which are especially useful to understand the relationship between innovation projects and a company's business model:

- *Risk Tables:* Identify risks and risk tolerance.
- *Risk Prevention Planning:* Thinking through known unknowns and preparing for any situation that can negatively impact your innovation efforts.
- *Risk Mitigation Mapping:* Planning for minimizing the negative impact if risks occur.

Disruption: The Catalyst and Consequence of Business Model Innovation

At the heart of many successful business model innovations lies the concept of *disruption*. This term, common in innovation circles, venture capital, and entrepreneurship, is key to understanding why and how businesses need to evolve their models. Let's explore this concept through a classic example from the ice industry, which demonstrates how disruptive innovation can completely reshape a business landscape and force established players to radically rethink their business models.

A classic example of disruption comes from the ice industry in the early 20th century. Before refrigeration, the ice industry was dominated by companies that harvested ice from frozen lakes in the north and transported it via railroad to warmer regions. These companies had sophisticated supply chains and were highly efficient at delivering ice to customers.

However, they were disrupted by the invention of the electric refrigerator. Initially, refrigerators were expensive and unreliable compared to delivered ice. But they offered convenience and consistency that traditional ice delivery couldn't match. As the technology improved and costs decreased, refrigerators quickly became the preferred option for most consumers.

One key aspect of disruptive innovation is that it often starts in niche markets or with products that seem inferior by traditional metrics. Established companies frequently dismiss these innovations, focusing instead on improving their existing products for their most demanding customers. In fact, incumbents will often buy smaller, promising, competing companies simply to shut them down, and maintain their inefficient business models as the 100 pound gorilla in the room.

Leadership often has very little incentive to invest in solutions that will compete with their cash cows. By the time they realize the disruptive potential of the new technology or business model, it's often too late to catch up. This can be because of the amount of time and expense it would take to operationalize a solution, but most often it is because of the organizational complexity that it would take, the complete re-alignment of incentives and power dynamics, that a "corporate inertia" takes hold.

Key Business Model Innovation Challenges

Embarking on the journey of Business Model Innovation is akin to navigating treacherous waters, fraught with challenges that can sink even the most promising ideas. In the section following this, you will learn about three tools to prepare you for the challenges ahead, but first it is worth exploring some of the key minefields you will need to watch out for, so that you will not be caught off guard, and will know which warning signs to look for.

- *The Antibody Effect:* Your innovation may be perceived as a threatening foreign entity by established teams, triggering a fierce organizational
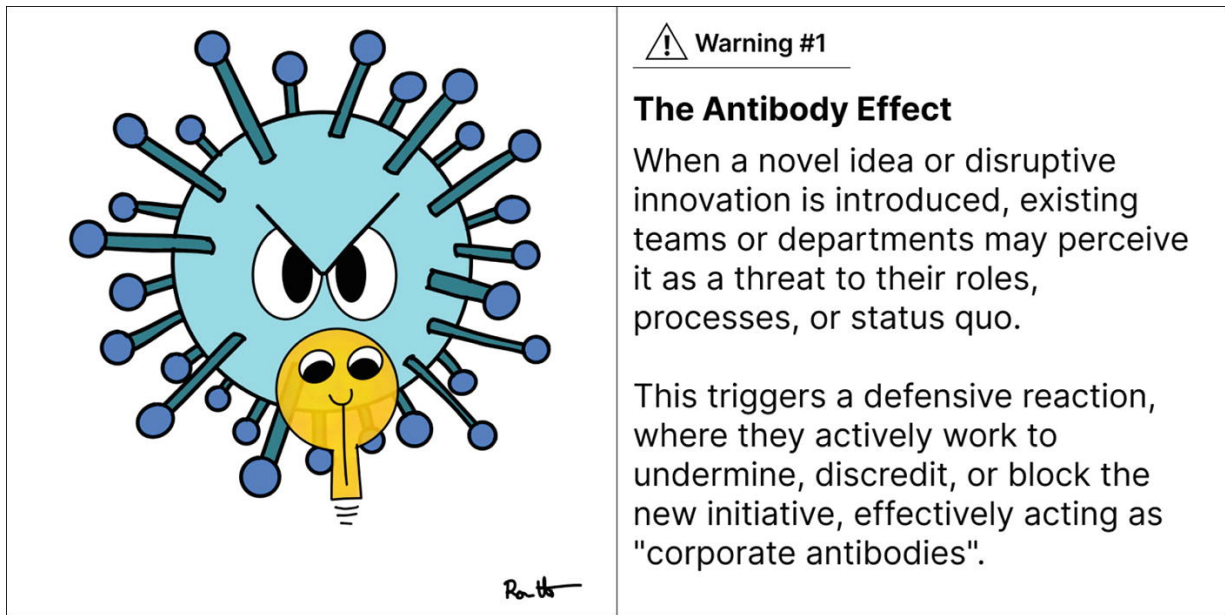
immune response. These "corporate antibodies" will mobilize swiftly, fighting to protect their territory and maintain the status quo that safeguards their roles, influence, and familiar processes. This defensive reaction can manifest as passive resistance, active sabotage, or even coordinated efforts to discredit your innovation.

- *The Gauntlet of Resistance:* Brace yourself for a relentless obstacle course of criticism, political minefields, and bureaucratic quicksand. You'll encounter an onslaught of pessimism, skepticism, and discouragement at every turn. Each hurdle – from seemingly endless approval processes to sudden "budget constraints" – is a test of your resolve, strategically placed to exhaust your resources and derail your progress. Navigating this gauntlet requires not just persistence but also political savvy and the ability to build alliances across the organization.

- *The Resource Trifecta:* Success in business model innovation demands far more than technical brilliance alone. You must secure and maintain a delicate balance of three critical resources: technical expertise to build your solution, operational support to implement and scale it, and political backing to navigate organizational complexities. This trinity of support is essential for breathing life into your innovation and ensuring its longevity. The absence or weakness of any one element can fatally undermine your efforts, regardless of the strength of the other two. Mastering this trifecta requires not just skill in your innovation domain, but also adeptness in organizational dynamics and strategic relationship-building.

Navigating these waters requires not just skill, but also courage, perseverance, and an unwavering commitment to your vision. It's a test that separates true innovators from mere dreamers.

Warning #1: The Antibody Effect

Just as the human body's immune system attacks foreign invaders, established organizations often react defensively to disruptive innovations. Your new ideas may be perceived as threats by entrenched teams, triggering a fierce "immune response," as shown in Figure 5-1.

Warning #1

The Antibody Effect

When a novel idea or disruptive innovation is introduced, existing teams or departments may perceive it as a threat to their roles, processes, or status quo.

This triggers a defensive reaction, where they actively work to undermine, discredit, or block the new initiative, effectively acting as "corporate antibodies".

Figure 5-1 A large, menacing antibody represents an organization's defensive reaction to a small, friendly lightbulb character symbolizing a new idea or innovation

Key signs to watch for:

- Passive resistance from existing departments.
- Active lobbying against your project.
- Sudden "budget constraints" or resource reallocation.

There is no one way to counteract the antibody effect, but there are actions you can take to minimize and prevent common challenges:

- *Alliances:* Build alliances across departments early, seek cross-functional support so you have an entire network of people to talk to. This will give you a clear indicator of who is actively supporting your efforts, and will rapidly give you insights that are difficult to attain when working with people who may be discouraging or even actively undermining your efforts.
- *Empathy:* Listen attentively to concerns and needs of affected teams and their reasons and concerns. Document their input to show you've understood their perspective. Demonstrate how you're incorporating their voice into your strategy. Follow up to show how their input has shaped the project. It may not change much, but it shows you have done your best to genuinely understand and think through their perspectives.
- *Involve:* Ask potential "antibodies" in the innovation process to participate in brainstorming and let them participate in the innovation

solution being partially "their ideas." These little steps can help gain buy-in, and make them feel there's a path to be included in the success of the project.

To prepare and prevent for the "Antibody Effect," leadership must carefully structure and insulate the innovation team while fostering understanding across the organization. This requires

- Access to stakeholders for insights into current processes and pain points
- Operational independence for the innovation team
- Skilled management of relationships with individuals whose roles may be disrupted

Remember, many people will not want to partner, but those excited about change are the ones with the innovation culture you're looking for. Seek them out as key allies in your efforts. However, by making all stakeholders feel heard and valued, you can transform potential antibodies into supporters or, at the very least, reduce active resistance.

Warning #2: The Gauntlet of Resistance

Implementing business model innovation often feels like running a gauntlet of obstacles. You'll face an onslaught of criticism, political minefields, and bureaucratic quicksand designed to test your resolve and derail your progress, as illustrated in Figure 5-2.
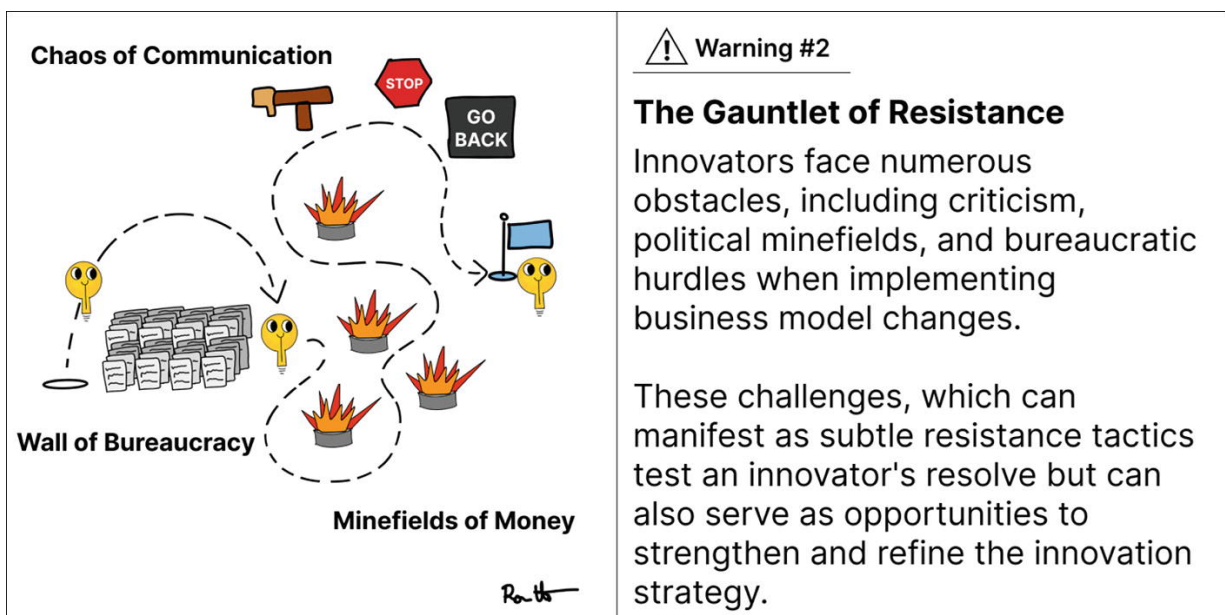
Figure 5-2 An obstacle course depicting the innovation journey, featuring a "Wall of Bureaucracy," "Chaos of Communication," and "Minefields of Money"

You may face an onslaught of subtle resistance tactics, and fortunately or unfortunately the CIA created a *Simple Sabotage Field Manual* outlining the strategies for how to undermine and destroy productivity of companies from within, which can be useful to identify behaviors:

- *Procedural Obstructions:* Insistence on doing everything through "channels" or "proper procedure," advocating for committees of at least five people
- *Communication Interference:* Haggling over precise wordings of communications, minutes, and resolutions, "misunderstanding" orders and asking endless questions about them
- *Decision Paralysis:* Bringing up irrelevant issues as frequently as possible. Referring back to matters decided upon at the last meeting and attempting to re-open questions. Advocating "caution" and urging colleagues to avoid haste

These are a few of the ways the CIA's Simple Sabotage Field Manual instructs agents how to directly or indirectly get employees to sabotage a company from within. While in no way does this book assume employees are actively engaged in sabotage, the behaviors of someone feeling threatened or wanting to stop the progress of innovation might be the same. The Simple Sabotage Field Manual can serve as a catalog of behaviors for you to recognize when you feel resistance, and exactly why it is challenging your ability to succeed in your innovation efforts.

Remember Marcus Aurelius' wisdom: *The impediment to action advances action. What stands in the way becomes the way*. By recognizing and addressing these forms of resistance, you can create a more streamlined and effective innovation process. In a way, learning how to overcome resistance will strengthen your case with facts, gives you opportunities to clarify roles and responsibilities, and you can emerge with a more refined and compelling innovation strategy.
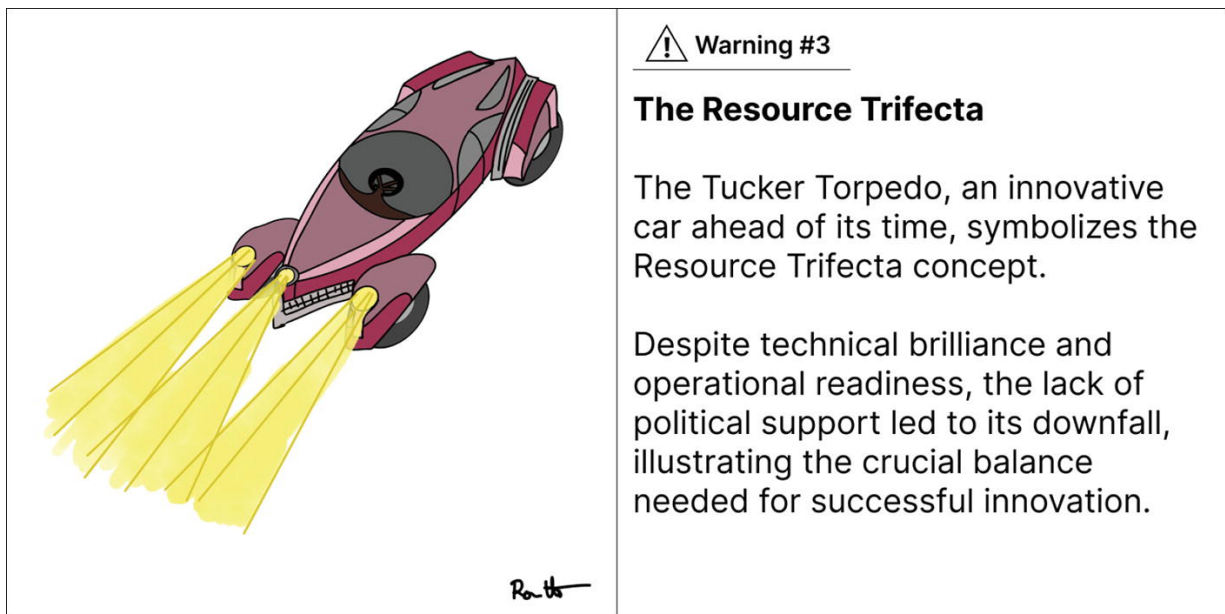
Tip   Every objection you hear – every "it won't work" or "it can't be changed" – is a signpost pointing toward areas that demand your focus and innovation. By deeply understanding, untangling, and ultimately overcoming these challenges, you often discover the most direct route to

Warning #3: The Resource Trifecta

Success in business model innovation demands more than just a brilliant idea. You'll need to secure a trinity of support – *technical, operational,* and *political* – to breathe life into your innovation. The absence of any one element can doom your efforts, as illustrated in Figure 5-3 below.

⚠ Warning #3

The Resource Trifecta

The Tucker Torpedo, an innovative car ahead of its time, symbolizes the Resource Trifecta concept.

Despite technical brilliance and operational readiness, the lack of political support led to its downfall, illustrating the crucial balance needed for successful innovation.

Figure 5-3 The Tucker Torpedo had a center headlight that turned with the steering wheel, and advanced safety features. Despite the brilliant designs, Tucker's company went bankrupt

Let's examine a story of innovation that illustrates this, it is the tragic tale of Tucker Automobiles:

In the late 1940s, Preston Tucker set out to revolutionize the American automobile industry with his Tucker 48, also known as the "Tucker Torpedo." This car was years ahead of its time, featuring innovations that wouldn't become standard in the auto industry for decades.

The Tucker 48 was a marvel of engineering. It included

- A rear-mounted engine for improved driving dynamics
- A "safety chamber" for collision protection
- A center headlight that turned with the steering wheel
- Disc brakes and fuel injection (rare for the time)

- A padded dashboard and pop-out windshield for safety

Tucker had secured a massive Chicago factory (formerly used for B-29 bomber production) and had begun tooling up for production. He had also built a network of dealers and had received tens of thousands of pre-orders from eager customers.

However, Tucker's downfall came from the lack of political support: The innovative nature of Tucker's car and his unorthodox business methods (like pre-selling accessories before the car was in production) drew the attention of the US Securities and Exchange Commission (SEC). The Big Three automakers (Ford, General Motors, and Chrysler) also saw Tucker as a threat to their market dominance.

A combination of negative press, fueled by rumors and speculation, and a SEC investigation into Tucker's business practices, effectively killed the company. Despite being acquitted of all charges in court, the damage was done. Only 51 cars were ever produced before the company was forced to declare bankruptcy.

Key Lessons:

- Technical brilliance and operational readiness aren't enough; political support (or at least a lack of political opposition) is crucial for success.
- Disruptive innovations can face significant pushback from established players and regulatory bodies. Be prepared to navigate these challenges.
- Perception matters. Tucker's inability to counter negative press contributed to his downfall.

Remember, implementing Business Model Innovation requires careful balancing of all three resources: technical, operational, and political. Even with groundbreaking technology and strong operational plans, political factors can derail your efforts.

Tool #5: Risk Tables: Identify and Understand Risks

The story of Kodak serves as a stark reminder of the consequences of poor risk assessment in innovation. Kodak's management focused solely on the risk to their existing business model, overlooking the greater threat of disruption from external forces. This myopic view ultimately led to their

downfall in the face of digital photography – a technology they had ironically pioneered.

Innovation and change often induce fear, especially when they threaten the stability and livelihood afforded by existing business models. To navigate these choppy waters, it's crucial to provide leaders with a comprehensive view of potential risks and their impacts. Moreover, your innovation team must be acutely aware of the myriad challenges they may face.

A Risk Table Template

To facilitate this understanding, we recommend a powerful yet simple tool: *Risk Tables*. A Risk Table, shown in Table 5-1, helps all stakeholders speak the same language when it comes to risk assessment and mitigation.

Table 5-1 A Risk Table scoring risks and the impact if they happen on a scale of 1–5, where a 1 is "very low risk," and a 5 is "very high risk," and a 3 is "possible risk"

Risk Type	Description	Score	Impact	Notes
Resource	Can we build this with current talent and tools?	5	5	We don't have the experience and systems would crash if we try to implement it wrong.
Delivery	Can we deliver it on time and on budget?	3	3	We have support to continue if not.
Demand	Do customers actually want this new offering?	5	5	We haven't done any A/B testing yet.
Competitive	If we don't build it, will our competitors?	3	3	Unaware of activity or impact of competition.
Research	Has the due diligence been done for confident opinions?	3	3	We've talked to the domain experts in our company.

In the case of Kodak, they didn't believe the likelihood that competitor risks were high enough, or the impact to the business was negative enough to warrant making changes that would cause risk to their existing business model.

How to Use the Risk Table

Let's examine the properties of our table, and the scoring description will follow

- *Risk Type:* Categories for different risks you see possibly affecting your innovation project. For example, whether the risk is about your ability to accomplish an innovation project on time and on budget, versus risks of disrupting your own business model, versus risks of a competitor, etc.
- *Description*: A clear, concise definition of each risk ensures all stakeholders have a shared understanding.
- *Notes:* Comments you might have about specific questions or additional context for people who will read your risk table.

You can add whichever *types* of risk you want, and any scoring system you want. For this book, we will use a scoring system of 1–5 of the *likelihood* of something happening:

- 1: Very low risk
- 2: Low risk
- 3: Possible risk
- 4: High risk
- 5: Very high risk

In addition to scoring the likelihood of something *possibly* happening, we want to predict the *impact* that will happen if a risk scenario does actually occur:

- 1: Very low impact
- 2: Low impact
- 3: Possible impact
- 4: High impact
- 5: Very high impact

Common Types of Risks

While Table 5-1 offers a robust foundation, it's merely the tip of the risk iceberg. The landscape of innovation is as diverse as it is unpredictable, and you may uncover unique risks tailored to your specific venture. However, five cardinal risks serve as the bedrock of any comprehensive Risk Table. These fundamental pillars of risk assessment will help you navigate the turbulent waters of innovation:

- *Resource Risk:* This pertains to your team's capability to execute the innovation. For instance, when Apple decided to enter the mobile phone

market with the iPhone, they faced significant resource risks. They had to rapidly develop expertise in cellular technology and touch interfaces.

- Delivery Risk: The Boeing 787 Dreamliner project aimed to create a revolutionary, fuel-efficient passenger airplane using advanced composite materials and a global supply chain. However, the project faced significant delivery risks, delaying it for years and going billions of dollars over budget.
- *Demand Risk:* Assessing whether customers will adopt your innovation is often overlooked by the excitement of new opportunities. Google Glass faced high demand risk. Despite the hype, it failed to gain widespread adoption due to privacy concerns and limited practical applications.
- *Competitive Risk:* This evaluates the threat of competitors beating you to market or outperforming your innovation. Blockbuster's failure to innovate in the face of Netflix's disruptive streaming model is a classic example of underestimating competitive risk.
- *Research Risk:* Have you done enough research to truly understand the risks, and have you identified *known unknowns*, or acknowledged blind spots and knowledge gaps in your own understanding of risks?

By thoroughly assessing these risks across all innovation types, you create a comprehensive risk profile for your project. This not only prepares your team for potential challenges but also provides leadership with the confidence that you've considered all angles of the innovation journey.

Remember, the goal isn't to eliminate all risks – that's impossible in innovation. Instead, Risk Tables help you identify, understand, and prepare for the risks, turning potential obstacles into opportunities for strategic planning and mitigation.

> **Reminder**   The goal of the Risk Table is to facilitate communication, a common language, for understanding, discussing, and learning from each other collaboratively about risk.

Tool #6: Risk Prevention and Mitigation Maps

While crafting a comprehensive risk table is a commendable start – one that already puts you ahead of many innovation teams – it's merely the opening gambit in the chess game of risk management. To truly win the confidence

of your stakeholders and pave the way for your project's success, you need to demonstrate not just awareness of risks, but mastery over them. This is where Risk Prevention and Mitigation Maps become your secret weapons.

These powerful tools, demonstrated in Tables 5-2 and 5-3, transform abstract risks into concrete action plans. They showcase your strategic foresight, proving to stakeholders that you're not just identifying potential roadblocks, but actively engineering solutions to navigate around or through them. By mapping out both preventive measures and mitigation strategies, you're essentially providing a GPS for your innovation journey – one that accounts for detours, roadblocks, and alternative routes to your destination.

For each risk you listed in your risk table, think through what you can do to *prevent* the risk from occurring, and *mitigate*, or minimize, the negative impact if one does in fact occur.

While risk prevention and risk mitigation maps are also tables, they are called *maps* because they map directly to a row in a risk table. Table 5-2 uses one row from our risk table as an example, the *Resource* risk from Table 5-1 was listed with a very high probability of being a risk, and a very high negative impact if true:

Table 5-2 A single risk type we will use in our risk mitigation map

Risk Type	Description	Score	Impact	Notes
Resource	Can we build this with current talent and tools?	5	5	We don't have the experience and systems would crash if we try to implement it wrong.

Simply create a list of ways to prevent the risk from occurring to begin with. This is typically always cheaper than mitigation, but that's okay, because it gives the stakeholder the worst-case scenario they have to deal with. You may not be given any budget to prevent problems, but showing the cost difference between prevention and mitigation, as shown in Tables 5-3 and 5-4, definitely sounds attractive, and sets you up for future conversations to see if it makes sense to take preventative measures, and even which risks are more important to prevent.

Table 5-3 A single risk from our risk table we can map to risk prevention strategies

Preventions	Cost	Change	Improvement	Actionable
Train leaders in new technology.	$15,000	5 to 4	1	Yes
Hire expert in new technology to teach other employees	$150,000	5 to 3	2	Yes
Train all employees before building	$75,000	5 to 2	3	No, not enough bandwidth

Table 5-4   A single risk type we can map to risk mitigation strategies

Mitigation	Cost	Change	Improvement	Actionable
The system crashes, we hire a consulting team to fix.	$350,000	5 to 3	2	No, it could take too long to find a consulting firm.
The systems go down, but we have a backup we can spin up in 1 day.	$250,000	5 to 3	2	Yes
Systems go down for 5 days until we figure out how to fix it	$1,250,000	5 to 4	1	Yes

Summary

In this chapter, you learned about the critical importance of business model innovation and the tools to manage the associated risks. We explored how even industry giants like Kodak can fall victim to disruption when they fail to adapt their business models to changing technologies and market conditions.

Key points covered in this chapter include

- The concept of business model innovation and its transformative potential
- The challenges of implementing business model innovation within established organizations
- The definition and examples of disruptive innovation
- The use of Risk Tables to identify and assess various types of risks in innovation projects
- The importance of Risk Prevention and Mitigation Maps in planning for potential challenges
- Strategies for communicating risks and mitigation plans to stakeholders
- The value of listening to pessimists and detractors for insights into potential obstacles

- The need to balance innovation with understanding of organizational constraints and leadership support

Mastering these concepts and tools will equip you to navigate the complex landscape of business model innovation more effectively. You'll be able to anticipate potential pitfalls, manage risks proactively, and significantly enhance your chances of successful implementation.

6. The Many Facets of Product Innovation

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There's a tremendous amount of craftsmanship in between a great idea and a great product. As you evolve that great idea, it changes and grows, it never comes out like it starts, because you learn a lot more as you get into the subtleties of it, and you also find that there are tremendous trade-offs that you have to make. Designing a product is keeping 5,000 things in your brain, these concepts, and fitting them all together, and continuing to push them together in different ways, to get what you want. Every day you discover something new, that is a new problem or new opportunity to fit these things together a little differently. It's that process that is the magic.
—Steve Jobs, co-founder of Apple Computer

In 1959, Xerox ignited a revolution in office communication with the Xerox 914, the world's first automatic plain-paper copier. This 650-pound behemoth, capable of churning out 100,000 copies monthly, didn't just change how offices operated – it redefined the very landscape of business technology.

The genesis of this groundbreaking innovation can be traced back to the 1950s when Joseph C. Wilson inherited Haloid, his father's struggling company. Inspired by a physicist's breakthrough in dry powder printing, Wilson made the bold decision to rebrand the company as Xerox, a name derived from the Greek roots for "dry writing." By 1961, Xerox had become so ubiquitous that its name was synonymous with the act of copying itself.

Before the advent of Xerox's copying technology, the process of duplicating and distributing documents for reviews, reports, and legal purposes was an arduous, time-consuming task fraught with potential errors. The introduction of the Xerox copier marked a paradigm shift in office efficiency, comparable to how email would later transform communication.

Xerox didn't just lead the market – it was the market. The company's dominance was so absolute that "xeroxing" became a verb, much to the dismay of its trademark attorneys. In the high-stakes game of corporate supremacy, Xerox held all the cards:

- *Market Monopoly*: A staggering 80% market share – a statistic that would astonish even the most seasoned business analysts.
- *Revenue Colossus*: $7 billion in 1979 (equivalent to over $27 billion today), dwarfing many of its contemporaries.
- *Profit Powerhouse*: $564 million in net income, showcasing not just size, but remarkable efficiency.
- *Employment Giant*: With 110,000 employees, Xerox wasn't just a company; it was an entire economic ecosystem.

But here's where it gets interesting. Xerox had pulled off the holy grail of business: they'd created a moat. Their high-end copiers were to offices what water is to humans – essential. They'd made themselves indispensable.

Little did anyone know that within the depths of this very success lay the seeds of one of the most fascinating chapters in the history of innovation – a tale of visionary brilliance and missed opportunities that would reshape the world of technology as we know it.

While Xerox basked in the success of its photocopier empire, a small team of visionaries within the company was silently architecting the future of computing. This group, housed at the Xerox Palo Alto Research Center (PARC), operated in a realm far removed from the company's core business of paper and toner. PARC was akin to a clandestine vault, overflowing with innovations that would ultimately shape the landscape of personal computing for decades to come.

In December 1979, a pivotal moment in tech history was set in motion. Steve Jobs, the young and brash co-founder of Apple Computer, struck a deal with Xerox that would change the course of technological history. The

arrangement was unprecedented: in exchange for $1 million worth of pre-IPO Apple stock options, Xerox would grant Apple's team a three-day tour of PARC.

For Xerox, the deal seemed like a no-brainer. They were getting a stake in a promising young company for what appeared to be little more than a guided tour. What harm could come from showing off some of their unused innovations to a small computer company?

Jobs, accompanied by a small team of Apple engineers, arrived at PARC, an experience that would leave Jobs and his team in awe:

- *The Graphical User Interface (GUI)*: A visual symphony of windows, icons, and menus that made text-only interfaces seem archaic.
- *The Computer Mouse*: A palm-sized revolution in navigation that would change how humans interact with machines.
- *WYSIWYG Word Processing*: A leap forward that allowed users to see on-screen exactly what would appear on paper.
- *Ethernet*: The foundation of office networking, enabling computers to communicate seamlessly.
- *Object-Oriented Programming*: A paradigm shift in software development that would shape the future of coding.

As Jobs watched the demonstration, his mind raced with possibilities. He saw not just a computer, but the future of personal computing. In that moment, the seeds of the Macintosh were planted, and the course of Apple's future – indeed, the future of personal computing – was forever altered.

The irony of Xerox's situation was profound. The company that had transformed office work with the photocopier now held within its walls the blueprint for the next technological revolution. Yet, in a twist of fate, these groundbreaking innovations languished, unrecognized and underutilized by the corporate giant that had birthed them. This oversight would soon reshape the landscape of personal computing in ways Xerox had failed to anticipate.

Jobs' reaction to what he saw at PARC was a living embodiment of his own philosophy:

> *Everything around you that you call life was made up by people that were no smarter than you and you can change it, you can influence it, you can build your own things that other people can use.*

Five years after Steve Jobs' pivotal tour of Xerox PARC, Apple unveiled the Macintosh, introducing the graphical user interface and mouse to the mass market. However, Jobs' tenure at Apple was short-lived, as he departed just a year later following an internal power struggle.

Undeterred, Jobs founded NeXT Computer and Pixar Animation Studios. His triumphant return to a near-bankrupt Apple in 1997 marked the beginning of an unprecedented era of innovation. Under Jobs' visionary leadership, Apple consistently delivered groundbreaking products that not only rescued the company from the brink of failure but propelled it to become the world's most valuable corporation:

- *iPod & iTunes (2001)*: Revolutionized how music is consumed and purchased, with over 400 million units sold, and allowing people to buy songs, not entire albums
- *iPhone (2007)*: Redefined the smartphone industry, over 2.2 billion units sold
- *iPad (2010)*: Popularized the tablet computer, over 500 million units sold
- *Apple Watch (2016)*: Became the best-selling wearable device
- *AirPods (2016)*: Dominated the wireless earbuds market

Apple was the first company to reach a $1 trillion valuation in 2018, the first company to reach a $2 trillion valuation in 2020, and the first company to reach a $3 trillion valuation in 2022.

What Is Product Innovation Anyway?

A common assumption is that product innovation is about making better products, but what does "better" actually mean? More sales? More profit? Better customer satisfaction?

The Xerox PARC story illustrates a crucial challenge in product innovation: not aligning teams, product, and business goals means you might miss incredible product innovation opportunities literally right at your feet.

Being able to understand and recognize what makes a product great, for your customers, for your employees, and for your business partnerships is crucial. Xerox had the "best" copy machine products, but failed to recognize that their PARC innovations represented an entirely new

paradigm of potentially "better" products that could have made them the biggest company in the world.

Apple, under Jobs' visionary leadership, defined great products, and despite a dramatic series of events that led to Apple facing bankruptcy, did it all over again, consistently releasing revolutionary products that reshaped multiple industries and made them the most valuable company in the world.

The Blackberry phone and Palm handheld computer were both very innovative, both came before the iPhone, and yet both have been shut down and discontinued, while Apple thrives.

In this chapter, you will learn

- The difference between product innovation and invention
- Why there is no singular "perfect" product
- The importance of setting success metrics in product development
- The challenges of finding product market fit

Principle #18: Product Innovation vs. Invention

You have to reject reason to innovate. You have to say we understand, this is very reasonable, this is what people believe, but you know what, I'm actually going to ignore you completely. That decision to ignore expert opinion, that happens every single time we do something that is new.
— Jony Ive, a designer at Apple who worked with Steve Jobs on the iMac, iPod, iPad, and iPhone.

In the complex landscape of product development, a critical distinction is often overlooked: product innovation, innovation, and invention are not synonymous. Although these terms are frequently used interchangeably, recognizing their unique characteristics and interrelationships is fundamental to achieving success in product innovation. This nuanced understanding can significantly impact a company's approach to creating and improving products.

Invention is the creation of something entirely new – a novel idea, device, or method that didn't exist before. It's about originality and breaking new ground. Innovation is about taking something, which can be an invention or not, and creating *value* in a new way. Product innovation, specifically, is about *commoditizing* that new way to reliably and repeatedly create value in achieving business goals.
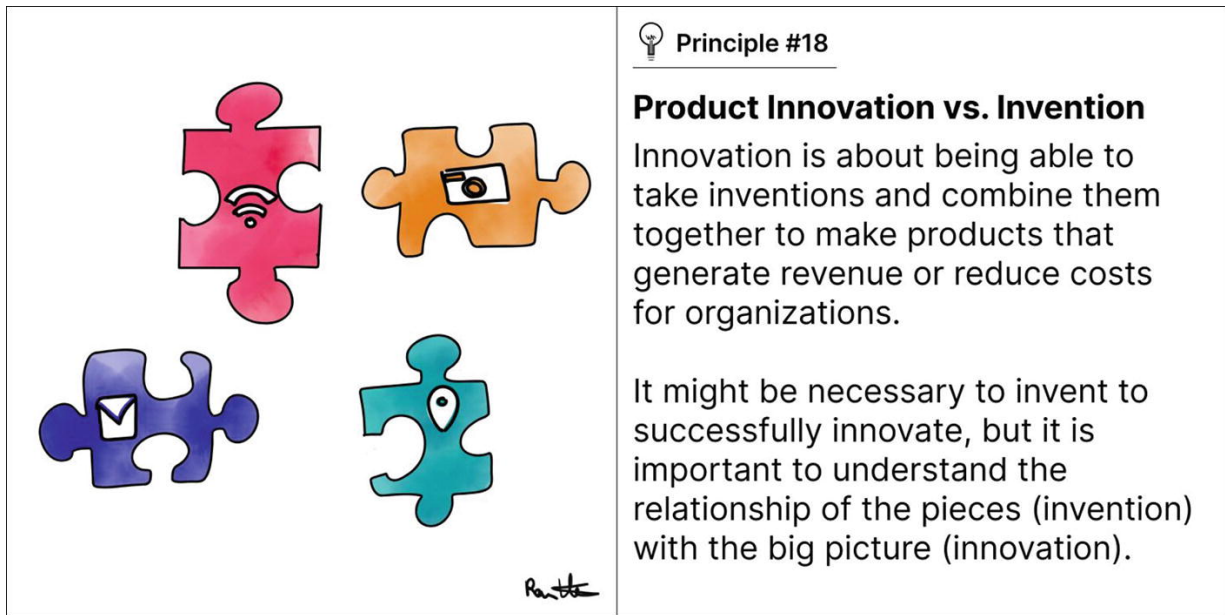
For-profit companies usually and ultimately invest in product innovation as a way to gain greater profits through *commercializing* new and better products. This can be a continuation in existing product categories, or in entirely new ones. Non-profit organizations, on the other hand, may be mission-driven, not having to worry about profit, but are focused on *impact*, and success can be seen as how well their products scale and create value for the mission they serve.

It involves taking existing ideas, products, or processes and improving them in ways that benefit users and capture market share.

Product innovation is often about figuring out how to take inventions and turn them into products and services that can sustain a business. Take, for example, the World Wide Web, an invention by Tim Berners-Lee – social media platforms like Facebook are innovations that leveraged this invention to create new forms of communication and connection that fuelled revenue generation for the organization.

The key takeaway here is that successful product innovation doesn't always require inventing something entirely new. Often, it's about finding novel ways to apply existing technologies, combining ideas in unexpected ways, or identifying unmet needs in the market and addressing them effectively.

Apple's iPhone is a prime example, as shown in Figure 6-1. While it wasn't the first smartphone, it innovated by combining existing technologies (touchscreens, mobile Internet, apps) in a user-friendly package that revolutionized how we interact with mobile devices. Apple didn't invent these individual components, but they innovated by bringing them together in a way that created immense value for users.

Principle #18

Product Innovation vs. Invention

Innovation is about being able to take inventions and combine them together to make products that generate revenue or reduce costs for organizations.

It might be necessary to invent to successfully innovate, but it is important to understand the relationship of the pieces (invention) with the big picture (innovation).

Figure 6-1 The pieces of the puzzle are illustrated as inventions that were combined in a novel way to create an innovative product (the iPhone)

Understanding this distinction can help product teams focus their efforts more effectively:

- Look beyond just creating new features. Consider how existing technologies can be applied in new ways or to new contexts.
- Focus on solving real user problems rather than just showcasing technical prowess.
- Don't overlook the potential for innovation in improving user experience, even if the underlying technology remains largely the same.
- Remember that timing and market readiness are crucial. An invention might be ahead of its time, but innovation needs to align with current market needs and capabilities.

By keeping in mind that innovation is about creating value, not just novelty, product teams can better navigate the complex landscape of product development and increase their chances of creating truly "better" products that succeed in the market.

Principle #19: The "Better" Product Paradox

In product innovation, we often strive to create "better" products. However, this pursuit leads us to a paradox: the concept of "better" is inherently subjective and multifaceted, making it impossible to create a universally "better" product. This is the "Better" Product Paradox.
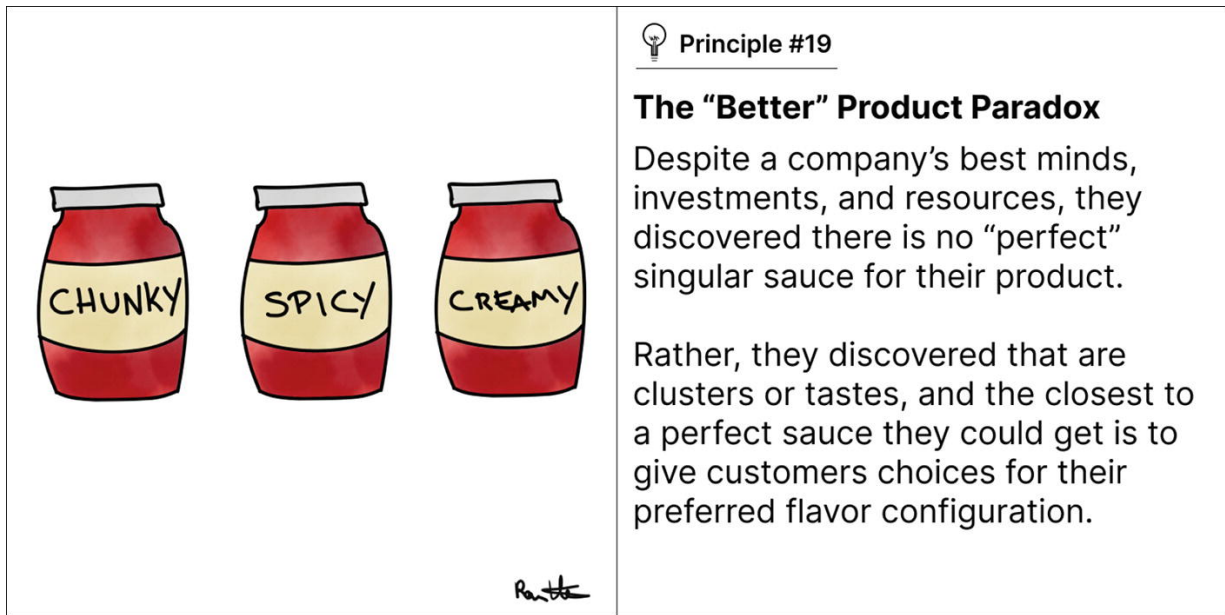
This paradox stems from several key factors:

- Subjectivity of user preferences: What one user considers "better" may be less desirable to another.
- Trade-offs in design: Improving one aspect of a product often comes at the cost of another.
- Contextual nature of product use: A product that's "better" in one context may be worse in another.
- Evolving market dynamics: What's considered "better" today may become obsolete tomorrow.

A powerful illustration of this principle comes from an unexpected source: spaghetti sauce. In his book "What the Dog Saw," Malcolm Gladwell recounts how food scientist Howard Moskowitz revolutionized the food industry by challenging the notion of a single "perfect" product. Moskowitz discovered that people's preferences for spaghetti sauce didn't converge on a single ideal. Instead, they clustered around different types – extra chunky, spicy, traditional, and so on.

This revelation led to the development of diverse product lines that catered to these different preferences, ultimately increasing overall customer satisfaction and market share. More importantly, it challenged the notion of a single, objectively "better" product.

This story serves as a powerful reminder that sometimes the "better" product is not necessarily the "perfect" product, but giving the customer the choice for their preferences, as shown in Figure 6-2.

Principle #19

The "Better" Product Paradox

Despite a company's best minds, investments, and resources, they discovered there is no "perfect" singular sauce for their product.

Rather, they discovered that are clusters or tastes, and the closest to a perfect sauce they could get is to give customers choices for their preferred flavor configuration.

Figure 6-2 Three different spaghetti sauces, illustrating Maclom Gladwell's story about Howard Moskowitz's findings that there is no "perfect" singular sauce

This ties to our idea of innovation vs. invention. If you can take the components, or ingredients and the technology to make a sauce, if allowing customers to make choices for their preferences, that is product innovation. In fact, that configurability might be the "perfect" product after all.

The technology sector is a vast graveyard, filled with the tombstones of products and even entire companies that sought to emulate Apple's product-driven innovation success. These digital epitaphs tell cautionary tales of how difficult it is to understand and execute product innovation repeatedly and reliably. Many of these failures may have stemmed from a misguided pursuit of a universally "better" product, rather than understanding and catering to diverse user needs.

By understanding and embracing the "Better" Product Paradox, innovators can create products that truly resonate with their target users, even if they're not universally considered "better" by everyone. This approach allows for more focused, effective innovation that can lead to greater market success and user satisfaction.

Precision Changes the Rules of the Game

In the realm of product innovation, defining precise success metrics is not just important – it's transformative. While the "Better" Product Paradox

reminds us that there's no universally "perfect" product, precise metrics allow us to navigate this complexity and drive meaningful innovation.

Here's why defining precise success metrics is crucial for product innovation:
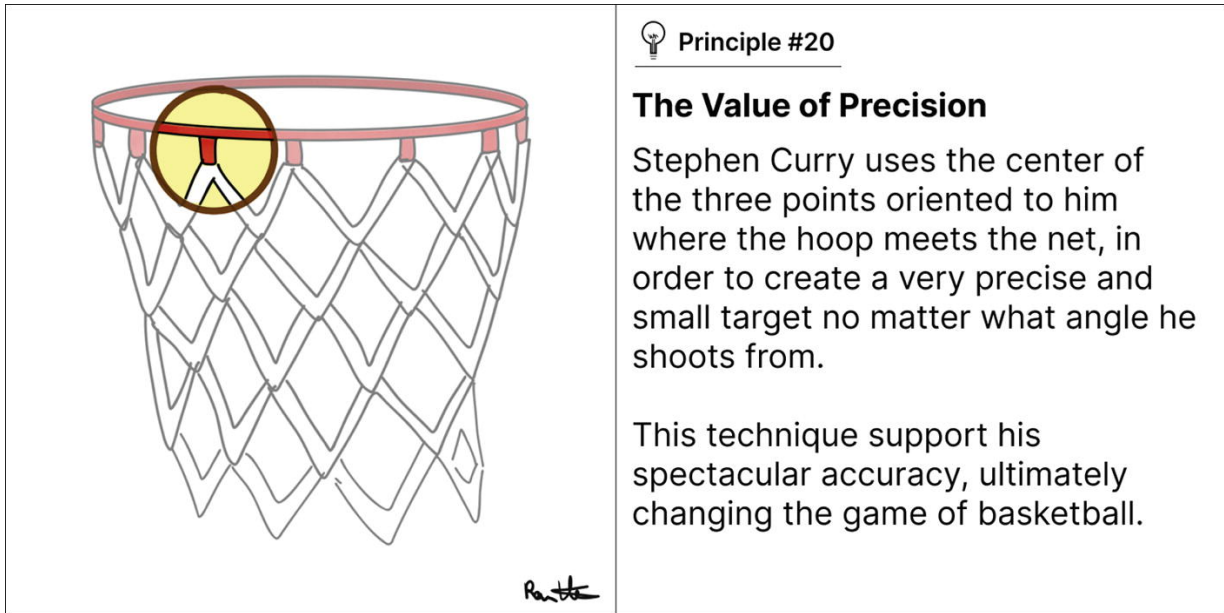
- *Focus and Direction:* Precise metrics provide a clear target for innovation efforts. Instead of vague goals like "improve user experience," specific metrics like "reduce checkout time by 30%" give teams a concrete objective to work toward.
- *Measurable Progress:* With precise metrics, teams can quantify their progress. This allows for data-driven decision-making and helps identify which innovations are truly moving the needle.
- *Alignment:* Clear metrics help align different teams and stakeholders around common goals. This reduces misunderstandings and ensures everyone is working toward the same objectives.
- *Iterative Improvement:* Precise metrics enable teams to implement small changes and quickly assess their impact. This facilitates rapid iteration and continuous improvement.
- *Resource Allocation:* When success is clearly defined, it's easier to justify and allocate resources to the most impactful innovation efforts.

Principle #20: The Value of Precision

A powerful analogy for developing your product innovation strategy comes from an unlikely place not often compared with innovation, at least not in the technical capacity when discussing companies like Apple. That unlikely story comes from the realm of basketball, and in particular, Stephen Curry's innovative approach to his shooting technique.

Curry, widely regarded as one of the greatest shooters in NBA history, brought a game-changing innovation to basketball that perfectly illustrates how a small, precise focus can lead to outsized results.

There are many ways to aim and shoot, but Curry developed his own technique. He aims for a much smaller target: the closest three points where the net connects to the rim, and specifically the center of the three points, as shown in Figure 6-3.

> 💡 **Principle #20**
>
> ### The Value of Precision
>
> Stephen Curry uses the center of the three points oriented to him where the hoop meets the net, in order to create a very precise and small target no matter what angle he shoots from.
>
> This technique support his spectacular accuracy, ultimately changing the game of basketball.

Figure 6-3 The more precise you can set your focus, the easier it is to mentally focus and deeply understand how to achieve granular success metrics

Small changes can have big impacts: Curry's technique wasn't a complete reinvention of shooting, but a small, precise change that led to significant improvements.

- *Precision Matters:* In product innovation, focusing on precise, specific improvements can sometimes yield better results than broad, sweeping changes.
- *Consistency Is Key:* Curry's technique gave him a consistent focal point, much like how successful products often provide a consistent user experience.
- *Reduce the Variables in Success Metrics:* Just as Curry's technique improved his mental focus, products that help users focus on key tasks often lead to better outcomes.

Curry's approach forced opposing teams to radically change their defensive strategies, changing the way basketball is played at the highest level. In innovation, precision is critical for defining goals with fewer variables, collecting data that is trustworthy, and allowing for better collaboration with a greater shared understanding.

Principle #21: Key Measures of Success

Given the complex relationship between product quality and business success, let's explore what success in product innovation truly means.

While innovation encompasses various types and degrees, as we've explored earlier, product innovation often takes center stage in the public consciousness. It's the form of innovation that consumers most directly experience, creating tangible and memorable interactions with new ideas and technologies.

While other forms of innovation, such as process, marketing, and business model innovation are crucial for business success, they often operate behind the scenes. Process innovations streamline operations, business model innovations reshape entire industries, and marketing innovations capture fleeting cultural moments. However, it's product innovation that truly captivates the consumer imagination. These are the innovations we touch, use, and build our daily lives around – creating lasting impressions and shaping our relationship with technology and design.

We can't be successful in product innovation unless we can define, and preferably precisely define how we measure success.

For example, I can buy a bag of coffee beans, grind my coffee in the morning, get the flavor just right, drink from my favorite mug instead of a paper cup with a plastic lid, pay less and take less time to get coffee than walking or driving to my nearest coffee shop. Most people can make their own coffee. And yet, a company like Starbucks was able to build a nearly $37 billion a year business from selling coffee.

Can coffee I make at home be better, cheaper, and faster? Yes. And yet, I haven't created a $37 billion dollar business. A high-end culinary restaurant that sells fancy burgers may have a "better" product than McDonald's, but their product might not generate very much profit.

The head chef may want to make the "best" burger in the world, and may in fact have created one. But if no one really cares to take the time to drive to the location, or has a good experience at the restaurant, or is willing to pay the price, does it matter to anyone other than the chef?

"Better" is completely relative when it comes to product tastes, and thus needs a less ambiguous definition. In this book, when we discuss product innovation, and "better" products, it is important to first ask, *"better relative to what?"*

To truly understand what makes a product "better," we need to consider multiple dimensions of success. Let's explore three critical measures of

success that can help us evaluate the real-world impact and value of a product:

- *Demand:* Do people actually want and use the product?
- *Engagement:* Do they try it once and quit, or do they use it every time they want to achieve their goal?
- *Profit:* Does the product generate enough profit to sustain the company?

  These specific dimensions, shown in Figure 6-4, will allow you to quantifiably measure the product's ability to attract users and fulfill a genuine need or desire. A product may be technically superior or beautifully designed, but if it doesn't solve a real problem or create value for users, it won't achieve widespread adoption.
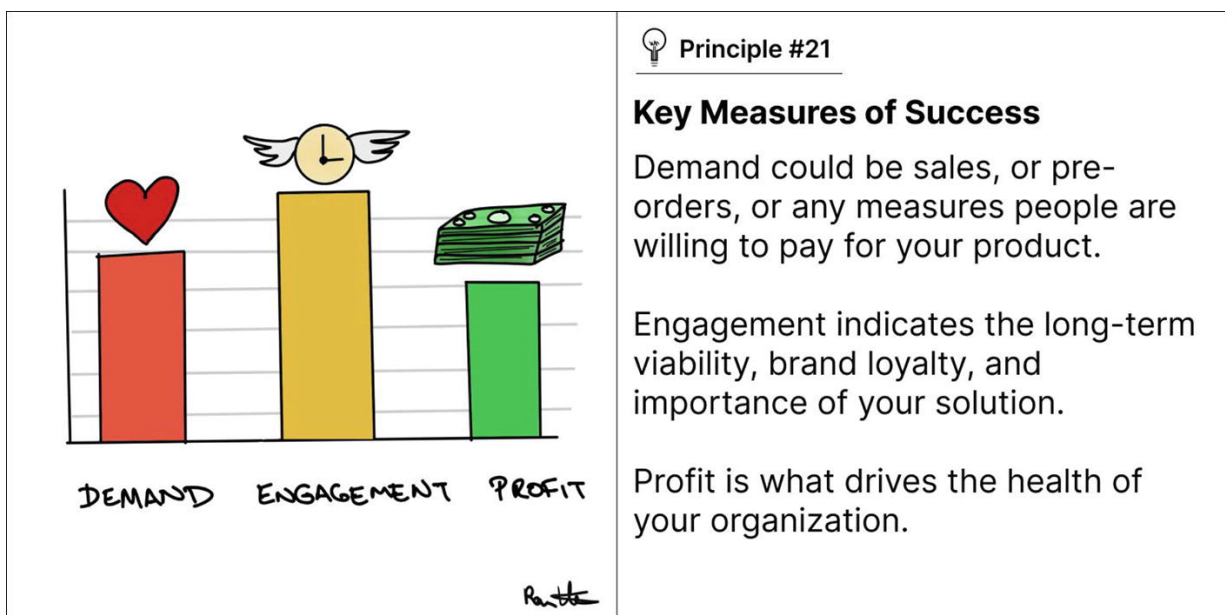
Figure 6-4 The three core measures of success in product innovation: Demand, engagement, and profit

Demand gauges the product's ability to retain users and become an integral part of their lives or workflows. High engagement indicates that a product is not just novel, but truly useful and satisfying to use repeatedly. Profit assesses the product's ability to create value not just for users, but for the company itself. A product that users love but that doesn't generate sufficient revenue may not be sustainable in the long term.

It is important to note the difference between *adoption* and *demand*. Adoption is a term, for example, of how many users are signing up and

using a product. That doesn't mean they *demanded* the product. The product may have been demanded by their boss. Demand is a measure of the magnetic pull of customers so that if you have something they can use to meet their demand, you have a chance for them to adopt it.

In the next chapter, on marketing innovation, you will learn in more detail about demand, adoption, and its relationship with engagement and profit. For now, the goal is to familiarize you with the idea of having specific measures of success when talking about product innovation, and that demand, engagement, and profit, even in the most common and general sense, are key to understanding the value of your product to a business.

Principle #22: Hindsight, Insight, and Foresight

In the realm of product innovation, success often hinges on our ability to learn from the past, understand the present, and anticipate the future. This principle emphasizes the importance of leveraging hindsight, insight, and foresight to create products that not only meet current needs but also shape future markets.

Hindsight is about more than just collecting data – it's about extracting meaningful lessons that can inform your current and future decisions. Insight is about understanding the present realities of your market, customers, and technological landscape. Foresight is being able to leverage the past in the present to predict possible future outcomes and making the best decisions you can to minimize the chances of failure.
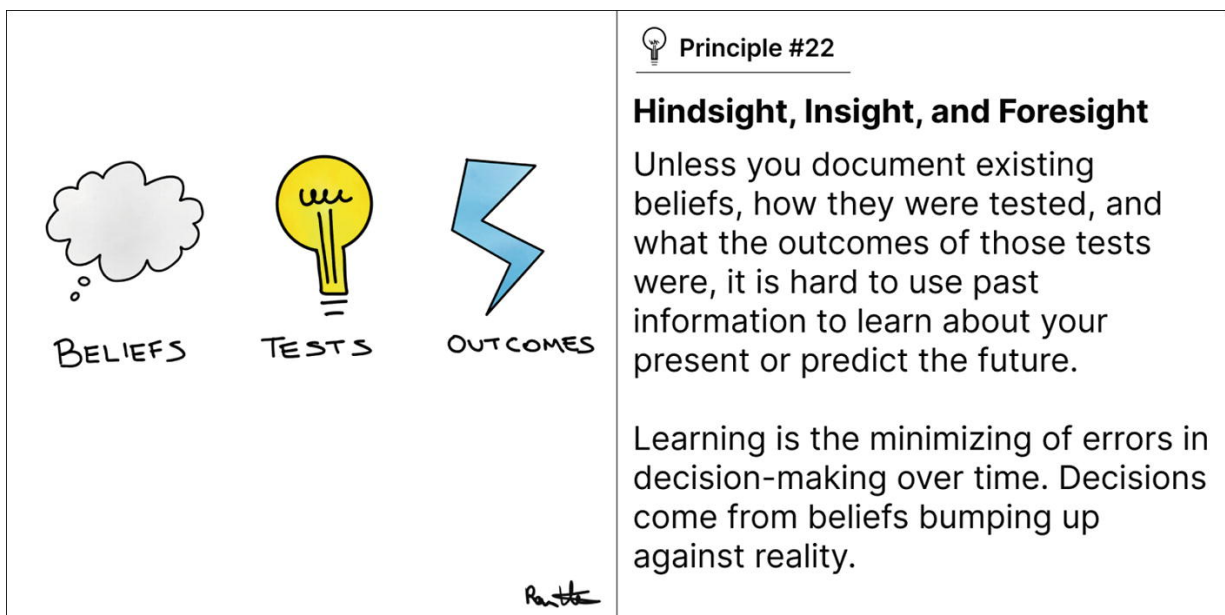
This requires a tactic of gathering information from the past in a way that will be useful in the present and can help make predictions about the future. Decisions are based on beliefs, and our confidence in our beliefs. We may disagree as a group with each other's beliefs, or we may immediately believe them to fit in with the group. This is also known as a *bias*, and they are very, very dangerous in product development.

The collective experience of those who came before us is an invaluable resource in product innovation. However, it's crucial to approach this wealth of information with a discerning eye. For example, when Apple was developing the iPhone, they didn't just look at the success of their iPod. They also studied the failures of early smartphones and PDAs, learning from the clunky interfaces and limited functionality that had hindered mass adoption.

A *HIPPO* is a "highly paid person's opinion," and it basically means that often people with senior titles can have strongly held beliefs grounded in their experience that are not accurate or grounded in any kind of factual evidence.

This is especially true when it comes to younger tech culture, working on innovative features in new ways which are totally outside of the interest of more experienced leaders, and why it is very important for leaders to be open to having beliefs challenged, if the evidence is there to support it.

Unfortunately, this is often seen as permission to gather only the evidence you are interested in proving, rather than being open to seeing the evidence that doesn't agree with one's beliefs. Therefore, it is essential to catalog beliefs that go into decision-making, determine ways to test them, and capture the outcome so that you gather enough evidence before making important decisions, as shown in Figure 6-5. This also leaves a trail of knowledge to use to understand the past, present, and future.

Principle #22

Hindsight, Insight, and Foresight

Unless you document existing beliefs, how they were tested, and what the outcomes of those tests were, it is hard to use past information to learn about your present or predict the future.

Learning is the minimizing of errors in decision-making over time. Decisions come from beliefs bumping up against reality.

Figure 6-5 A cloud representing beliefs, a lightbulb as a symbol of ideas how to test them, and lightning as a symbol of the interaction between ideas and reality

It is also very helpful if you can document important decisions relative to beliefs that were supportive or even disagreeable, so that you can understand what works and doesn't in your product development decision process.

For example, if you are certain that customers need a product, and make that decision based on certain evidence, and the idea didn't work out, knowing that you made a decision on a certain set of beliefs, how they were tested, and their outcomes enables you to identify that perhaps you were missing evidence that could have changed your perspective.

For example, in Apple's case, they didn't have customers demanding a mouse or word processor, because people didn't even know they existed. So in that case, the Apple team had to go on the best evidence they had, their core beliefs, and in that case they were wrong. It is very, very hard to know all of the important features a customer will want in a product.

On the other hand, you can ask people what features they want, and they will be limited to what constraints they are familiar with, and sometimes what is popular, common, or "safe" to complain about within a certain group of people's culture.

Perhaps potential customers really haven't thought about it enough, and they just answer a survey or research interviews flippantly or as quickly as possible to get it over with, without realizing that a product team will commit tremendous resources to building something because their product survey said customers want X.

The reality is that by the time the product team finds out that what customers say they want versus what they actually are willing to do and spend money on are often very different things. That's where product and design thinking comes in, it is a critical part of ensuring you understand not just what customers say they want, but what their behavior is actually signaling, which you will learn about next.

Design Thinking for Product Development

In the realm of product innovation, design thinking has emerged as a powerful methodology for creating solutions that truly resonate with users. This human-centered approach to innovation challenges us to look beyond mere functionality and aesthetics, encouraging us to delve deep into the user experience and create products that not only work well but also bring joy and meaning to people's lives.

At its core, design thinking is about understanding and solving complex problems in ways that put the user first. It's an iterative process that combines empathy, creativity, and rationality to meet user needs and drive

business success. This approach has been instrumental in the development of many groundbreaking products, covered in this chapter's review of Apple's unmatched product innovation record.

In this section, we'll explore two fundamental principles of design thinking that are crucial for successful product development:

- Abstraction
- Customer-centric value creation

These principles work in tandem to guide innovators toward creating products that are not only intuitive and easy to use but also deeply valuable to customers. By mastering these concepts, product teams can elevate their innovation efforts, creating solutions that stand out in crowded markets and build lasting connections with users.

Remember that design thinking is not a rigid set of steps, but a flexible mindset that encourages curiosity, empathy, and continuous learning. It's about embracing ambiguity, challenging assumptions, and being willing to pivot based on user insights. Let's explore how these principles can transform your approach to product development and innovation.

Principle #23: The Art of Abstraction

There is no abstract art. You must always start with something.
Afterward you can remove all traces of reality.
—Pablo Picasso

Just as Pablo Picasso famously distilled the essence of a bull into a few simple lines, great product design often involves a process of abstraction – reducing complexity to reveal the core purpose and functionality of a product. This principle is powerfully illustrated by the contrasting approaches of Apple and Blackberry in smartphone design.

Apple's iPhone, introduced in 2007, revolutionized the mobile phone industry not by adding features, but by abstracting the interface to its essence. Instead of a multitude of physical buttons, Apple opted for a single home button and a touch screen. This radical simplification wasn't about removing functionality, but about reimagining how users could interact with their devices.

In contrast, Blackberry's approach at the time was to add more physical buttons, each dedicated to a specific function. While this provided direct
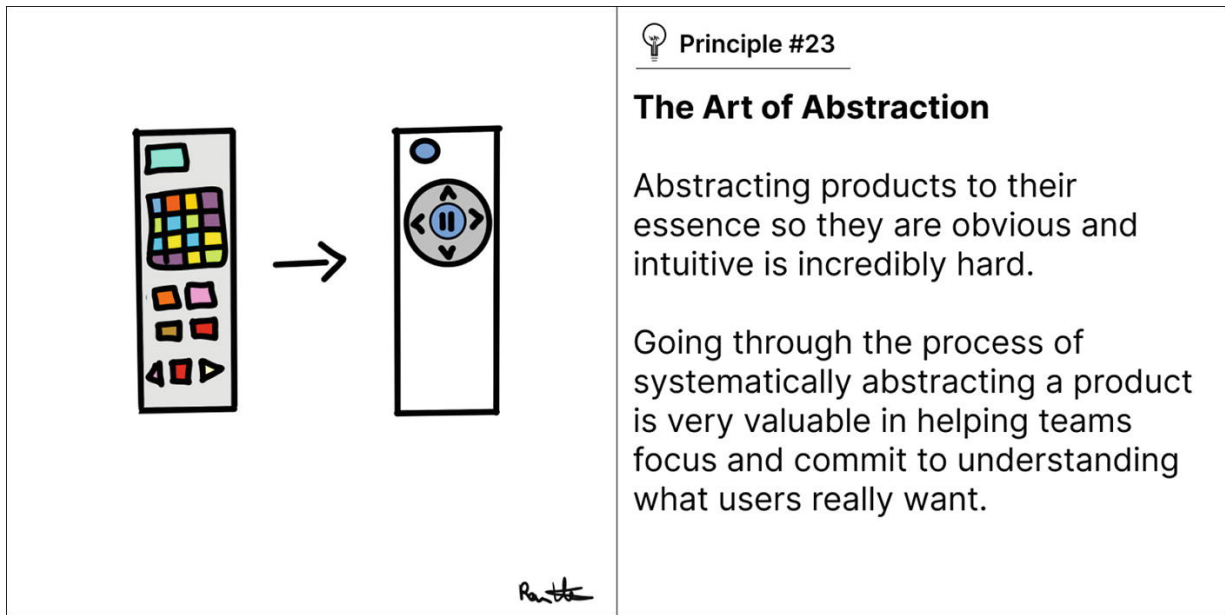
access to features, it also increased the complexity of the interface and limited flexibility.

The power of abstraction in product design lies in its ability to

- *Simplify User Interaction:* By reducing interface elements, users can focus on core functionalities without distraction.
- *Increase Adaptability:* A more abstract interface can be easily updated or repurposed through software, allowing the product to evolve without hardware changes.
- *Enhance Intuitiveness:* When done well, abstraction can make products more intuitive by leveraging natural gestures and interactions.
- *Improve Aesthetics:* Simplified designs often result in more visually appealing products.
- *Foster Innovation:* By abstracting away unnecessary complexities, designers can focus on solving core user needs in novel ways.

However, abstraction isn't about oversimplification. The goal is to find the right balance between simplicity and functionality – to create a product that's easy to use yet powerful enough to meet user needs. It is about being so focused on understanding precisely what the most fundamental, obvious, and joyful way for customers is to experience your product, and it is very, very hard to do well.

Apple takes design teams through extensive training programs, and one particular image referenced as an example in blogs and articles in these training programs is Picasso's painting of a bull. Figure 6-6 is an example of abstracting something to its essence.

Principle #23

The Art of Abstraction

Abstracting products to their essence so they are obvious and intuitive is incredibly hard.

Going through the process of systematically abstracting a product is very valuable in helping teams focus and commit to understanding what users really want.

Figure 6-6 When you can abstract a product to its essence, you have done something very difficult and complex that requires great focus on user experience design

When applying this principle, consider

- What are the core functions of your product?
- Can multiple functions be combined into a single, more versatile interface element?
- How can you leverage software to create a more flexible, updateable product?
- Are there industry standards or familiar metaphors you can build upon?

Remember, successful abstraction in product design isn't about removing features, but about presenting complexity in a more accessible, intuitive way. It's about distilling the essence of your product, much like Picasso's bull, to create something that's both simpler and more profound.

Principle #24: Customer-Centric Value Creation

Me. We.
—Muhammad Ali, a spontaneous poem he gave when he was asked to provide one when addressing Harvard students in 1975.

At the heart of successful product innovation lies a fundamental truth: the best products are those that prioritize genuine user benefit over short-term company gain. This principle challenges us to look beyond immediate

profits or feature lists and instead focus on creating lasting value for our customers.

Steve Jobs encapsulated this idea when he said, "You've got to start with the customer experience and work backwards to the technology." This approach isn't just about making customers happy; it's about building sustainable business success through products that truly matter to people's lives.

Remember, when you genuinely prioritize user benefit, company success often follows. As Jeff Bezos put it, "If you're truly obsessed about your customers, it will cover a lot of your other mistakes." This principle isn't just about being altruistic; it's about building a sustainable competitive advantage through deep customer loyalty and satisfaction.

By combining this principle with the previous one on abstraction, we create a powerful approach to product innovation: one that not only simplifies and focuses the user experience but ensures that this simplification is always in service of genuine user needs and benefits. That way both the company and customers benefit in a long term, sustainable way, illustrated in Figure 6-7.

Principle #24

Customer-Centric Value Creation

Make sure to ask yourself, is this truly what is optimal for the client?

The more you can understand your clients' perspective and design something that truly sets your products apart because it cares deeply about their needs, the more value your customers will create for you.
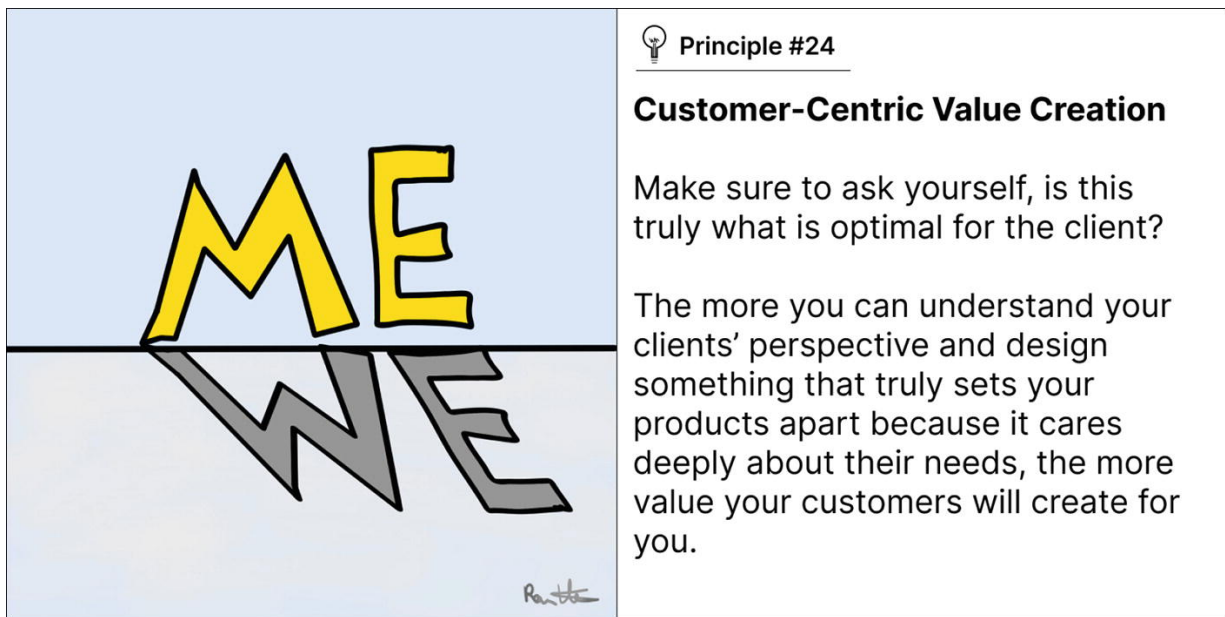
Figure 6-7 An illustration of how the word "me" creates a shadow of "we," to symbolize the symbiotic relationship between customers and businesses

Continually ask yourself and your team to imagine if you were the customer what would you want, what would you need, free of the

constraints of your company's current product offerings.

If you can, try and literally sit down with a customer and work through solving their problem with them, so you can see exactly where the problems are without making assumptions, and so you can directly feel what it is like to be in their shoes.

Summary

In this chapter, you learned the historical significance of Xerox's innovations, how Steve Jobs' visit to Xerox PARC influenced Apple's future innovations, and principles and strategies that make for successful product innovation.

Key points covered in this chapter include

- The distinction between product innovation, innovation, and invention
- The "Better" Product Paradox and why there's no such thing as a universally perfect product
- The importance of precise success metrics in guiding product innovation efforts
- Key measures of product innovation success: demand, engagement, and profit
- How to use hindsight, insight, and foresight in product development decision-making
- The dangers of relying solely on HiPPOs (Highly Paid Person's Opinions) and the importance of evidence-based decision-making
- The power of abstraction in product design, as illustrated by Apple's approach to the iPhone
- The principle of customer-centric value creation and its role in sustainable business success
- How design thinking principles can be applied to create more intuitive and valuable products
- The importance of balancing simplicity and functionality in product design
- Why prioritizing genuine user benefit often leads to long-term company success

Next, you will learn about marketing innovation, in Chapter 7.

7. Innovation in the Art of Persuasion

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(1)   Denver, CO, USA

In the heart of every human being on this planet there is one undeniable desire: the desire to be awesome.
—Jack Black, award-winning American actor, comedian, and musician

In 2009, at an altitude higher than most American cities, 5280 feet specifically, a young graphic designer by the name of Mike Cessario was invited by his musician friends to be backstage at a concert called the "Warped Tour Music Festival," in Denver, Colorado. The concert was sponsored by Monster Energy drinks, and the musicians on stage all had Monster Energy cans behind them as they played, drinking from the cans throughout the show. Except there was a secret: The musicians didn't want to be drinking a product filled with sugar, chemicals, and caffeine, so they were filling up the cans with water.

Mike's reaction was visceral: "That sucks." This moment of frustration sparked a revolutionary idea – what if there was a water brand that broke all the rules? He envisioned a product that would shatter the mold of bland, corporate bottled water, replacing it with something edgy, irreverent, and impossible to ignore. This wasn't just about creating a new drink; it was about challenging the entire industry's status quo.

However, Mike faced formidable challenges: he lacked capital, had no product, and possessed no established brand to compete in the $46 billion-a-year bottled water industry dominated by corporate giants.

Armed with his marketing talent, Mike assembled a small team of like-minded rebels to launch a water company that would weaponize humor

against industry norms. He reached out to an underground animation artist, who, captivated by the audacious concept, agreed to create a logo "because it was cool." This collaboration birthed the now-iconic skull emblem of Liquid Death. Leveraging their collective expertise in graphic design and marketing, the team crafted a hyper-realistic 3D mockup of their envisioned can and produced a commercial that pushed boundaries. With just a few thousand dollars invested in social media advertising, they were about to unleash a marketing tsunami that would reshape the beverage industry.

The result? The video got over 3 *million views* and got stores, like a 7-eleven franchise, to reach out to say they wanted to stock it, eventually securing Mike an initial funding round of $150K, and by 2024 Liquid Death was valued at over $1B dollars.

Liquid Death's inaugural video was a masterclass in provocative marketing. It opens with a close-up of an athletic woman pouring water from a Liquid Death can, ominously stating that "every year water causes thousands and thousands of deaths." She declares they're creating a brand "parents will hate." As the camera pans out, a shocking scene unfolds: the woman is waterboarding a man strapped to a table, his head covered with a cloth bag – a controversial reference to US interrogation techniques during the Iraq War. The video concludes with the chilling claim that Liquid Death is made from "the deadliest stuff on Earth," followed by their audacious slogan: "Murder your thirst."

What Mike said in subsequent interviews was that he wanted the marketing to be baked into the product itself, so that he could bet that people would *have* to pick it, be curious about it, take a photo, and post it to their social media account.

They created competitions for who could create the "dumbest way to drink Liquid Death," offering free cans to the winner, and not only was their marketing strategy incredibly successful – it challenged the notion of marketing itself. Not only was the product marketing itself by having a viral ad campaign, but people were creating marketing *for* Liquid Death by posting videos of them opening cans with blowtorches and other crazy ideas too long to list.

But that's not all, Liquid Death took it further, announcing they were betting on the Cincinnati Bengals in the Super Bowl, and that they would be hiring a witch to do "black magic" to influence the game and help them win the bet. This made people post to social media about their thoughts of

marketing Liquid Death *hadn't even done yet,* building more anticipation ahead of the marketing event itself.

In other words, Liquid Death was murdering marketing like it was murdering thirst, it was changing the rules of the game of how marketing could be done.

Fundamentals of Marketing Innovation

Marketing innovation is the art and science of how to understand people's needs and communicate with them in order to generate revenue. It challenges the long-held myth in product innovation circles – one I once fervently believed – that exceptional products inherently sell themselves. Let me unequivocally, and from hard-earned experience, debunk this notion: creating a stellar product is merely the beginning. The adage "If you build it, they will come" is a dangerous fallacy in the business world. This critical lesson, which I painfully learned firsthand, underscores the vital role of innovative marketing in bridging the gap between a great product and market success.

In the case of Liquid Death, stores were contacting Mike to place orders for a product that didn't even exist. People were willing to buy and promote the non-existent product because some desire, or *demand* in them existed, independent of the product. Mike didn't invent a product that created the demand to be entertained, or to experience something new, edgy, funny, or interactive, people *already had it.*

Reflect on a time when you've been let down by a purchase. This universal experience reveals a profound truth about consumer behavior: our actions are often driven not by the product's inherent qualities, but by the beliefs we've constructed around it. This insight flips the traditional product-first mentality on its head. It underscores a critical reality: even the most groundbreaking innovation will flounder in obscurity without potent marketing. The art of creating desire and awareness is just as crucial as the science of product development. In the arena of innovation, perception isn't just reality – it's the gateway to success.

Therefore, your journey into the language of innovation must include a deep dive into marketing innovation. When you are positioning your product to potential customers as the solution to meet their needs, your ideas and communication style is going to be immediately bumping up

against reality. Many entrepreneurs would much rather focus on building, engineering, coding, whatever, rather than going out there and selling and promoting. But it is by far the *most important thing you need to do*.

If you are like me, coming from a product background, marketing can be a really daunting and even scary place. Therefore, this chapter is going to give you a crash course in marketing, specifically marketing in an innovation context, whether with clients internal or external to your company, and touch upon marketing innovation, ways to innovate on marketing in an innovation context.

The audacious tale of Liquid Death's rise isn't just a story of clever branding – it's a masterclass in marketing innovation. It challenges our preconceptions about what marketing can be and how it can transform not just a product, but an entire industry. As we dive deeper into the art and science of marketing innovation, we'll unpack the strategies that make campaigns like Liquid Death's not just successful, but revolutionary.

In this chapter, we'll explore

- The relationships of demand and marketing
- Product market fit
- Creating mesmerizing marketing

We'll examine how successful innovators navigate the delicate balance between understanding customer demands, shaping beliefs, and inspiring action. Whether you're launching a startup, revitalizing an established brand, or driving innovation within your organization, mastering these concepts will be crucial to your success.

So buckle up buttercup, because we're about to embark on a journey that will challenge everything you thought you knew about marketing in the context of innovation. Welcome to the bleeding edge of marketing innovation – where audacity meets strategy, and where the rules are meant to be broken.

The Relationship of Demand and Marketing

Understanding the intricate relationship between demand and marketing is crucial for innovation success. When marketing efforts fall short, a systematic approach is essential: break down the process into sequential components, analyze each step, and pinpoint where the disconnect occurs.

This method allows for targeted improvements and more effective strategies.

A pivotal lesson I've learned in product innovation is the danger of becoming enamored with features while neglecting the customer's perspective. The key is not to tout how your product outperforms competitors, but to align your communication and product design with the customer's actual needs and desires. The goal is to identify and address demands so compelling that they catalyze purchasing action.

Consider this profound perspective: we cannot control or even influence demand. This challenges a common misconception in marketing and product development:

- *Supply:* What we control through our product and marketing innovation.
- *Demand:* What we cannot control, driven by environmental factors and people's inherent desires.

Even when customers eagerly choose your product over competitors, it's easy to mistake this as the demand you've created. In reality, the demand was pre-existing; your product simply provided a means to act on it.

This realization shifts our focus

- From trying to create demand to identifying and aligning with existing demand
- From product-centric thinking to customer-centric understanding
- From controlling market forces to adapting to them

By embracing this perspective, we free ourselves to focus on what truly matters: deeply understanding customer needs and crafting solutions that resonate with their existing desires. This approach leads to more authentic, effective, and innovative marketing strategies.

Principle #25: Demand Keeps Companies Alive

What focus means is saying 'no', with every bone in your body, to what you think is a phenomenal idea… because you are focusing on something else.
—Jony Ive on what he learned from Steve Jobs on focus

Demand is an independent flame that exists regardless of your product or marketing efforts. It represents the inherent desires, needs, and motivations of your potential customers. Your role is not to create this flame, but to tend it skillfully.

Consider this: On a scorching 100°F day at a state fair, people queue for overpriced, mediocre ice cream. Why? They're not just buying ice cream; they're seeking relief from heat and the joy of treating loved ones. This is the essence of demand: a deep-seated desire for a change in state or experience.

The ice cream vendor didn't create this demand. The scorching sun and the human desire for comfort and connection did. This realization challenges a common misconception in product development and marketing: the belief that clever features and persuasive advertising can generate demand out of thin air.

A useful metaphor is to imagine demand as a living flame, and your role is that of a vigilant fire-keeper. This flame, as illustrated in Figure 7-1, requires constant attention and the right fuel to stay alive and grow.

Principle #25

Demand Keeps Companies Alive

Much like keeping a flame alive requires the right fuel, effective marketing demands constant focus on genuine customer needs. Feed this flame with understanding and responsiveness, and it will reward you with the precious heat of customer attention. This attention, when skillfully harnessed, becomes the transformative power that converts prospects into customers.

Figure 7-1 A flame under a starry sky as an analogy that keeping a flame alive takes continuous focus and effort, much like staying focused on customer demand

The analogy of demand in marketing and keeping a flame alive on a camping trip can be expanded further:

- *Demand Is the Fuel:* Your customer's genuine needs and desires are the only fuel that will sustain this flame. Attempting to feed it anything else – be it misguided product features or tone-deaf marketing – is akin to tossing rocks into a fire pit. It will not only fail to nourish the flame but can actually smother it.
- *Continuous Search:* Like a camper constantly foraging for suitable firewood, you must ceaselessly seek out and understand the evolving demands of your market. This requires constant market research, customer engagement, and a willingness to adapt.
- *Energy Exchange:* The heat emanating from this well-tended flame of demand manifests as customer attention – a precious and powerful resource in the marketplace.
- *Conversion Power:* Just as the heat of a flame transforms raw ingredients into a satisfying meal, the attention garnered from properly addressing demand can be leveraged to convert prospects into loyal customers.
- *Sustainable Growth:* By consistently focusing on and responding to genuine demand, you create a self-sustaining cycle. The more effectively you meet real needs, the more attention you receive, which in turn allows you to better understand and serve your market. This is much like once you have the flame going it is much easier to throw on more logs than having to start from scratch.

By relinquishing the notion that you can control demand, you free yourself to focus on what truly matters: understanding the underlying desires of your potential customers, comprehending their beliefs and perceptions, learning to communicate effectively with them, and developing products that genuinely meet their needs.

Principle #26: Dimensions of Demand

To fully grasp the relationship between demand and marketing innovation, we must first establish clear, concise definitions of the critical components. Marketing innovation is not just about improving or creating better ad campaigns; it's about fundamentally improving how the business can understand and interact with customers to continually improve the business' ability to grow. To achieve this, we'll adopt a systems approach, allowing us to identify cause-and-effect relationships and pinpoint the elements we can influence.

At the heart of marketing innovation lies a delicate interplay between three crucial components: demand, beliefs, and actions. This triad forms the foundation of successful marketing strategies, especially in the context of innovation. Let's examine each dimension:

- *Demand:* The magnetic pull of underlying needs or desires that exist independently of any product or service. It's the primal force driving potential customers – be it the yearning for entertainment, the urgency to solve a problem, or the longing to belong to a community.
- *Beliefs:* The intricate web of perceptions, opinions, and expectations that customers weave around their situation they wish to influence, and possible ways to do that. These beliefs are shaped by personal experiences, social influences, and marketing efforts, forming the lens through which customers view your offerings.
- *Actions:* The tangible behaviors that customers exhibit as a result of their demand and beliefs. These include purchasing decisions, brand advocacy, social media sharing, and other forms of engagement that create value for your company.

Principle #26

Dimensions of Demand

Marketing innovation is about understanding what people want (demand), how to influence their beliefs (persuasion), so they are likely to create value for your business (actions).

Actions, such as sharing or liking a video, or buying your product, only come with the right levels of demand and belief.
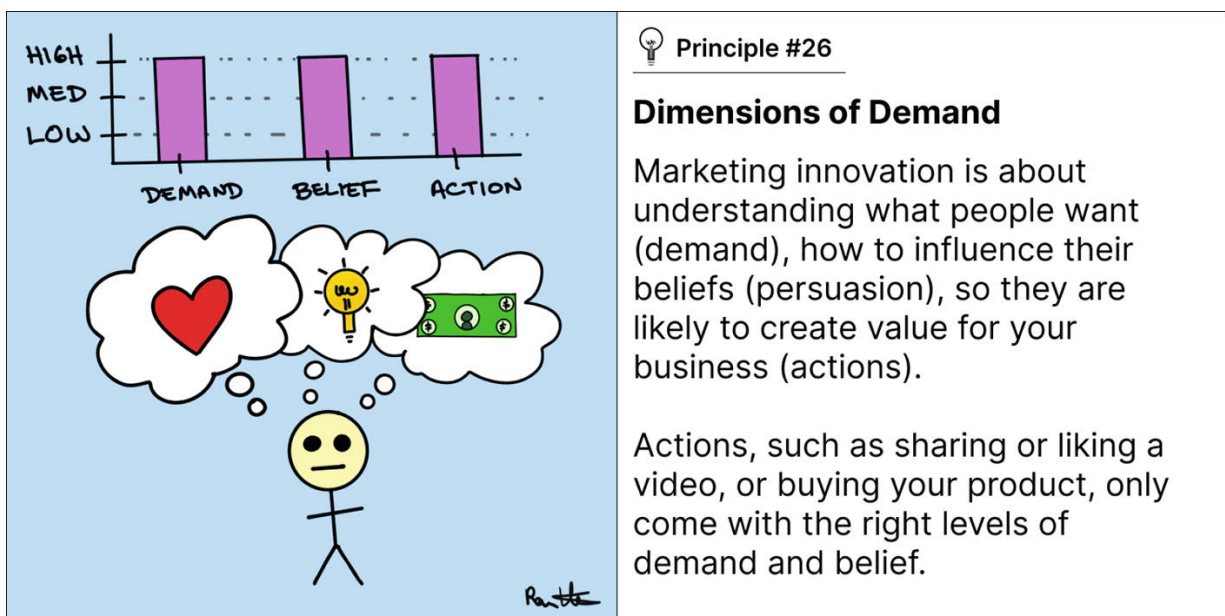
Figure 7-2 A person with demand and belief at really high levels, resulting in actions that create high levels of value for your company

Understanding this triad is not just beneficial – it's *imperative*. As an innovator, it's your responsibility to deeply comprehend the demand and

beliefs of potential customers before investing in product development. Moreover, you must clearly identify the specific actions you want customers to take when interacting with your product or service. This understanding allows you to fine-tune your messaging and, if necessary, adjust your product to align perfectly with customer demand and beliefs.

Remember, if potential customers are unaware of your product, they can't form beliefs about it. If they don't understand how your product fulfills their demand, they won't make a purchase. Your goal is to persuade them that, among all possible actions, choosing your product is the best decision they can make. In the case of Liquid Death, this was sharing their first commercial with friends, or leaving comments, or having stores request where they can buy.

It's crucial to distinguish between persuasion and manipulation. While manipulation might yield short-term gains, it's detrimental to innovation. The cost of broken trust and unmet expectations far outweighs any temporary benefits. True persuasion stems from a deep understanding of your clients' demands and beliefs. It's about sharing information, evoking feelings, and demonstrating genuine care and understanding. When done right, clients willingly take actions that benefit your organization, driven by their own volition rather than external pressure.

By mastering these dimensions of demand, you'll be well-equipped to innovate not just your products but your entire approach to marketing. This holistic understanding will serve as your compass in the complex landscape of marketing innovation, guiding you toward strategies that resonate deeply with your target audience and drive meaningful, sustainable growth.

In the case of Liquid Death, people clearly wanted to be entertained and wanted something novel. The videos and marketing campaigns they released gave them the evidence they needed to believe that Liquid Death was the real deal when it came to be a new culture around water. And the combination of demand and belief resulted in them taking the very actions that would help Liquid Death grow.

Social Traction Strategies

The consumer-packaged goods (CPG) industry is a vast and competitive sector, encompassing everyday items from food and beverages to household

products. In this landscape, product differentiation is often challenging, as many items serve similar functions and have comparable quality.

For decades, coffee reigned supreme as the go-to energy booster, deeply entrenched in daily routines and cultural practices worldwide. Its dominance seemed unshakable, backed by centuries of tradition and a well-established market infrastructure.

Red Bull stands as a prime example of marketing innovation in the consumer-packaged goods industry. Founded in 1984 by Austrian entrepreneur Dietrich Mateschitz, Red Bull transformed not just the energy drink market, but the entire landscape of marketing.

Mateschitz discovered the original Red Bull drink (then called Krating Daeng) while on a business trip in Thailand. Recognizing its potential, he partnered with the Thai creator to adapt the formula for Western tastes. However, Red Bull's true innovation wasn't in its product – it was in its marketing.

Red Bull began sponsoring extreme sports events, gradually expanding to own and create their own events like the Red Bull Air Race and Red Bull Cliff Diving World Series. These events were so weird, amazing, and different that they would make news and go viral.

For example, in 2012 Austrian skydiver Felix Baumgartner ascended to the stratosphere in a helium balloon while wearing a specially designed pressurized space suit. Baumgartner jumped from an altitude of approximately 39 kilometers (24 miles), breaking several world records, including fastest free fall at over 800 mph! Over 8 million people live streamed it on YouTube alone, wondering if he would survive.

Because the bottled drink industry is a commodity, marketing innovation is incredibly important to differentiate your brand from competitors, just like toothpaste, or milk. There's not much difference between many types of milk you see in the grocery store, so companies rely on branding and marketing to differentiate themselves.

Red Bull's marketing innovation has been phenomenally successful. From selling 1 million cans in its first year, Red Bull now sells over 7.5 billion cans annually in over 170 countries. The company has effectively created and dominated the energy drink market, with a brand value estimated at over $15 billion.

Let's examine the marketing innovation strategy that worked so well for Liquid Death and Red Bull, as they have so many similarities, a strategy

that relied on people being so excited by the product and/or marketing that they wanted to socially share the brand's content, and the brand met people's demands in a way that catalyzed them into taking a desired action.

Principle #27: Design for Social Engineering

Liquid Death provided a novel experience, selling water in a beer can with marketing that made fun of the traditional and boring way marketing was promoting brands. The behavior Mike Cessario was aiming to engineer for people looking at the product was very intentional: he wanted it to be so different and attention-grabbing that people would be compelled to want to talk about it on social media.

The important point is that he had a very specific behavior in people he was trying to engineer from the design: the marketing was "baked in" the product. Instead of being plastic, he used cans, instead of boring pictures of a mountain, he had a skull, instead of a corporate name, he had "Liquid Death." Instead of advertising to people, he invited people to part of a culture where they could get recognition for being ridiculous and join in a community of being silly.

Figure 7-3 illustrates the idea that Mike had a specific behavior, or action, that he wanted to create, and then he had to figure out how to design the product so that it would produce that action. If the design meets the threshold of eliciting the desired behavior, an analogy might be hypnosis: a willingness of a participant to let go, be suggestible, and role play.

Principle #27

Design for Social Engineering

Liquid Death's founder wanted to "bake marketing into the product" so that he could bet people would find it so mesmerizing that they would want to take a photo of it and share on their social media.
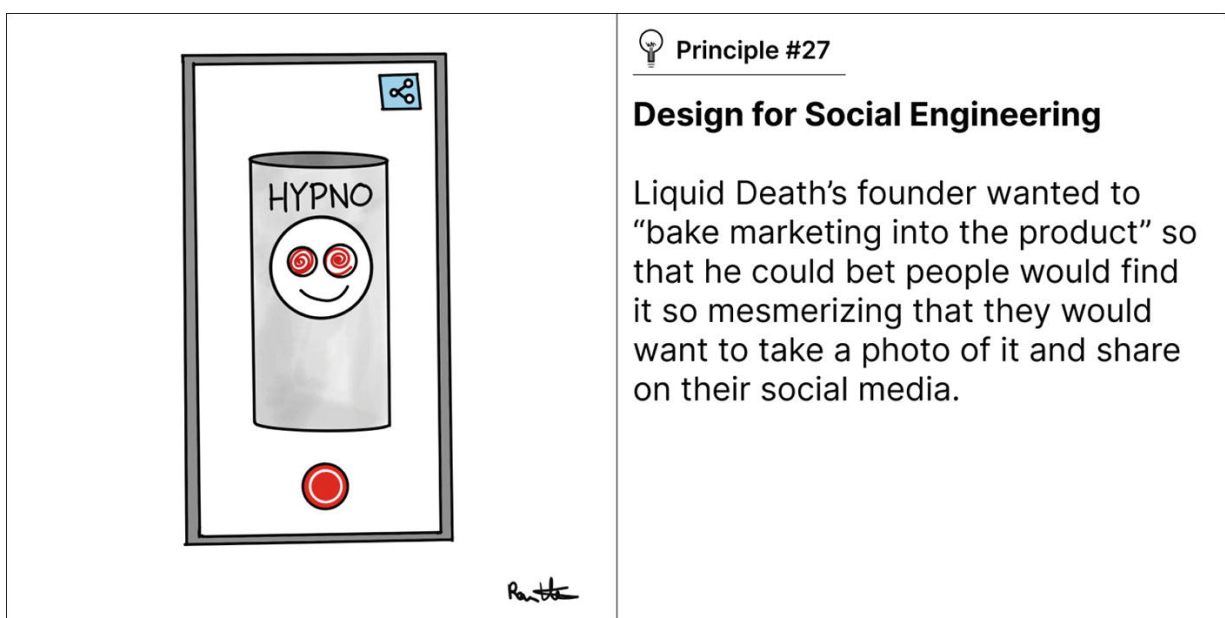
Figure 7-3 A phone taking a photo of a can with a label "HYPNO" that hypnotizes people into sharing photos to promote the brand

It's important to stress this isn't about mind-control, or deceit or manipulation, it is about an experience that is compelling and fun enough for people to voluntarily want to be guided into going outside their normal, everyday way of doing things, because they want to participate in a new role they normally don't get to engage in.

Most people don't have a script to create video content, but by participating in Liquid Death's "share the dumbest way to open a Liquid Death can," they have a storyline that is socially acceptable and inviting that was created for them, and an opportunity to have their video showcased. Doing dumb things, having a "script," having the opportunity to be seen and heard, those are all new and novel paths for people to explore.

While Liquid Death's approach focused on social media sharing, the principle of Social Engineering Design can be applied to various desired behaviors:

- *Product Usage:* Design products that encourage specific social sharing patterns. For example, fitness apps that gamify workouts to increase engagement.
- *Brand Advocacy:* Design loyalty programs that incentivize customers to refer friends, like Dropbox's storage bonus for referrals.
- *Community Building:* Create products or services that facilitate user-generated content and community interaction, like LEGO Ideas platform, where people can share their LEGO ideas and others can vote on them.

Here's how innovators can apply the principle of Social Engineering Design:

- *Identify Desired Action:* Clearly define the specific behavior you want your customers to engage in. Be as precise as possible.
- *Provide Incentives:* Offer clear benefits for performing the action. These can be tangible (like rewards) or intangible (like social recognition).
- *Test and Iterate:* Implement your design and closely monitor user behavior to see how much social engineering impact your design has. Use data and feedback to refine your approach.

Principle #28: Mesmerizing Meta-Marketing

Liquid Death had a Super Bowl commercial, of kids drinking Liquid Death in what looked like a wild college party. But they also made another marketing push – a bet on the Super Bowl and hiring a witch to "fix" the game.

Their video showed a witch whose face was hidden, casting black magic spells, and saying "Powerful spells will affect fumbles, field goals, interceptions, and more…" as the witch poured a can of Liquid Death into a goblet.

This bet, and the black magic "spell" crossed many cultural lines, for example, Liquid Death was the first major brand to place a bet on the Super Bowl, and the first brand to try to influence it with "black magic," which also brings up more social taboos. The whole thing is ridiculous, but BRILLIANT – it was so bizarre that it got people to want to talk about it on social media.

Unlike the competitions of who could make a video of the dumbest way to drink Liquid Death, or a product which was so compelling it got people to want to share it online, they were getting people to share and talk about their marketing, not even the product!

Figure 7-4 illustrates this point: if you can intentionally make your marketing about your own marketing, you have effectively created "meta" marketing. *Meta* in this context refers to a self-referential or self-aware approach to marketing. It's marketing that draws attention to its own nature as marketing, often in a playful or ironic way.

Principle #28

Mesmerizing Meta-Marketing

By creating marketing campaigns so intriguing people feel compelled to share online, creating social marketing not about your product, but about your marketing.

Liquid Death exemplified this strategy with their Super Bowl stunt, hiring a witch to cast spells influencing the game's outcome for their bet.

Figure 7-4 A witch casts a spell on the Super Bowl to illustrate the idea of "meta-marketing" that mesmerizes people into wanting to share and talk about it

Meta-marketing goes beyond traditional advertising by creating content about the act of marketing itself, turning the promotional efforts into a form of entertainment that audiences want to engage with and share.

In the case of Liquid Death, their Super Bowl bet and "black magic" stunt weren't just marketing campaigns – they were marketing campaigns about marketing campaigns. This meta-approach created a layer of intrigue and humor that transcended the product itself, compelling people to discuss and share not just the product, but the marketing strategy itself.

Meta-marketing is particularly powerful because it

- *Increases Engagement:* By making the marketing itself a topic of conversation, it encourages deeper interaction with the brand.
- *Demonstrates Creativity:* It showcases the brand's ability to think outside the box, appealing to audiences who appreciate innovation and humor.
- *Creates Viral Potential:* The unconventional nature of meta-marketing makes it more likely to be shared on social media.
- *Builds Brand Personality:* It allows the brand to display a self-aware, clever persona that can resonate strongly with certain audiences.
- *Overcomes Ad Fatigue:* In a world saturated with traditional advertising, meta-marketing can cut through the noise by offering something unexpected.

By mastering the art of meta-marketing, brands can create a virtuous cycle where their marketing efforts become a source of entertainment and discussion, amplifying their reach and impact far beyond traditional advertising approaches.

Summary

This chapter explores the critical role of marketing innovation in the success of new products and services. It challenges the notion that great products sell themselves and emphasizes the importance of understanding customer demand, shaping beliefs, and inspiring action. The chapter uses case studies like Liquid Death and Red Bull to illustrate how innovative marketing strategies can transform industries and create billion-dollar brands.

Key points covered in this chapter include

- *The Relationship Between Demand and Marketing:* Understanding that demand exists independently of products and that marketing's role is to align with existing demand rather than create it.
- *Dimensions of Demand:* Breaking down marketing into three key components – demand (underlying needs), beliefs (perceptions about products), and actions (behaviors that create value for companies).
- *Social Traction Strategies:* Examining how brands like Red Bull create marketing events and content so compelling that people want to share and discuss them voluntarily.
- *Social Engineering Design:* Designing products and marketing to intentionally engineer specific social behaviors, like sharing on social media.
- *Mesmerizing Meta-marketing:* Creating marketing campaigns about marketing itself to generate discussion and engagement beyond the product.

This chapter provides crucial insights for innovators on how to effectively communicate value and drive adoption of new ideas and products through creative marketing approaches.

8. Making Ideas Collide with Reality

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(1)   Denver, CO, USA

In the cool, fog-shrouded hills of San Francisco, I sat hunched over my Mac, fingers flying across the keyboard. The year was 2012, and I was chasing a dream. By day, I was surrounded by tech giants like Google, Salesforce, and Twitter, longing to create something of true value and meaning. By night, I fancied myself a musical revolutionary, driven by a vision of democratizing music creation through technology.

I had stumbled upon what I believed was the Next Big Thing: a mobile app that would turn anyone with a smartphone into a musical collaborator. "It's like Instagram for music," I'd tell anyone who'd listen, my eyes sparkling with the fever of innovation. "Imagine jamming with Slash or laying down beats with Sting, all from your iPhone."

My obsession was rooted in countless nights lost to the glow of my computer screen, fingers dancing across digital faders in Apple Logic Pro. This sophisticated version of GarageBand became my musical laboratory, where I could lay down a guitar riff and, with a few clicks, summon an entire orchestra to join me. The alchemy of MIDI transformed my clumsy pluckings into polished performances, while the ability to manipulate time and pitch with a mouse-drag felt like bending the laws of music itself. In those late hours, as I shaped sound with the precision of a digital sculptor, I tasted the intoxicating power of turning raw imagination into harmony.

It was 2012, and video-sharing apps were revolutionizing social media. Instagram was gaining traction, and Vine's six-second loops were captivating millions. Inspired, I envisioned a musical parallel: a platform where users could upload video clips of themselves playing instruments, perfectly synced to a universal beat. These musical snippets would become

digital building blocks, allowing others to mix and match, creating collaborative compositions with ease. It was Lego, but for music videos.

The idea devoured me whole, colonizing my thoughts and dreams. No longer content with solitary creation, I envisioned a symphony of collaboration, where musicians worldwide could interweave their talents through the ether of the Internet. This vision burned so bright that it illuminated a path forward. I became a man possessed, evangelizing my concept to anyone who'd listen, leveraging every connection I had. My persistence paid off when I finally found a developer who could translate my fevered imaginings into lines of code, promising to bring my digital orchestra to life in the palm of every iPhone user's hand.

As I shared my idea, doors began to open. I found myself on a tour of Pixar with a videographer, soaking up advice about video production. I landed meetings with Facebook and YouTube to explore partnership opportunities. At music and technology conferences, I sought out the brightest minds and most influential players in the industry, collecting offers of help like trading cards.

But the real "I'm living my dream" moment came when I managed to hire drummers from some of my favorite bands: Stephen Perkins of Jane's Addiction (the band that kicked off Lollapalooza), Brain of Guns N' Roses, and Trevor Lawrence Jr., who'd worked with Dr. Dre. Surely, I thought, everyone would jump at the chance to jam with these legends.

I poured my heart and soul into the startup, christened JAMR. I convinced family and friends to invest, riding high on the excitement. The pinnacle seemed to arrive when I scored a meeting with Apple just as they were gearing up for their iOS 7 launch. They hadn't seen anything like it, the app was very visually exciting, had celebrity musicians to jam with, had social features, and aligned with their culture of enabling creativity.

My jaw dropped to the floor when I got an email that they were interested in showcasing my app for the iOS 7 launch, the biggest one ever in their history! Whether it meant an on-stage demo or a featured spot in the App Store, I knew this could be the promotional opportunity of a lifetime.

There was just one problem: the app was a mess. It crashed constantly, only working if you pressed buttons in a precise, arcane sequence. If I could just get it to work reliably, I thought, an Apple showcase would catapult us to success.

In a panic, I convinced my investors to pour in more money, fired my current developer, and brought in a ringer – an ex-Apple engineer who promised to get everything shipshape. But as the Apple deadline loomed and the app remained stubbornly broken, I felt the icy fingers of doubt creeping up my spine. I had bet everything on this dream – my savings, my reputation, and the hard-earned money of those who believed in me.

The Apple opportunity slipped through my fingers, but I couldn't let go. Convinced I was onto something, I hired a third developer who finally got the app working. It took a year longer than expected and more than double the budget, but at last, JAMR was ready for release.

We uploaded it to the App Store, and... nothing. A handful of downloads trickled in. I advertised on Facebook, netting a few more sign-ups. People would download the app, try it once, and never return. In desperation, I gathered some musician friends for a pizza party, hoping to understand where we'd gone wrong.

The harsh reality hit me like a discordant note. Despite the initial excitement, users found the process of creating and managing music clips tedious. The thrill of positive feedback, high-profile meetings, and collaborations with my musical heroes suddenly felt hollow. Even Apple's interest in featuring us at the iOS 7 launch seemed insignificant in the face of user apathy. I was forced to confront a brutal truth: in the world of innovation, only user engagement truly matters.

The truth was simple and devastating: people just didn't care. Words are cheap in the world of innovation; only actions count. The demand, as I'd learn to articulate years later, simply wasn't there.

As I sat amid the wreckage of my dreams, I realized I had learned some of the harshest, most valuable lessons in innovation – lessons that would shape my career and my understanding of what it truly takes to bring an idea to life in the unforgiving world of technology.

The hardest part was yet to come. With a leaden heart, I had to face my family and friends who had invested in my dream. Looking into their eyes, I uttered the words every entrepreneur dreads: "I lost your money." The weight of that admission crushed me. I was defeated mentally, spiritually, and physically. It was one of the worst feelings of my life, a cocktail of shame, disappointment, and failure that left a bitter taste I couldn't shake.

For a long time, I saw JAMR as nothing but a catastrophic failure, a cautionary tale of hubris and misplaced confidence. But as the years passed,

I began to see the experience in a different light. Like a phoenix rising from the ashes of my burnt dreams, valuable lessons emerged.

I realized I had developed a superpower of sorts – the ability to network and connect with people far beyond my usual circles. I had rubbed shoulders with tech titans and music legends, navigating worlds I never thought I'd access. This skill, I found, was invaluable in the fast-paced, relationship-driven tech industry.

Moreover, I had proven to myself that I could design products that were truly novel, that pushed the boundaries of what people thought possible. The fact that industry leaders had shown interest wasn't just luck – it was a testament to an innovative spirit that was beginning to emerge and express itself.

And so, as I picked myself up and dusted off the remnants of my first foray into entrepreneurship, I made a promise to myself. I would dedicate my career to innovation, not just as a practitioner but as a student and eventually, a teacher. The lessons I had learned – some exhilarating, others painful – were too valuable to keep to myself.

In the pages that follow, I want to share with you the biggest lessons I've gleaned from my journey in innovation. These insights come not just from my personal experiences, but from observing leaders in companies I've worked for, and from the collective wisdom of those who've walked this path before us. My hope is that by sharing these lessons, you can avoid some of the pitfalls and costly mistakes that I and others have made.

Innovation, I've learned, is not for the faint of heart. It's a rollercoaster of highs and lows, of brilliant insights and humbling failures. But for those willing to weather the storms and learn from every twist and turn, it offers a chance to shape the future, to bring ideas to life that can change the world. The journey of innovation awaits, and it's one hell of a ride.

Why Innovation Fails and What to Do About It

A problem well-stated is a problem half-solved.
— Charles Kettering, the head of research at General Motors from 1920 to 1947

Innovation, the lifeblood of progress, is a perilous journey fraught with hidden pitfalls. Whether you're innovating within an established

corporation or launching a daring startup, understanding why innovations fail is crucial for success. This chapter equips you with vital insights to navigate the treacherous landscape of innovation, significantly boosting your odds of transforming visionary ideas into tangible realities.

Let's start by examining other prominent perspectives on why startups and innovation fails:

- Steve Jobs pinpointed a critical flaw in innovation thinking: "the disease of thinking that a really great idea is 90 percent of the work, and that if you just tell all these other people, here's this great idea, then of course they can go off and make it happen."
- The number one reason why startups fail, according to CB Insights, the research company, is "No market need." That means an incredibly smart group of people, dedicated, hard-working, with networks of teammates and investors went through the brutal experience of risking so much in their company creation that over time almost half(!) discovered that people simply didn't want a product for the category. Not that the product wasn't good, but that the market didn't have demand, which is far more daunting.
- Bill Gross, founder of Idealab, argues that the primary reason for startup failure is timing. Being too early or too late to market can doom even the most brilliant innovations.

These expert perspectives unveil a stark reality: successful innovation is bigger than mere ideation or even some magical framework for innovation. It demands a nuanced orchestration of visionary thinking, flawless execution, deep market insight, and an element of serendipity. This delicate equilibrium forms the bedrock of transformative innovation, challenging simplistic notions of success in this field.

In this chapter, we'll explore methods to make the collision between your ideas and reality as cheap, effective, and fast as possible, to set your innovation projects up for success.

By understanding these elements, you'll be better equipped to navigate the challenging terrain between concept and creation. You'll learn how to turn your innovative ideas into tangible, impactful realities while avoiding common pitfalls that doom many innovation efforts.

Remember, innovation isn't just about being creative or technically proficient. It's about creating something that solves real problems for real

people in a way that's viable and sustainable. By the end of this chapter, you'll have the tools to approach innovation with a clear-eyed understanding of the challenges ahead and strategies to overcome them.

Principle #29: The Magic of Colliding Ideas

Most people never pick up the phone and call. Most people never ask, and that's what separates the people who do things from the people who just dream about them.
—Steve Jobs

Innovation is not a solitary journey confined to the realm of imagination. It's a dynamic process that demands constant interaction between your ideas and the harsh realities of the world. This principle urges you to actively seek out opportunities to test your concepts against real-world constraints, user needs, and market forces.

The crucial step in innovation is bridging the gap between your visionary dreams and tangible reality. This leap requires you to venture beyond your comfort zone and take decisive action. Initiate the process, whether it's through a simple phone call, sketching ideas on paper, or tackling a problem faced by your customer or colleague. The preceding chapters have armed you with a diverse toolkit of strategies, guiding principles, and cautionary insights to facilitate this vital transition from concept to action.

Every time you have an idea, the act itself of bringing it into reality is a test, it provides feedback. Steve Jobs described in an interview how a neighbor showed him his rock tumbler, a device that spins rocks together. The neighbor asked Steve to throw plain rocks into the tumbler and come back the next day. The neighbor turned on the rock tumbler and it would make popping noises as stones began colliding with each other. The next day, Steve saw that these same common old rocks had been transformed into amazingly beautiful polished rocks.

Steve described that moment's importance to him: "It's that process that is the magic – we had a lot of great ideas when we started. That has always been in my mind my metaphor for a team working really hard on something they are really passionate about. It's through the team, through that group of incredibly talented people bumping up against each other, having arguments, having fights sometimes, making some noise, working together,

they polish each other, and they polish the ideas, and what comes out are these really beautiful stones."

It is the collision of your innovation ideas with reality, the limits of technology, of opposing strategies, of risks, trade-offs, and beliefs of whether a challenge is insurmountable or not, that polishes ideas into beautiful outcomes, as the principle is illustrated in Figure 8-1.

Principle #29

The Magic of Colliding Ideas

When common stones are put in a rock tumbler, out comes beautiful polished rocks from the friction of bumping into each other.

Steve Jobs uses this as a metaphor: The process of a team of incredibly talented people working hard together results in their ideas bumping against each other, and beautiful products come out.
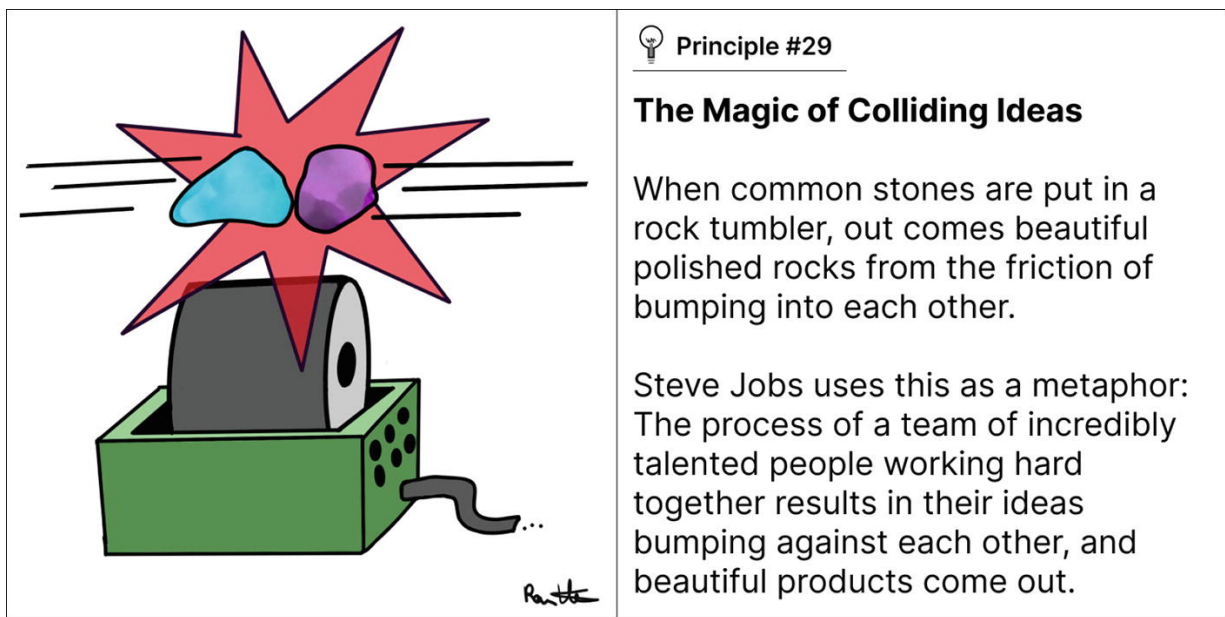
Figure 8-1   A rock tumbler inputs regular rocks, and through the process of collisions outputs beautifully polished stones

Just as rough stones are transformed into polished gems through constant friction and collision, your innovative ideas are refined and perfected through repeated contact with real-world challenges and feedback. This process is not always comfortable – it can be noisy, chaotic, and at times, frustrating. But it's precisely this "tumbling" that shapes raw concepts into valuable innovations.

Therefore, find ways to collide your ideas with reality, are there ways to test something, getting people to use your product for free may seem great to get initial feedback, but if they aren't willing to pay for it that means you are back to square one figuring out why. You need to collide your ideas with reality until you can figure out how to generate revenue, get adoption, and user retention, whether an internal or external innovation effort.

The goal isn't to avoid all challenges or to create a "perfect" idea in isolation. Instead, you're aiming to refine your innovation through constant

interaction with the real world. This process of collision and refinement is where the true magic of innovation happens.

By consistently applying this principle, you transform innovation from a solitary, intellectual exercise into a dynamic, collaborative process. You move from being a dreamer to a doer, actively shaping your ideas into innovations that can truly impact the world. The path may be noisy and unpredictable, but it's through this tumultuous journey that rough ideas are polished into brilliant innovations.

Principle #30: The PMF Crystal Ball

I've seen every idea. Ideas are irrelevant. You are judged on execution, and the number 1 way to prove that you can execute is by executing.
—Michael Seibel, Managing Director of Y Combinator.

I've realized that the person with the ideas often has more power than the person taking action. The person taking action is the gun. The person with ideas is the one pointing the gun.
—Also Michael Seibel

Product-market fit (PMF) is often described as the holy grail of innovation, yet it remains one of the most challenging aspects to achieve. What is also unique about product market fit is that it isn't very defined. Wikipedia defines it as *the degree to which a product satisfies a strong market demand.*

The pursuit of PMF has led to numerous methodologies and startup advice over the years, emphasizing the importance of researching pain points and understanding user needs. Yet, even with these tools at their disposal, companies of all sizes have stumbled in their quest for PMF.

Microsoft's Zune, the competitor to Apple's iPod, serves as a stark reminder of this challenge. Despite massive technical development, extensive market research, and enormous marketing budgets, Microsoft failed spectacularly to compete with Apple's iPod in the portable music market.

If a tech giant like Microsoft can miss the mark so dramatically, it begs the question: How can anyone hope to build innovative products and achieve product-market fit? The answer lies in understanding that PMF is

not a one-size-fits-all concept. It's entirely relative to the type of innovation you're tasked with and the market you're targeting. The success factors for Business-to-Consumer (B2C) products differ significantly from those of Business-to-Business (B2B) offerings. Moreover, if you're innovating within your own company for internal "customers" or fellow employees, you're likely dealing with unique conditions and constraints.

What's worse is that because someone may have had success, they may truly assume they have all the answers, just as people may assume someone with previous success, who speaks or writes in a confident way, promising a "proven" methodology, might have the answers. It rarely works like that, if at all.

While numerous frameworks, books, and experts claim to have the definitive answer to achieving PMF, it's crucial to approach these with a balanced perspective. No one has a crystal ball, illustrated in Figure 8-2, that can give you the "secret" to solve your PMF problems.

💡 Principle #30

The PMF Crystal Ball

There is no "magical" framework or tool to give you the answer. Finding PMF is the process of testing your beliefs against reality.

There is a lot of wisdom and lessons to learn from others, but what worked in one situation is not necessarily what will work in yours. The only way to find out is to collide your ideas with reality.
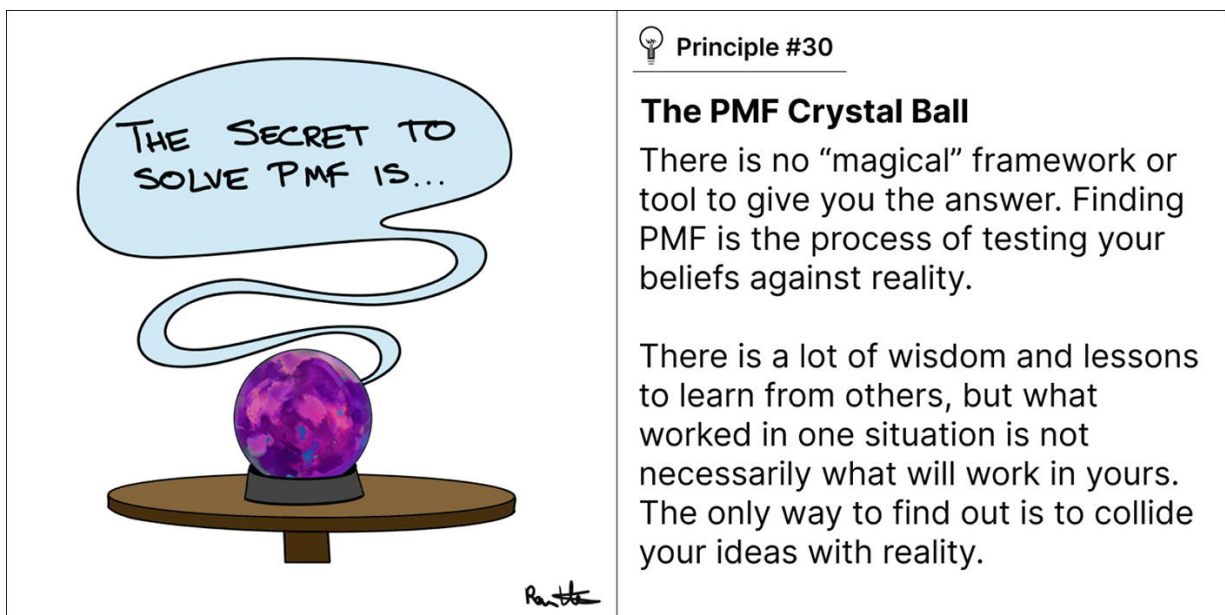
Figure 8-2 A PMF Crystal Ball does not exist. No one framework, tool, or strategy is the secret to finding PMF. The only way is by testing your ideas and getting feedback

No one knows your specific business, situation, constraints, and opportunities better than you do. It's healthy to be skeptical of one-size-fits-all solutions while maintaining a "beginner's mind" that's open to learning and experimenting with approaches that may challenge conventional wisdom.

What worked for Apple, Starbucks, McDonald's, or Microsoft may not work for your bootstrapped startup, or for you. Creating and selling products when you already have an existing customer base is vastly different from starting from scratch with just an idea. And both of these scenarios differ significantly from internal innovation projects.

If Microsoft, with its army of researchers, designers, engineers, and enormous marketing budgets can fail at making products, despite an explosively growing market, then how is anyone supposed to know how to build innovative products and achieve product market fit? If there was a formula to solve product market fit, then companies with multi-billion dollar budgets would have figured it out.

Building upon Principle #27, the only way to truly attain product market fit is to put your product out there, whether at the idea stage, product stage, or as a marketing campaign to make it look like there is a product (such as Liquid Death from Chapter 7), and see what happens when the idea collides with reality.

Principle #31: The Product Market Fit Loop

If the customer doesn't scream, you don't have product-market fit.
—Andy Rachleff, Venture Capitalist who coined the term

The journey to PMF is not a straight line but a continuous loop of iteration and refinement. Understanding this loop is crucial for identifying where your innovation stands and what steps to take next.

As Einstein said, "If I had an hour to solve a problem, I'd spend 55 minutes thinking about the problem and five minutes thinking about solutions." This underscores the importance of properly defining the problem – in this case, understanding where you are in the PMF loop.

How exactly is that measured? Volume of sales, rate of sales, profit? One attempt by Sean Ellis, is called the *40% Rule*, where 40% of survey respondents consider the product or service to be a "must have."

Therefore, thinking of PMF in terms of a loop with these specific steps, as illustrated in Figure 8-3, is helpful to identify where you need to focus to achieve and maintain PMF.
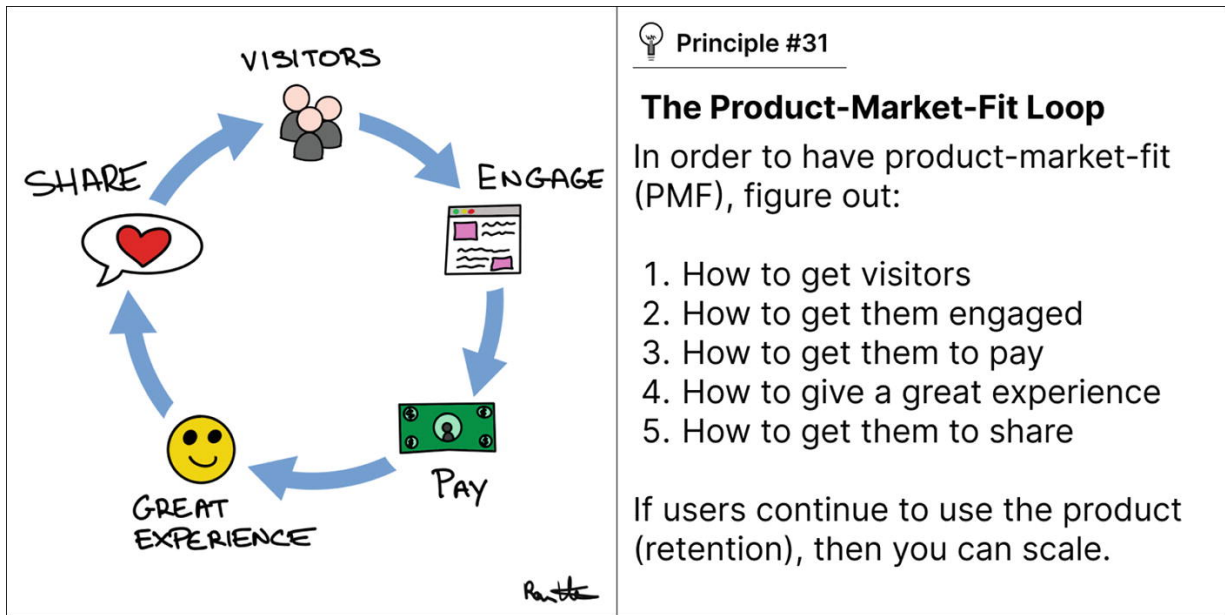
Figure 8-3 The Product-Market-Fit Loop, five steps that repeat in order to keep a business stable and growing in a sustainable way

By visualizing PMF as a loop, you can more easily identify where your innovation needs focus, whether it's in attracting visitors, engaging users, monetizing your product, improving user experience, or encouraging sharing. This framework provides a roadmap for achieving and maintaining PMF, guiding your innovation efforts toward sustainable growth.

If you have product-market-fit, customers will complain that it doesn't have features they want, or the new scale you have as you grow causes things to break. Instead of feeling like a success, entrepreneurs can complain they feel overwhelmed and are constantly facing life-or-death situations for their startups. However, this intensity means customers depend on you, that your innovation is so critical to their success that they are giving you their attention. Harnessing that energy is critical.

Once you have PMF, listening to customers, understanding their demand, and designing and developing solutions are just another iteration in the loop of innovation. However, it is very helpful to understand the loop, so you can see exactly where the problem resides.

To generate revenue, get investment, or internal political support for innovation within a company, providing evidence that you can create value and people are adopting it is the #1 way your innovation work can be successful. In other words, growth is the critical factor a marketing innovation is interested in.

Growth can be described as the science of figuring out:

- *Visitors:* How do I get people to come to me, my store, or my website?
- *Engage:* How do I get them to sign up and try my product?
- *Pay:* How do I get people to pay?
- *Experience:* How do I deliver a great product and experience?
- *Share:* How do I get them to tell all of their friends?

The most important factor in the PMF loop is how do you get someone to become a customer, and the second most important factor is what is going to bring them back? When you can do this for one or a few customers, and a certain percentage are staying engaged and continue to use the product, that is called *retention.* That provides you with the foundation that you have some level of product-market-fit, and now you can focus on growing.

To understand the dynamics of growth, we will examine principles aimed at how product and marketing innovation work together.

While the examples below may be focused on consumer brand innovation versus internal skunkworks or business-to-business (B2B) innovation, the principles remain the same. Whether you need to get public consumers interested and engaged, or whether you need to get your internal business users engaged, figuring out how to ensure you are meeting demand and have a clear way to demonstrate scalable, repeatable value creation is crucial.

Set Innovation Up for Success

The journey to product-market fit is complex and multifaceted, and understanding your audience and the *why now,* or how this moment presents unique opportunities can help guide your efforts.

Let's examine each of these critical components in detail, starting with how to identify and understand your ideal audience.

Principle #32: Understand Your Audience

An engineer who can "build anything" is worth $1M

An engineer who can figure out "what to build" is worth 100X that

In business, the GPS creates more value than the engine.

—Shaan Puri, founder, investor, and creator of the My First Million podcast (over 25M+ downloads a year)

When working on finding product-market-fit, the product innovation team may want to focus on improving the product, but the marketing innovation team may prioritize improving the audience. Meaning, your product might be great, but you are not focusing on your ideal audience. Take for example Twitch, the video game streaming service. When they started out, they had Justin (the founder) have a live camera recording his life and streaming it.

This caused a few pranksters to call the police on them, so that people could watch the police giving Justin a hard time! Eventually they began focusing on allowing others to stream video instead of them having to come up with content all the time. And that led to them learning that 20% of their users were people streaming themselves playing video games.

They decided to focus exclusively on that audience, illustrated in Figure 8-4, turning away their other users, which was a hard choice, but the right choice. Twitch was acquired by Amazon for $970 million dollars. Twitch revenue increased 100-fold since its sale to Amazon.
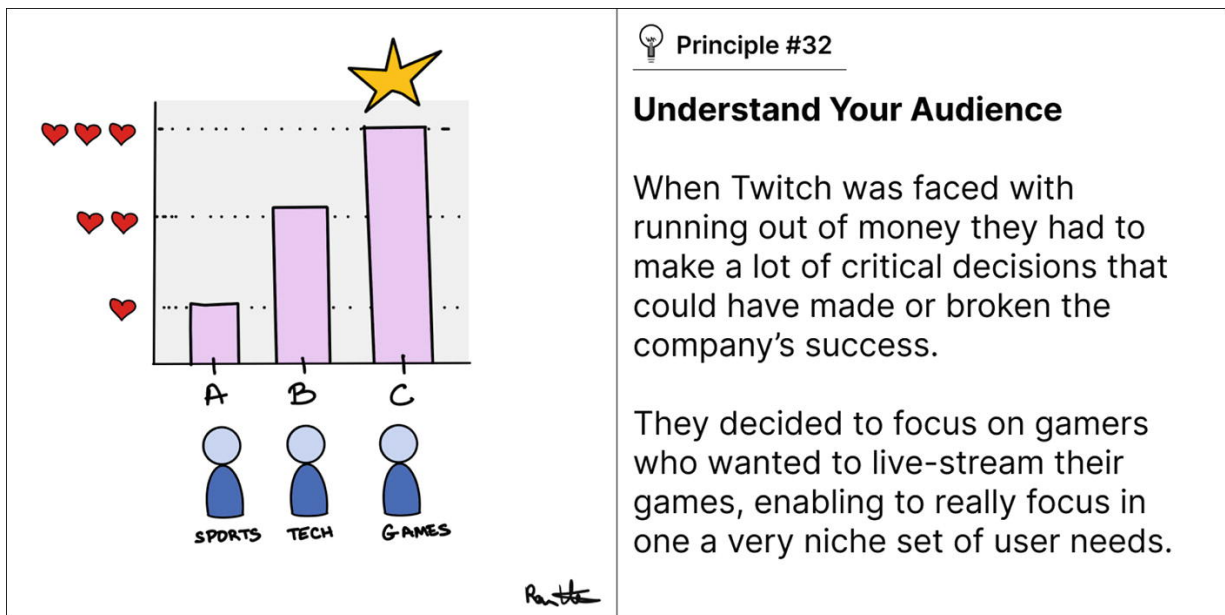
Figure 8-4 A bar chart showing three different user groups, using Twitch as an example. They focused on a community that was extremely passionate about games

Once Twitch got very specific on who exactly they were selling to, it allowed them to optimize their product much better, and improve their PMF

loop. That focus allowed them to ensure they were meeting the specific needs of their users and tackle hard revenue problems.

Principle #33: The Right Time for Innovation

Sometimes innovation is set up for success because it is the right idea at the right time. The story of Uber illustrates this principle perfectly. By learning this principle, you can better spot an opportunity to meet the demand of people because technology has suddenly become cheaper and available to a bigger market. While it may not be obvious to spot, it can be helpful to know to look for it and know when a strong business opportunity exists.

Before the iPhone and widespread adoption of smartphones with GPS and unlimited data plans, the concept of Uber would have been incredibly difficult and expensive to implement. The technology simply wasn't there to support real-time tracking and on-demand ordering of drivers in a cost-effective way.

However, the advent of the iPhone and similar smartphones, combined with the rollout of unlimited data plans, created the perfect technological ecosystem for Uber's innovation to thrive. Suddenly, it became feasible to

- Track drivers and passengers in real-time using GPS
- Allow users to request rides on-demand through a mobile app
- Facilitate seamless communication between drivers and passengers
- Process payments digitally without the need for cash transactions

This convergence of technologies didn't just make Uber possible – it made it convenient, efficient, and scalable in a way that would have been unimaginable just a few years earlier.

The principle here is that timing is crucial in innovation, illustrated in Figure 8-5. A great idea implemented too early might fail due to lack of supporting infrastructure or consumer readiness. Conversely, waiting too long might mean missing the opportunity entirely as competitors enter the market.

Principle #33

The Right Time for Innovation

Before the iPhone it was very costly to get GPS coordinates, tracking a car's entire trip would continually rack up mobile fees.

Once the iPhone was released, along with unlimited mobile data plans, there was the ability to track, in real-time, gps coordinates cheaply. This enabled Uber to revolutionize transportation.
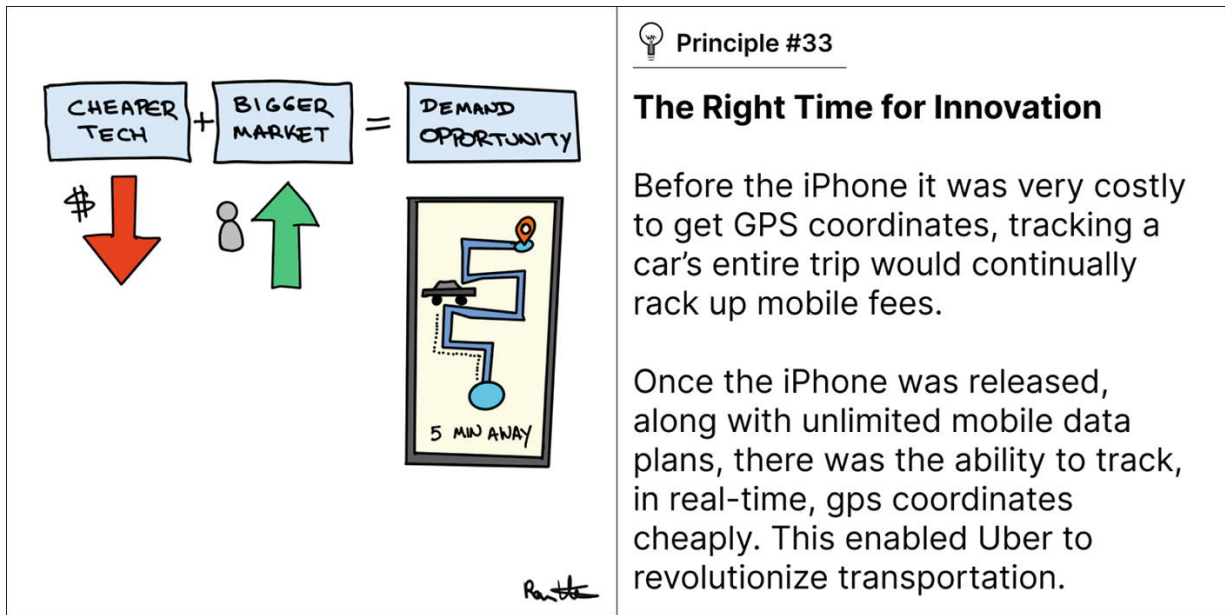
Figure 8-5 When the iPhone came out, it drove the price of GPS tracking dramatically down, and unlimited data plans created a big market for people who would want to use Uber

Remember, being too early can be just as problematic as being too late. The key is to recognize the sweet spot where technological capability, market readiness, and your innovative idea intersect.

Summary

In this chapter, you learned about the challenges of innovation and how to set yourself up for success. Key points covered in this chapter include

- The importance of colliding ideas with reality to refine and improve them, rather than trying to perfect ideas in isolation
- Why product-market fit is crucial but difficult to achieve, and how there's no universal formula or "crystal ball" for finding it
- The product-market fit loop and its five key stages: attracting visitors, engaging users, monetizing, improving user experience, and encouraging sharing
- How to identify and understand your ideal audience to focus your innovation efforts
- The importance of timing and how technological shifts can create opportunities for innovation, as illustrated by Uber's success

In Chapter 9, we will examine commonly used tools by professionals in sales, marketing, and product development, to help guide innovation

processes.

9. You Own Your Communication

Ron Itelman[1] ✉
(1)   Denver, CO, USA

> *Stand out by being concise and easy to understand. If I don't know what your company does, I can't fund you. The #1 barrier to not knowing what your company does is* **you**. *Not the world, not the users, not the advisors, it's literally* **you**.
> — Michael Seibal, Group Partner at Y Combinator

In 2007, the rhythmic clatter of a Boston commuter train filled Drew Houston's ears as he settled into his seat, the worn fabric rough against his fingers. The MIT student reached into his backpack, seeking the familiar shape of his USB stick. His hand grasped at empty space where the device should have been, and a wave of frustration washed over him. In that moment, surrounded by the muted conversations of fellow passengers and the soft whir of his laptop coming to life, Houston realized he had left his USB stick on his cluttered desk at home. The train lurched forward, carrying not just Houston, but the seed of an idea that would revolutionize how the world shared information.

This simple moment of forgetfulness sparked an idea that would revolutionize file sharing and cloud storage. While these features are considered standard today, they were nonexistent at the time:

- Collaborating on documents often led to conflicting versions.
- Syncing files from work to home was often manual and error-prone.
- Emailing files to yourself cluttered inboxes and had file size limitations.

In 2008, when Drew Houston founded Dropbox, he couldn't have imagined it would reach $1 billion in annual revenue within a decade.

Despite applying as a single founder to Y Combinator – at a time when investors typically favored co-founded startups – Houston's application stood out for its remarkable clarity, a rarity in the jargon-laden tech world. Even when his initial post about Dropbox on Y Combinator's Hacker News faced harsh criticism, Houston's unwavering commitment drove him to persevere.

When Dropbox created an explainer video, their waiting list exploded from 5000 to 75,000 in *just one day*. After they launched, they were spending \$233–\$388 per user in advertising to acquire them, not a winning strategy for a \$99 product. The typical Dropbox user reported that "I didn't realize I needed this," a sign that Dropbox was solving a problem many didn't even know they had, making it difficult to acquire users through advertising.

They decided a bold, new strategy was needed, one focusing on what was working: word-of-mouth from friends. They initiated a referral program, and 15 months later got 2.8 million direct referral invites, growing to 4,000,000 users by 2010.

The Only Battle That Matters: You

It is not the critic who counts; not the man who points out how the strong man stumbles, or where the doer of deeds could have done them better. The credit belongs to the man who is actually in the arena, whose face is marred by dust and sweat and blood; who strives valiantly; who errs, who comes short again and again, because there is no effort without error and shortcoming; but who does actually strive to do the deeds; who knows great enthusiasms, the great devotions; who spends himself in a worthy cause; who at the best knows in the end the triumph of high achievement, and who at the worst, if he fails, at least fails while daring greatly, so that his place shall never be with those cold and timid souls who neither know victory nor defeat.
—Theodore Roosevelt

In the arena of innovation, your greatest adversary isn't the market, the competition, or even the technology – it's your ability to communicate. Ideas, no matter how brilliant, remain mere embers without the oxygen of

clear articulation. This chapter is your forge, where you'll craft the tools to transform the raw ore of your concepts into gleaming realities that captivate investors, inspire teams, and win customers. Here, we don't just talk about communication – we ignite transformation.

The reason communication is a unique "arena" of challenges is that in this instance, you are only challenging yourself: you own your communication and making it concise and easy to understand is where you can find victory or defeat.

No matter how well-researched or creative your proposal, if you can't explain it clearly and concisely, you'll struggle to gain support. Your communication skills can make or break your innovation efforts.

Imagine standing before a panel of investors, your heart racing, your innovation burning bright in your mind. But as you open your mouth to speak, that brilliance dims, trapped behind a wall of jargon and complexity. The investors' eyes glaze over, and in that moment, you realize a brutal truth: in innovation, clarity isn't just key – it's oxygen.

This chapter will provide you with principles that can enable you to sculpt your ideas into arrows of clarity, honing them to pierce through doubt and ignite understanding. You'll learn to craft pitches that resonate like a tuning fork, creating clear value propositions that sing to the soul of your audience.

Whether you're facing a boardroom of skeptics or a crowd of potential users, you'll have the tools to turn your innovation from a whisper into a roar.

In this chapter, we'll explore strategies to sharpen your communication skills and effectively convey your innovation ideas. You'll learn how to

- Understand why you need concise communication, and for what purpose
- Focus on what feedback is important for you to get and use
- Create a pitch with the communication approach in this chapter

Remember, in the arena of innovation, it's not just about having the best idea – it's about making that idea impossible to ignore. So, innovator, are you ready to step into the spotlight and let your vision shine? Let's begin.

Just Tell Me, I Don't Have Time

While many of us may fantasize about being on stage and giving a Steve Jobs-like presentation, the truth is that most of us do not have the charisma, track record, or cult-like following that Steve Jobs had.

Most innovation presentations to decision-makers, whether internal or external funders, will tend to be very brief as they won't have time to give you the attention you and your idea deserve. You need to quickly cut through the noise of what's on your and their minds, to communicate the bare minimum to grab their attention.

If you fail to do this, they won't even bother caring or invest their focus while you talk, they will be thinking about other things. Therefore, the goal isn't to have the flashiest presentation, but to be crystal clear and easy to understand, so that whoever you are presenting to will want to ask you more questions.

The following principles are meant to ground you in some strategies to prepare your communication.

Principle #34: The Innovator's Hierarchy of Needs

Innovation, like human development, follows a hierarchy. But instead of food and shelter, we're talking feasibility and functionality. Welcome to the Innovator's Hierarchy of Needs – a roadmap for seeing your progress from "holy shit, will we ever make it?!?" to "holy cow, we're gonna make it."

Innovation follows a hierarchy similar to Maslow's pyramid of needs. At its base lie fundamental requirements: survival, feasibility, and basic functionality. There's a long list of broken dreams, bankruptcies, and busted companies who had lofty visions and the aim of this book is to minimize the chances your team will fail to make something awesome.

Just as individuals must satisfy their basic physiological needs before pursuing self-actualization, innovations must first prove their practical worth before aspiring to higher purposes.

As you move up the pyramid, as shown in Figure 9-1, you encounter higher-level concerns like scalability, user experience, and market differentiation. At the very top sits the "why" – the overarching purpose or mission that drives your innovation. While this "why" can be incredibly powerful for motivation and long-term vision, it's crucial to remember that you need to address the lower levels of the pyramid first.

Principle #34

The Innovator's Hierarchy of Needs

If people can't understand you, or worse, if you aren't clear with yourself, there's no way for them to truly partner or take risks with you.

From your foundation, you can build upon the next layer to support that your innovation will not just survive, but has a chance to thrive.
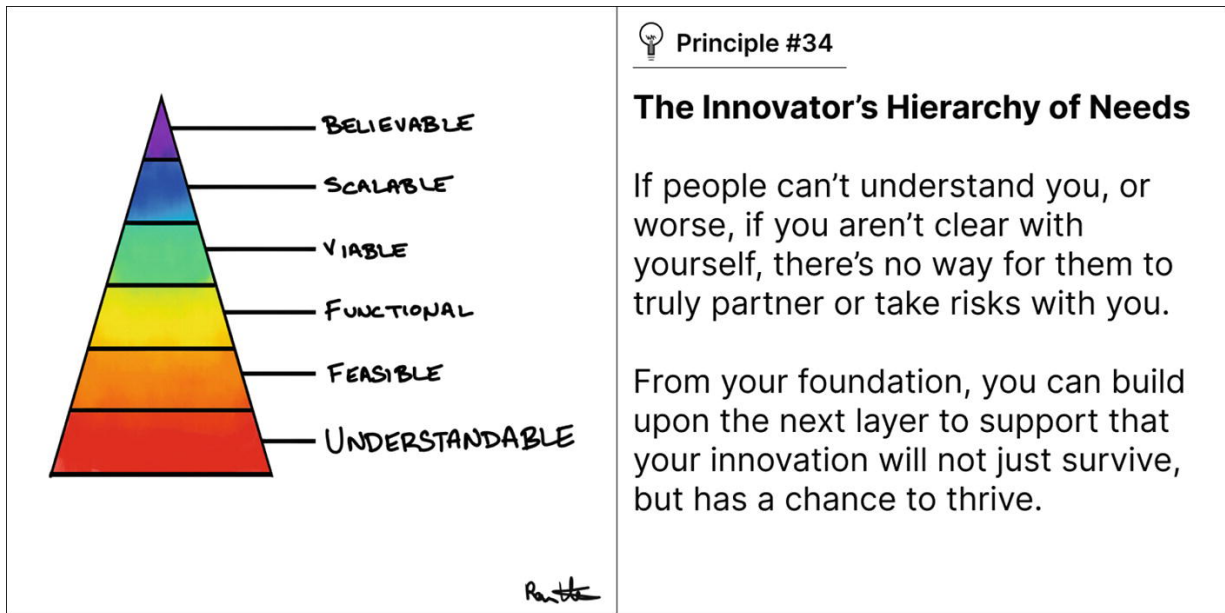
Figure 9-1 For an innovation effort to succeed, you will need to meet requirements before getting people to care about lofty philosophical concerns

- *Understandable:* Can you describe what you do so that you can get a team and/or resources and or permission?
- *Feasible:* The most basic level – can the innovation actually be created and exist?
- *Functional:* Does the innovation perform its core function?
- *Viable:* Can you generate revenue to make it self-sustaining?
- *Scalable*: Can the innovation grow to the required levels of users?
- *Believable*: Can you align people to the overarching mission?

Here's the kicker: while most founders are busy crafting their "change the world" manifesto, they're ignoring the fact that their product can't tie its own shoelaces. Don't be that founder. Start at the bottom, prove your worth, and earn the right to pontificate.

Remember, even Amazon started by just selling books. So before you start planning your TED Talk, make sure your innovation can at least stand on its own two feet. The view from the top is great, but the climb is where the real innovation happens.

Principle #35: Start with What

Very few people or companies can clearly articulate WHY they do WHAT they do. By WHY I mean your purpose, cause or belief -

WHY does your company exist? WHY do you get out of bed every morning? And WHY should anyone care?
—Simon Sinek, *Start with Why: How Great Leaders Inspire Everyone to Take Action*

While Simon Sinek's "Start with Why" has become a mantra for established businesses, the trenches of innovation demand a different battle cry: "Start with What." Most groundbreaking projects don't spring from lofty philosophical missions, but from the gritty reality of solving tangible problems or seizing concrete opportunities. In the early stages of innovation, your "what" is your lifeline – it's what grabs attention, solves problems, and ultimately, what people buy.

When communicating about your innovation, especially in its early stages, it may be less inspirational, and sounds less sexy, but it's usually more effective to focus on the "what" rather than the "why." Business leaders and investors typically want to understand the practical aspects and potential impact of your innovation before delving into deeper motivations.

There are examples of marketing campaigns that are exceptional, such as Nike's "Just Do It," or Apple's "Think Different" slogans, where they don't even talk about the product. They talk about what they stand for, the culture and community they create. This is very valuable when you need to differentiate your brand from a competitor in a commodity type business: such as shoes or computers. When the products aren't that different, then having different marketing is critical.

Knowing your why is incredibly powerful, but usually at the beginning mostly to you. Apple and Nike reinvented themselves and already had an established business. When Drew Houston started Dropbox, he didn't know he would change file sharing, or state he was on a mission to cement a culture. He really liked working with binary data at MIT, and saw an opportunity to do what he loved working on and hopefully be able to commercialize it.

If you have a deep Why, that's great, and maybe that fits into your innovation, but usually, most innovation projects are not going to have a deep philosophical, spiritual, or moral mission. Most often, you need to provide in very practical terms, which is often better served with "What" questions.

A VC is different from an executive in an enterprise, global firm, which is different from a senior manager in a medium-sized business.

Understanding what they are looking for, and afraid of is crucial. Business leaders often don't understand or even care about the problem deeply, and therefore, you need to communicate with them in a way they will most likely care about and understand. They usually don't fund on a mission, unless they are explicitly a mission-driven organization, such as a non-profit, or philanthropic organization.

Let's examine Drew's Y Combinator application, using Figure 9-2 to illustrate four questions that begin with "What," as a guide for you to think about how to communicate about your innovation program.
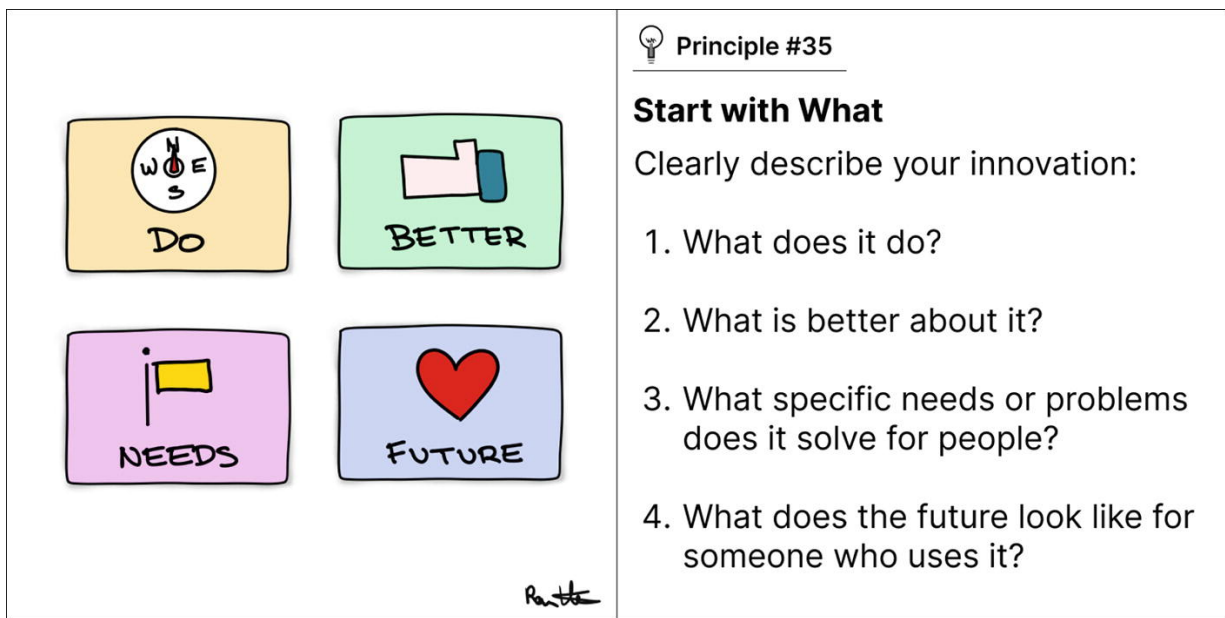
Figure 9-2 *Be able to condense explaining your innovation effort to four questions that start with "what"*

These answers come directly from Drew's response to the Y Combinator Application questions using our four "What" questions format:

- *What does it do:* Dropbox synchronizes files across your/your team's computers.
- *What is better about it:* It's much better than uploading or email, because it's automatic, integrated into Windows, and fits into the way you already work. There's also a web interface, and the files are securely backed up to Amazon S3. Dropbox is kind of like taking the best elements of subversion, trac and rsync and making them "just work" for the average

individual or team. Hackers have access to these tools, but normal people don't.

- *What specific needs does it solve:* Most small teams have a few basic needs: (1) team members need their important stuff in front of them wherever they are, (2) everyone needs to be working on the latest version of a given document (and ideally can track what's changed), (3) and team data needs to be protected from disaster. There are sync tools (e.g., beinsync, Foldershare), there are backup tools (Carbonite, Mozy), and there are web uploading/publishing tools (box.net, etc.), but there's no good integrated solution.
- *What does the future look like for someone who uses it:* It takes concepts that are proven winners from the dev community (version control, changelogs/trac, rsync, etc.) and puts them in a package that my little sister can figure out (she uses Dropbox to keep track of her high school term papers, and doesn't need to burn CDs or carry USB sticks anymore.)

While Drew may have been extremely excited about working with binary as possibly his why, it is not a key to Dropbox's marketing campaign now, and not a key mission in the explainer video that helped them launch or be successful. Unless Dropbox and/or Drew explicitly state it, we have more evidence the focus was on the What. This is especially true if your goal as an entrepreneur is simply to find a way to make a living doing what you love, or if your "Why" is simply to do a good job in your company. There are many times you have to be innovative in roles even if you are not passionate about the mission of the company.

Principle #36: Define Your Value Equation

To effectively communicate the value of your innovation, it's crucial to understand and articulate the specific problems it solves and the benefits it provides. One way to do this is by defining your value equation.

Again, let's look at Drew Houston's Y Combinator application. When asked "What are people forced to do now because what you plan to make doesn't exist yet?" he provided a detailed list of pain points:

- Email themselves attachments.
- Upload stuff to online storage sites or use online drives like Xdrive, which don't work on planes.
- Carry around USB drives, which can be lost, stolen, or break/get bad sectors.

- Waste time revising the wrong versions of given documents, resulting in Frankendocuments that contain some changes but lose others.
- My friend Reuben is switching his financial consulting company from a PHP-based CMS to a beta of Dropbox because all they used it for was file sharing.
- Techies often hack together brittle solutions involving web hosting, rsync, and cron jobs, or entertaining abominations.

By listing out these "costs" that users face without Dropbox, Drew effectively communicated the value his innovation would provide. Dropbox would save users time, reduce frustration, and ultimately save money by offering an easier solution.

Understanding these dimensions is illustrated in Figure 9-3, you want to know precisely how and why your solution creates value and for what reasons.

Figure 9-3 A Value Equation is your way of explaining to yourself first exactly how the customer will immediately see value to them

To create your Value Equation, you need to precisely and clearly articulate

- What are the specific tasks/events/moments that the user will care about your product?

- What are the specific costs the user faces because they don't have your product?
- What are the gains to the user every time they are faced with that situation?
- What are the total gains (wins) for the year, per employee, and/or for the entire organization because of the value your product creates every single time?

Your value equation should clearly show how your innovation reduces costs (whether in time, money, or effort) and/or increases benefits for your users. This equation forms the core of your value proposition and is crucial for convincing others of your innovation's worth.

Communication That Counts

There are a lot of people and organizations constantly vying for your attention. You don't want to waste your time or the time of others if they are not the right audience. You will get misleading feedback, go down the wrong path, and then have to find your way back.

Rather, you want to figure out who are the right people you should be focused on, what feedback you need, and how to communicate with them. The more specific and niche you can be, the more opportunities you can find for those that will be passionate about your innovative work.

Principle #37: Everyone Has an Opinion, Choose Wisely

The person who says it cannot be done should not interrupt the person who is doing it.
—Chinese Proverb

Innovation is an unreasonable thing; you have to push against what other people saw as insurmountable or unsustainable. Being the first mover to show how something can be done makes it incredibly easier for others to follow, because you've done all the hard work of figuring it out. Once it has been figured out, it will seem obvious, but prior to that you will hear every possible reason why you should quit or not even get started.

Take for example a response on Y Combinator's Hacker News website, where people in the program can post content and reply with comments. Drew' had posted about Dropbox and got this response:

I have a few qualms with this app:

1. For a Linux user, you can already build such a system yourself quite trivially by getting an FTP account, mounting it locally with curlftpfs, and then using SVN or CVS on the mounted filesystem. From Windows or Mac, this FTP account could be accessed through built-in software.

2. It doesn't actually replace a USB drive. Most people I know e-mail files to themselves or host them somewhere online to be able to perform presentations, but they still carry a USB drive in case there are connectivity problems. This does not solve the connectivity issue.

3. It does not seem very "viral" or income-generating. I know this is premature at this point, but without charging users for the service, is it reasonable to expect to make money off of this?

From this developer's standpoint, there was no value to the product, no clear monetization strategy. Who in their right mind would pay for something this engineer does for free? Well, turns out most people are not Y Combinator level engineers, probably like 99.9% of people.

For those that don't "get it," you will get negative feedback, opinions, reviews, and it never feels good. On the other hand, only focusing on the feedback you want to hear isn't good either. Figure 9-4 illustrates the point that it is your choice to pay attention, or not, to feedback.
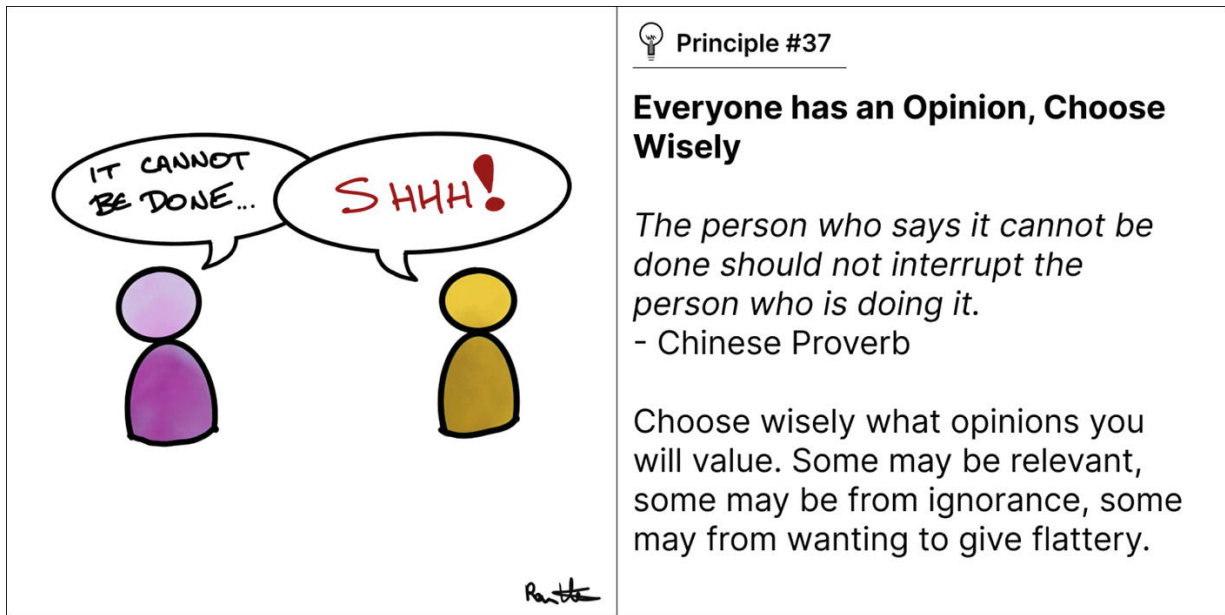
Figure 9-4 A person interrupting another person saying "it cannot be done," illustrates the Chinese Proverb that some will do, others will criticize

Getting feedback always needs to be through the filter of you as an innovator needing specific information to make specific decisions, and without making that conscious choice you are introducing biases, whether positive or negative.

Drew was lucky being in the vibrant Hacker News community, his initial 3-min explainer video got him immediate feedback, some nice, and some not-so-nice. However, unfortunately, a much more likely scenario will happen: No one will care. It's sad, but true. Most innovations/product ideas go unnoticed. You may have to spend significant time and energy just to get any kind of feedback on your efforts.

Principle #38: Define an Ideal Customer Profile

An Ideal Customer Profile (ICP) is a detailed description of the type of company or individual that would benefit most from your product or service. It goes beyond basic demographics to include specific characteristics, behaviors, and needs that make them an ideal fit for your offering.

For Liquid Death, targeting convenience stores, the ICP might look like this:

- *Store Type:* Independent or small chain convenience stores (5–20 locations)

- *Location:* Urban and suburban areas in states with high health consciousness (e.g., California, Colorado, New York)
- *Customer Base:* Primarily young adults (21–35) and health-conscious consumers
- *Current Product Mix:* Offers a variety of beverages, including bottled water, energy drinks, and craft beers
- *Store Culture:* Open to trendy, innovative products; values sustainability
- *Decision-maker:* Store owner or beverage category manager aged 30–50

You want to figure out the profile of who is most likely to be passionate about your product and focus exclusively on them. Don't try and convert people who are skeptical, it takes far too much effort. If you can identify your ideal customer, then you focus exclusively on who actually is a good fit for being your customer.

There is a meme called "the distracted boyfriend," originally a photograph about infidelity, which became really popular to illustrate the idea of focus, as shown in Figure 9-5.

💡 **The Distracted Innovator**

Your ideal customer profile is the customer that is going to truly be dependent on your solution for their success, and where you want to focus.

Lots of "what ifs" are going to distract you when trying to figure out whose opinion counts. The only opinion that matters is that of your ideal customer. You need to figure it out and stick with it!
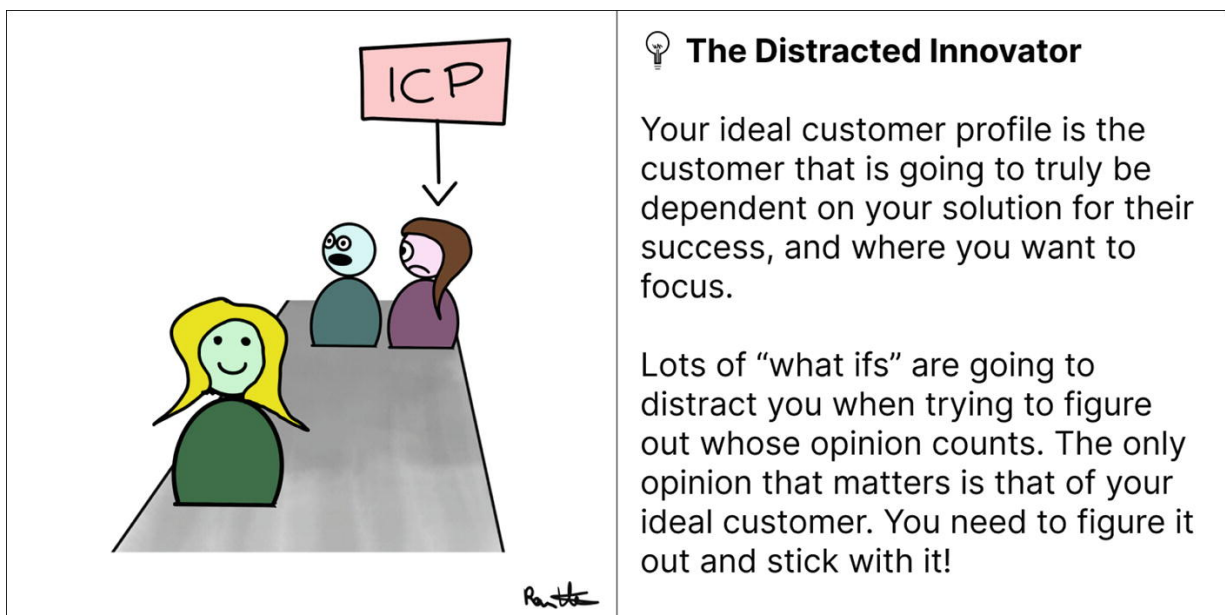
Figure 9-5 The distracted innovator has a really good thing if they are lucky to even know, let alone find their ideal customer profile. Stay focused on it!

By being focused on a detailed ICP, such as used in our example, a company like Liquid Death can tailor its sales approach, marketing messages, and even product offerings to best serve these ideal customers.

This focused strategy increases the likelihood of successful partnerships and helps achieve product-market fit more quickly.

If Liquid Death sales teams were focusing on high-end restaurants in conservative culture, it would be a complete waste of time and would bring significant waste and failure. They figured out quickly who their customer and culture was, and they focused on that.

Principle #39: The Perfect Pitch Is Easy to Understand

Users are not investors. Executive leaders and not front-line employees. You need to be able to communicate with each group, in their own language. Your website, for example, is for your customers, not your investors. Prioritize clarity over accuracy or completeness. Don't move on to the next slide until the person you are communicating with understands the slide. Simply ask "do you understand, or would another example be helpful?"
—Michael Seibel, General Partner at Y Combinator

Michael Seibel has heard thousands of pitches from startups, and here are his most important lessons from his talk on "How to perfectly pitch" lecture, and his perspective, leading the most successful startup incubator in the world, is probably the single most-important opinion to guide you when it comes to effective pitches.

When you follow an expert who is sharing tactical steps to follow that yield better results, save yourself time by trusting their opinion, unless given very good evidence otherwise. You may need to adapt this to your audience, but it is the single best advice I've seen on creating a great pitch that is likely to invite you for further conversations, illustrated in Figure 9-6.

Principle #39

The Perfect Pitch

According to Michael Seibel of Y Combinator, who has listened to thousands of pitches, here are the most important elements:

1. What you do
2. Who is on your team
3. Your track record
4. Any unique insights
5. The # of users times your fee
6. How much and what you'll do with the money your raise
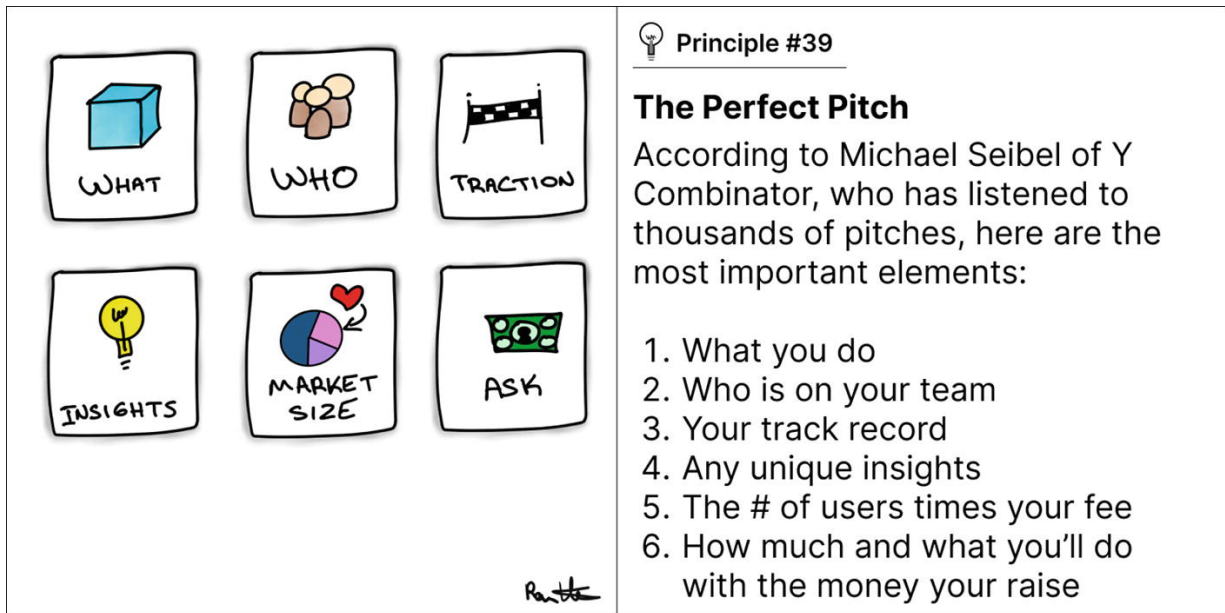
Figure 9-6 The six steps of a perfect pitch, per Michael Seibel

Here is the format that Michael recommends, slightly adapted:

- *What You Do:* Give a 2-sentence simple description of your startup or innovation effort, and give a real-world example. "Imagine you are…"
- *Who Is on Your Team:* Cofounders, credentials, accomplishments, how they've personally experienced the problem, facts, technical and other skills.
- *Traction:* Only use charts if it is impressive. Clearly describe what you have done since you've started, and why that is impressive. 100 users testing your app in one month is impressive, 100 users in 2 years is not. Do you get things done quickly, not necessarily a ton of users or revenue if you communicate you get things done quickly. Make sure to include how much time you have spent testing.
- *Unique Insights*: Non-obvious things you've learned about the problem, market, or user. Use specific examples, use numbers and facts. It has to be something surprising, unexpected that you could only learn through your journey.
- *Market Size*: Multiply the number of customers you believe you can get by the revenue per customer per year. If the person sees you as an expert, you are more likely to get funding. Don't quote reports, show math, show comparable products.
- *Ask:* How much are you raising and what is the milestone you will accomplish with this raise.

Summary

In this chapter, you learned essential strategies for effectively communicating your innovation ideas to key stakeholders. Key points covered include

- The importance of clarity and conciseness in pitching your innovation, as emphasized by Michael Seibel of Y Combinator
- The Innovator's Hierarchy of Needs, illustrating how innovations must address fundamental requirements before aspiring to higher purposes
- Why starting with "What" rather than "Why" is often more effective when communicating about early-stage innovations
- How to define your Value Equation to clearly articulate the specific problems your innovation solves and the benefits it provides
- The importance of choosing your feedback sources wisely and not letting naysayers derail your efforts
- Defining an Ideal Customer Profile to focus your innovation efforts on those most likely to benefit from and be passionate about your product
- Michael Seibel's six-step framework for crafting the "perfect pitch" to investors or decision-makers
- The need to tailor your communication to different audiences, such as users, investors, and executive leaders

By mastering these communication principles and techniques, you'll be better equipped to gain support for your innovation efforts, secure resources, and ultimately bring your ideas to fruition. Remember, in the world of innovation, your ability to clearly convey your vision is just as crucial as the innovation itself.

10. The Holy Grail: Product-Market-Fit

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The most we can hope for is to create the best possible conditions for success, then let go of the outcome. The ride is a lot more fun that way.
—Phil Jackson, the most successful coach in NBA history, with 11 championships won

Picture this: It's 1968, and in 3M's research labs, Dr. Spencer Silver is staring at a glob of adhesive that's about as strong as a politician's promise. He was supposed to create a glue that could hold a jumbo jet together. Instead, he's staring at what could only be described as the world's most disappointing adhesive.

Most innovators would have tossed it in the trash, filed it under "Failed Experiments," and moved on. But Spencer Silver wasn't the average innovator. He was the kind of scientist who saw potential in peculiarity, who understood that in the world of innovation, a step sideways could sometimes be more valuable than a leap forward.

For years, Silver's adhesive languished in the purgatory of unused inventions. It was too weak to be strong, too strong to be weak, a Goldilocks of glues with no apparent purpose. But Silver kept it alive, presenting it at seminars, mentioning it to colleagues, refusing to let his beautiful failure die a quiet death

Enter Art Fry, another 3M scientist with a first-world problem: his bookmarks were falling out. In a moment of divine intervention (or maybe it was just the lingering fumes from Silver's adhesive), Fry remembered the glue that couldn't. And thus began a partnership that would save marriages,

by allowing people to write "don't forget to buy eggs!" and put it on the fridge.

These two mavericks embarked on a quest to turn their little sticky papers into the next big thing. They faced more obstacles than a tech CEO at a privacy rights convention. Budget constraints? Check. Corporate skepticism? Double-check. The overwhelming urge to just give up and start an artisanal mustard company instead? Triple-check.

But our dynamic duo persevered, fueled by the kind of determination usually reserved for people trying to cancel their gym membership. They tweaked, they tested, they probably cried a little. When the Post-it Note finally graced the market in 1980, it didn't exactly fly off the shelves. In fact, it stuck around with all the enthusiasm of a sloth on Ambien. The world, it seemed, wasn't ready for a product that was essentially just a piece of paper with commitment issues.

But Fry and Silver weren't about to let their sticky baby die. Instead of quietly euthanizing what could be thought of as a colossal mistake, 3M decided to double down. Their strategy? If you can't sell it, give it away. For free. To everyone. It was the kind of move that would make most CFOs break out in hives.

Enter the "Boise Blitz" of 1978. The plan was simple: paper the Idaho town with so many free samples that you couldn't turn around without bumping into a Post-it Note. They targeted office workers, secretaries, and businesses with the precision of a carpet bomber. If you worked in an office in Boise during this time, you probably thought you were being invaded by tiny yellow aliens.

Now, here's the kicker: it worked. Turns out, Post-it Notes were like an addictive drug once people actually used them. Once people got their hands on them, they couldn't stop. Suddenly, every surface in every office became a potential canvas for passive-aggressive notes and half-baked ideas.

The results were staggering. After the Boise Blitz, 90% of people who tried Post-it Notes said they would buy them. At the time of this writing, the Post-It & Sticky Notes market is estimated to be more than $2 billion in annual sales.

In the end, the Post-it Note story teaches us that sometimes, the best ideas are the ones that just barely stick. It's a reminder that in the world of innovation, failure isn't just an option, it's practically a prerequisite. And most importantly, it proves that until you get it in your customer's hands,

you don't know how well it will do. The interaction with customers is the most important information you need to have.

Now, if you'll excuse me, I need to go write "Buy more Post-its" on a Post-it. The irony is not lost on me.

The Bottom Line: Are They Buying?

The Post-it Note saga reveals a crucial lesson about product-market fit: sometimes, you need to put your product directly into customers' hands to truly grasp its potential. Understanding how people interact with your innovation – and more importantly, if they're willing to pay for it – is the key to unlocking success.

In today's fast-paced, digital world, modern innovators must find creative ways to replicate this hands-on experience. Just as 3M found success by distributing free Post-it Notes, today's entrepreneurs have an arsenal of tools to showcase their ideas and gauge real customer interest – often before investing heavily in development.

This chapter will equip you with strategies to engage potential customers and validate their willingness to pay. We'll explore techniques ranging from crafting compelling narratives to leveraging digital platforms, all designed to help you understand what your customers truly value and whether they'll open their wallets for your innovation – before you even build it.

Strategies for Testing Customer Demand

In the unpredictable landscape of innovation, theories and assumptions often crumble when confronted with real-world customer behavior. The true test of any innovative idea lies not in its conceptual brilliance but in its ability to meet genuine market demands. This section delves into practical strategies for bridging the gap between your innovative vision and actual customer needs.

We'll explore methods to move beyond mere verbal feedback, instead focusing on concrete actions that indicate true interest and willingness to pay. By employing these strategies, you'll be better equipped to navigate the crucial transition from concept to market-ready product, minimizing risks and maximizing your chances of achieving that elusive product-

market fit. Remember, in the world of innovation, customer actions speak louder than words – and the following principles will help you listen more effectively to what those actions are telling you.
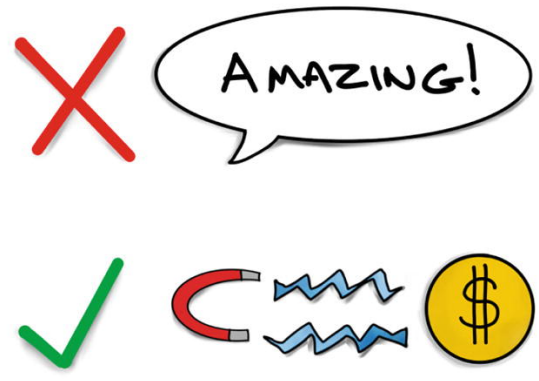
Principle #40: Words Are Cheap, Show Me the Money

Let's face it: humans are magnificent liars, especially to themselves. We're the species that invented New Year's resolutions, and we want to support our friends and co-workers. About 80% of gym memberships are canceled within five months, despite our best intentions.

So when a potential customer tells you your product is "amazing" or that they'd "definitely use it," treat those words like a politician's campaign promise – nice to hear, but don't bet the farm on it. The only feedback that truly matters is the kind that comes with a side of cold, hard cash. The second best feedback is time, people willing to invest their efforts and attention, to trying your product and giving you the information you need to improve it.

Figure 10-1 illustrates the principle that you have to consciously label compliments, as good as they feel, and as much as you want them to be true, as not what you want. What you want is to find out, when people get to experience the product, like in the 3M sticky note example, whether they are attracted enough to pay for the product, or not. If not, then you want to understand exactly why.

Principle #40

Words are Cheap, Show Me the Money

Remember that people want to encourage you, and they are uncomfortable to say anything that would make you upset with them.

This results in people saying what we want to hear, versus the action we need to see: the customer wants to buy/pay for it.

In the end, the market doesn't give a hoot about good intentions or polite nods. It cares about one thing: are people willing to part with their hard-earned cash for what you're selling? Everything else is just noise.

So, the next time someone gushes about your revolutionary AI-powered toothbrush, smile, nod, and then ask them to put their money where their mouth is. Literally, in this case.

People like hearing their innovation project are amazing; for some, like me, it can be like a drug. But how painful was the lesson for me that after believing people's feedback, when it came time to actually pay for it, people declined. I want to save you that pain.

Principle #41: Getting Punched When Ideas Touch Reality

You can have a great startup idea, but a great startup idea is like having a great plan for a fistfight. The moment the idea actually touches customers is like the moment you get punched in the face. What matters is what you do at that moment, not the plan
—Garry Tan, American venture capitalist and CEO of Y Combinator

In the world of innovation, there's often a vast chasm between theory and practice. Your brilliant idea, no matter how well-conceived, is bound to face resistance when it encounters the real world. This principle reminds us that the true test of an innovation isn't in its conception, but in its execution and adaptation.

Just as a boxer's plan rarely survives the first round intact, as illustrated in Figure 10-2, your innovative idea will likely need significant adjustments once it meets its first real customers. The initial feedback, challenges, and unexpected obstacles are the metaphorical punches that will test your resolve and adaptability.
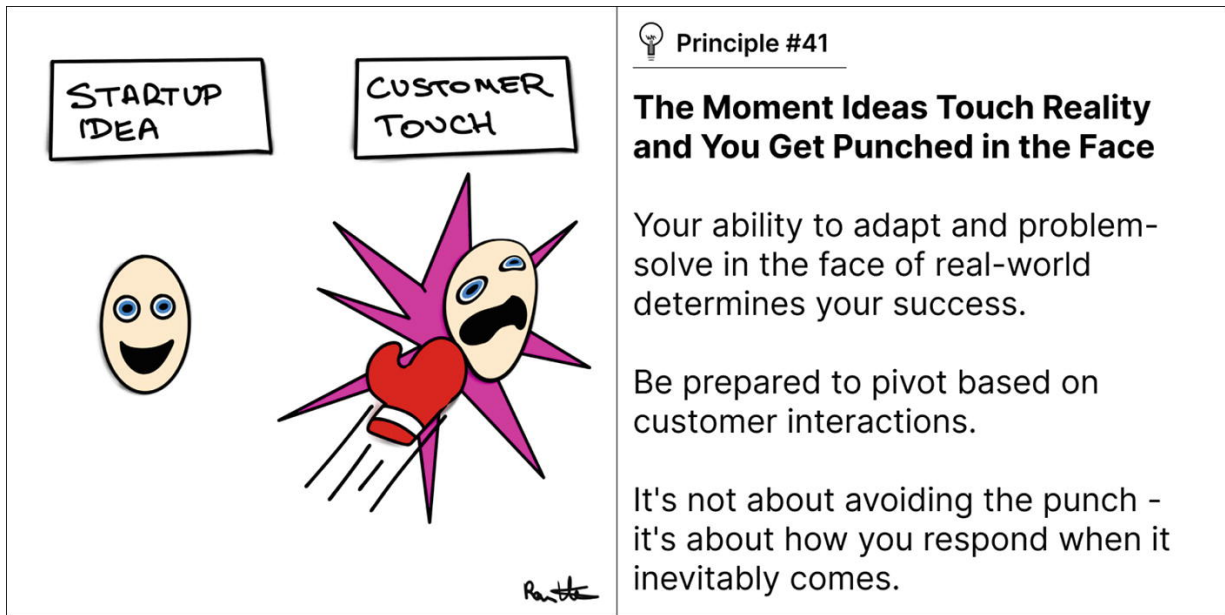
Figure 10-2 An entrepreneur with a startup idea smiles, but gets punched in the face the moment the customer uses it

3M was very successful and lucky it got the feedback that it got from its sampling strategy; however, that is the exception, not the rule. 3M likely spent a long time figuring out how to make the product so good that it got the feedback it got.

It is very common in innovation to learn what you researched, believed in, and invested heavily in was entirely wrong, it's just that hard to get right. This is why it is absolutely critical to understand what is at stake and learn as quickly as possible from client interactions.

Principle #42: Get a Minimally Experienceable Product, ASAP!

In the fast-paced world of innovation, the *Minimal Experienceable Product* (MXP) is your secret weapon for rapid validation and customer insight. While *Minimum Viable Products* (MVPs) have their place, the MXP takes you a crucial step further – or rather, earlier – in your innovation journey.

An MXP is the simplest, quickest way to give potential users a taste of your innovation's core experience. It's about creating the minimal artifact that allows customers to interact with your product's key value proposition, even if the full functionality isn't there yet. The goal is to get feedback as quickly as possible about whether you're on the right track with the minimum effort:

- *Minimal*: It should require the least amount of time, effort, and resources to create.
- *Experienceable*: It must provide a tangible interaction that mimics the core value of your final product.
- *Product*: While not necessarily a fully functional product, it should represent your innovation in some concrete form.

The true magic of the MXP, illustrated in Figure 10-3, lies in its ability to bridge the chasm between concept and reality. It allows you to test customer demand without heavy investment, giving you invaluable insights as early as possible in the development process. Whether it's a paper prototype, a simple landing page, or a mock-up of your product, the MXP helps you validate your assumptions and refine your offering based on real user feedback.
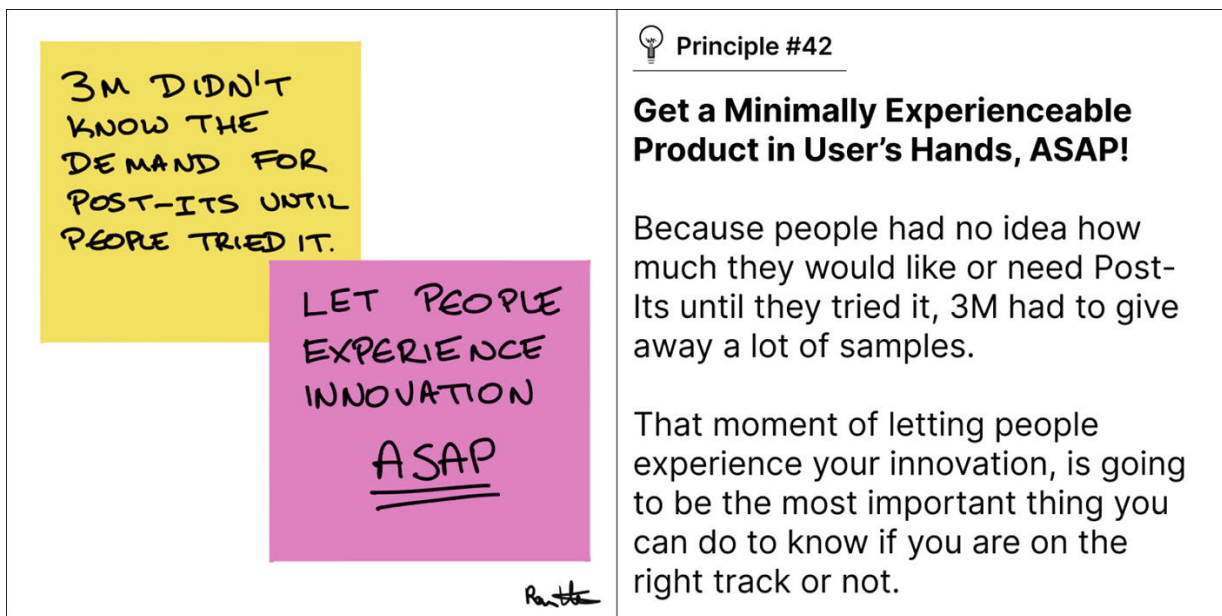
Figure 10-3 Two Post-It notes illustrating that 3M didn't know, and people didn't know, how great their demand would be until people tried it

Remember, the goal isn't perfection – it's learning. Your MXP should be just good enough to elicit meaningful reactions from potential customers. This approach not only saves time and resources but also helps you pivot quickly if needed, ensuring you're building something people actually want and will pay for.

> **Note**   As an example, from a consulting project for a large surgery center that needed to overhaul their internal system, I tried to create the "perfect" system, only to be told I was missing something important from a medical point of view which had a lot of implications I didn't know about. As a result, I simply created the new prototype on a large piece of white paper, and had people "click" through the application on a paper prototype. The information I got was incredibly fast and valuable, and we were able to simulate the entire process of managing patients and medical records simply through whiteboard style drawings.

Your goal with an MXP, whether through a whiteboard or a conversation, or through any minimal means, is to give the user an experience of your solution to get immediate feedback. The goal is to find out whether they like it so much that they want to *buy* your solution.

Tactics to Get the Knowledge You Need

In the quest for innovation success, knowledge is your most valuable currency. But not all knowledge is created equal, and gathering the right insights can be the difference between a groundbreaking innovation and a costly misstep. This section focuses on tactical approaches to acquire the critical information you need to validate your ideas and guide your innovation journey. We'll explore methods that go beyond traditional market research, diving into strategies that yield actionable, real-world data about your potential customers' needs, behaviors, and willingness to pay.

From crafting the right questions to designing experiments that reveal true customer intent, these tactics will equip you with the tools to cut through the noise and uncover the insights that truly matter. Remember, in the world of innovation, asking the right questions is often more important than having all the answers. The following principles will help you become a master of inquiry, turning your curiosity into a powerful engine for innovation success.

Principle #43: Create Repeatable and Relatable Case Studies

In the high-stakes arena of innovation, your ability to consistently communicate value can make or break your success. The Relatable Case

Study approach is your secret weapon, transforming each client interaction into a compelling narrative of problem-solving and value creation.

In a world drowning in information, attention is the new currency. Your audience isn't just evaluating your product; they're assessing whether your solution is worth their precious time and resources. A well-crafted case study cuts through the noise, offering tangible proof of your innovation's impact.

A case study, illustrated in Figure 10-4, is a well-told story of success from your client's perspective. Don't make it about you, make it about who future clients can see themselves as being part of.
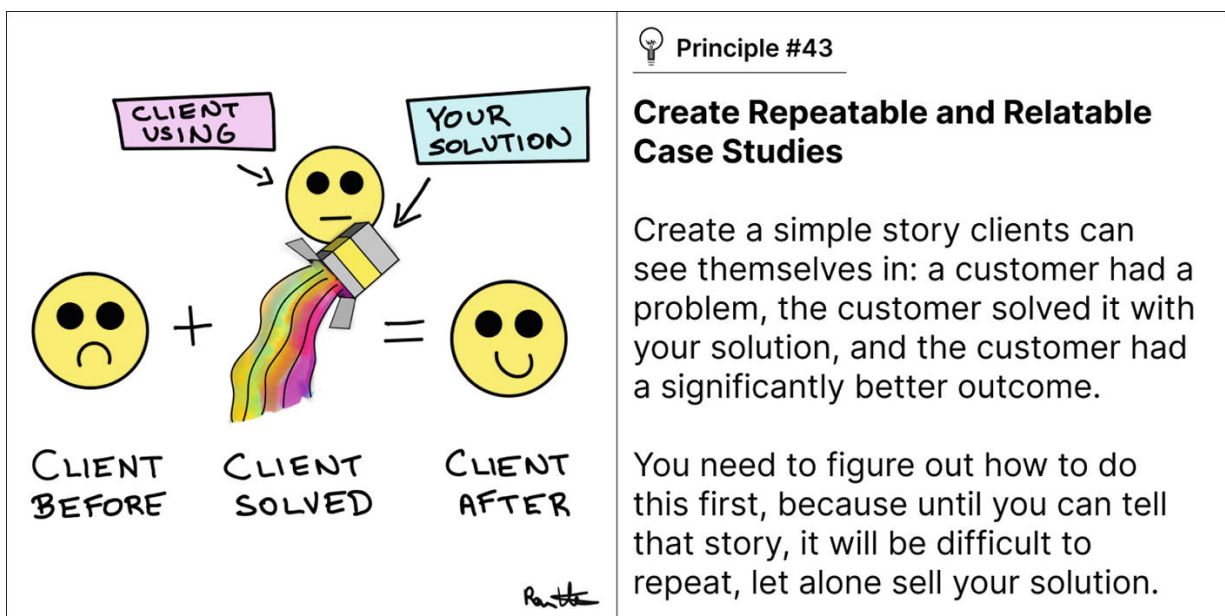
Figure 10-4 A relatable case study allows you to have a standardized way to present who your clients are, how you helped them, and what the outcomes were

Stories can be your most powerful tool for opening doors, building trust, and ultimately, driving adoption of your offering. Keep your case study simple as a simple story, and like any good story, there are common patterns you can use. Here is a recommended 7-step format:

- *Context:* Describe who the client is and their industry.
- *Problem:* Articulate the challenge they faced concisely.
- *Solution:* How did the client solve their problem with your offering?
- *Outcome:* What was the impact and benefits?
- *Lessons:* What did you and your client learn from working together?

- *Key takeaway:* Is there anything that is unique about your solution?
- *Testimonial:* Include a quote for credibility and reference.

In this manner, your case study kind of becomes your "product," meaning it is the tool you are using to get clients, especially those willing to pay before you've perfected or even built your product. It is the promise you are selling in a format where expectations are clear for everyone. A case study is remarkably powerful in clarifying your thoughts as to your client's perspective, and exactly what they want.

Catalog your case studies, create one for every single client if you can until you have a substantial catalog. When you can show someone how their industry peers are doing it with your solution, you gain credibility, when you can show you repeatedly demonstrate that you have a high quality product and expertise to navigate the subtle differences between industry peers, you have uniquely valuable expertise that makes you highly desirable.

By mastering the relatable Case Study Approach, you're not just sharing success stories; you're providing a window into a future where your innovation solves your audience's most pressing problems. This principle transforms your value proposition from an abstract concept into a tangible, proven solution, making it irresistible to potential clients and partners.

Principle #44: The Metronome Effect of Case Studies

Imagine your case study as a metronome – a steady, reliable beat that keeps both you in time so that you can see if the person you're "jamming with" is in sync with you, or not, and where. This principle is useful to turn your case studies from a success story into a powerful alignment tool, as illustrated in Figure 10-5.

Principle #44

The Metronome Effect of Case Studies

A metronome in music is a way for people to get on the same page, a 3rd party tool for alignment.

A case study in this way is very similar, it allows you to have a story to tell about a similar customer, and enables you to see what resonates and what doesn't with the client.
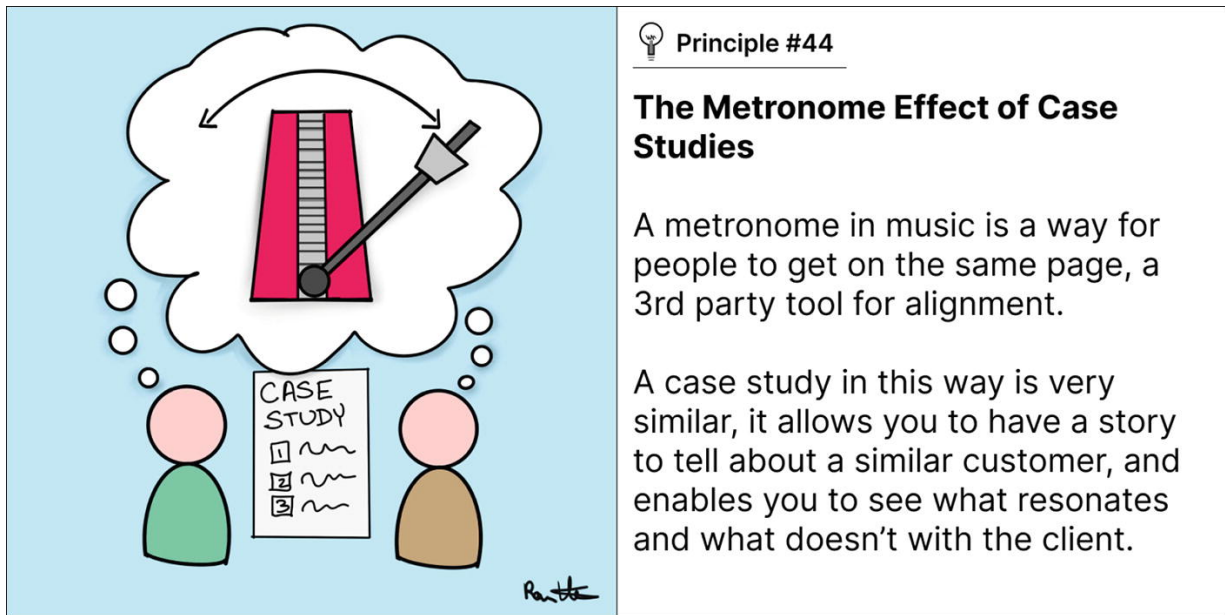
Figure 10-5 A case study is much like a metronome, a way for you and your audience to have a 3rd party frame of reference

This approach changes the approach of presenting your case study to simply understanding what is resonating, and what isn't. Literally just find out the most basic information you can: does the client have similar problems? The reason is you need to figure out, for example, how common or relatable the problem is, what is the customer profile for the problem you are solving.

Another example might be the feasibility to implement your solution, for example, different corporate policies or restrictions might exist to prevent people from adopting your solution. The case study is merely there to be a source of truth, a lighthouse for the fog of conversation that can help steer you to what is meaningful information.

Principle #45: You Speak an Alien Language

When speaking to clients, especially as you are most likely so close to the problem and solution, it is incredibly difficult to remember that the client literally has no context, no understanding, and no shared memory of all of your learnings and efforts.

What will seem clear and easy for you to understand will seem like an alien language for them. Therefore, write down your perspective in as clear a language as possible, and literally be prepared to throw it away. Find the language *they use*, find the culture, actions, assets, etc., that *they* relate to, and try as best you can to put it in the easiest format they can digest.

Therefore, it is incredibly important knowledge for you to gain in your case study interactions exactly the right language and customs your potential customers will be using, as illustrated in Figure 10-6.
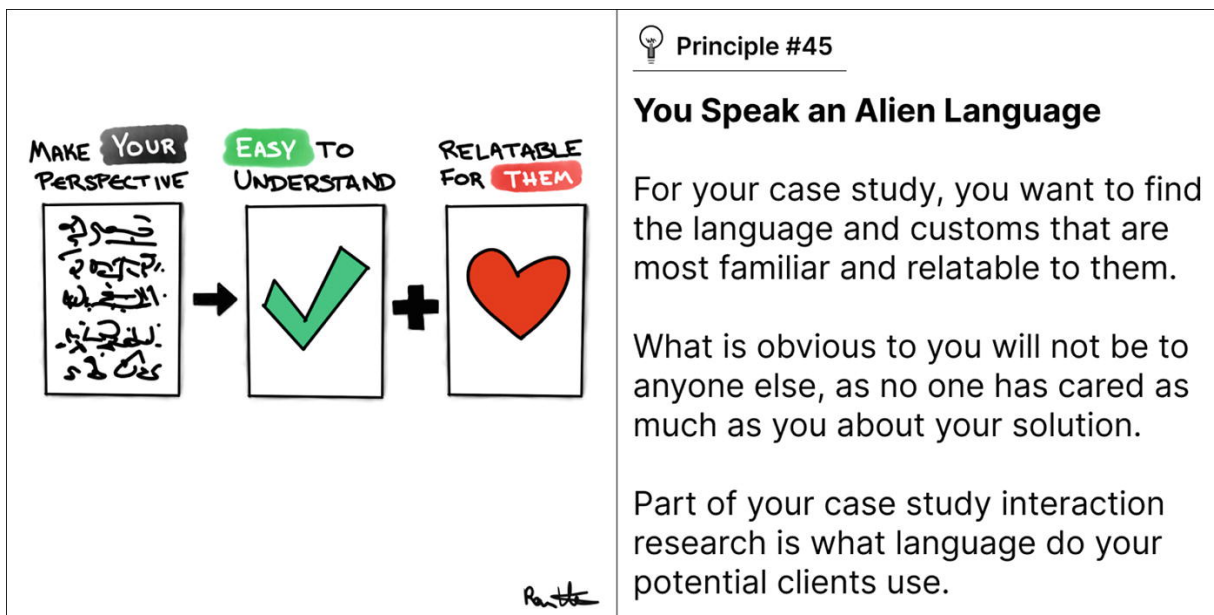
Figure 10-6 Your perspective will be experienced as an alien language, therefore you want to figure out the right language for your case study

Remember, if your potential customers can't understand you, they can't buy from you. Be willing to abandon your way of communicating, and learn what way of speaking will have the minimal cognitive friction for them to immediately get the value of your innovative efforts.

Communicating Value

In the fast-paced world of innovation, having a groundbreaking product isn't enough – you need to communicate its value effectively to capture your audience's attention and drive adoption. This section explores strategies to make your innovation's benefits crystal clear, compelling, and easily shareable. By mastering these principles, you'll transform your product from a mere idea into a must-have solution in the minds of your target customers.

Whether you're crafting a simple, irresistible value proposition or creating shareable assets that spread your message virally, these tactics will help you cut through the noise and connect with those who need your

innovation most. Remember, in today's crowded marketplace, it's not just about what you build – it's about how you present it to the world.

Principle #46: Make the Value Obvious

A powerful strategy is to sell not just a product but a clear vision – a complete experience that resonates with your audience's desires and aspirations. This principle can be beautifully illustrated by the difference between selling loose Lego bricks and a Lego Unicorn kit.

When you market loose Lego bricks, you're selling potential – countless possibilities that require imagination, effort, and skill to realize. While this appeals to some, it can be overwhelming or unappealing to others who lack the time, creativity, or confidence to build from scratch.

On the other hand, when you market a Lego Unicorn kit, as shown in Figure 10-7, you're selling a specific, exciting outcome. You're not just offering plastic bricks; you're offering the chance to own and build an iconic creature from mysterious lands of magic and adventure.

PARTS VS. PRODUCT

💡 Principle #46

Make the Value Obvious

You usually don't buy legos for kids based on their features, and then have to figure out yourself what to build with your child.

The value is the experience of loving to build something your kid will be excited about, in a way the "product" is taking out all of the complexity.
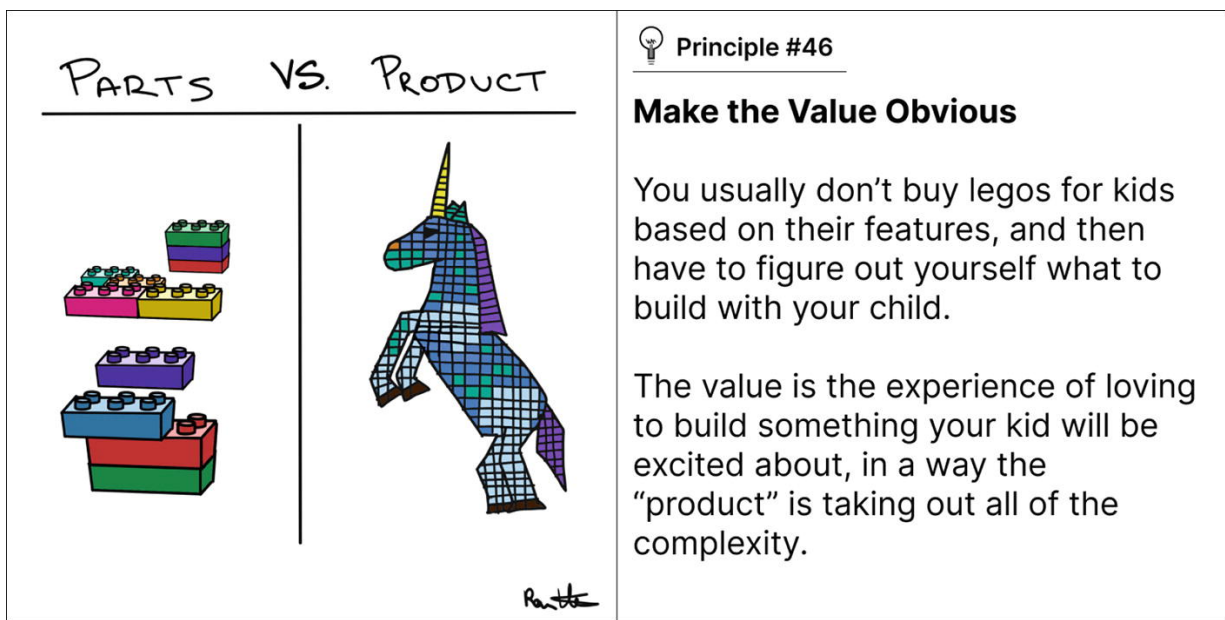
Figure 10-7   A collection of Legos vs. a unicorn made of Legos to illustrate people, in general, want kits, not components

The advantages of focusing on the kit and not the components are

- It makes the value proposition crystal clear. Customers know exactly what they're getting and why they want it.

- It reduces the perceived effort and risk. The guided experience makes the project feel achievable, even for novices.

Remember, people don't buy products; they buy better versions of themselves or their lives. Your marketing should reflect this, guiding them clearly and compellingly from where they are to where they want to be. If the product isn't obvious and effortless for them to envision their life better with your offering, it will most likely get filtered by them as noise to ignore.

Principle #47: Let Case Studies Guide Innovation

It's easy to get caught up in the excitement of new ideas and features. However, not all innovations are created equal in the eyes of your customers. This is where the power of case studies comes into play as a guiding force for your product development.

Case studies aren't just marketing tools; they're a window into what truly matters to your customers. By analyzing which aspects of your product or service feature prominently in successful case studies, you gain invaluable insights into what drives real-world value for your clients.

Collect the feedback you get from your case study sales meetings and provide that as input to the product development team, so that they know what to prioritize. The case study becomes a filter to help you prioritize product development, as shown in Figure 10-8.
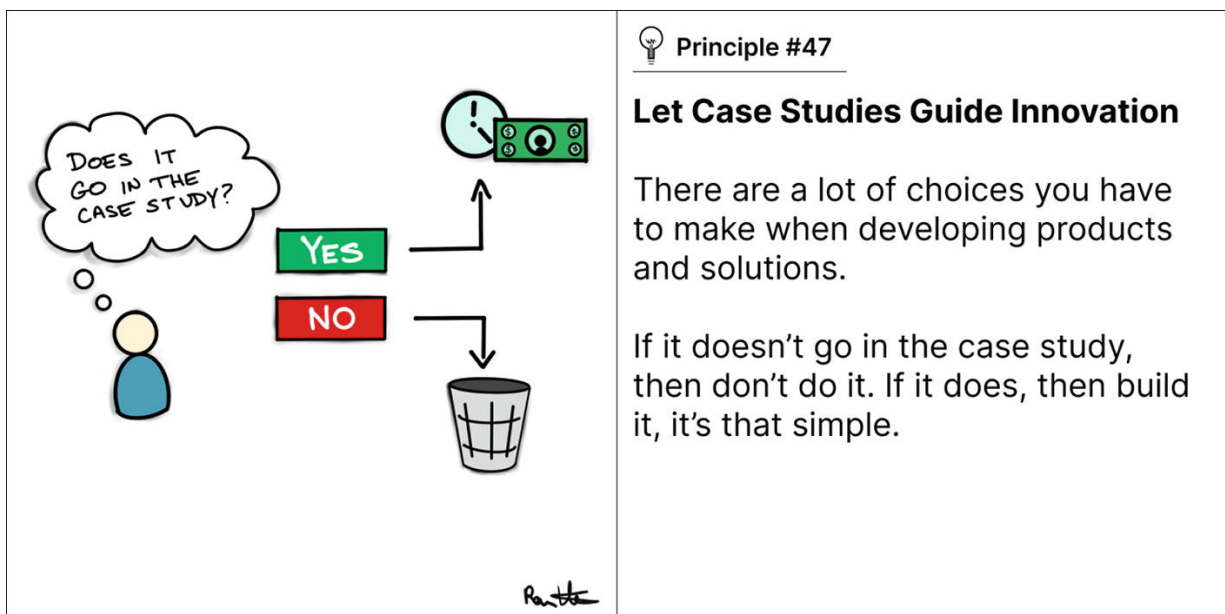
Figure 10-8 A simple choice, if it goes in the case study, build it, if not, don't

By using case studies as a filter for your innovation efforts, you create a virtuous cycle:

- You develop features based on real customer value.
- These features lead to more successful customer outcomes.
- These outcomes generate compelling new case studies.
- The new case studies inform the next round of innovations.

This approach keeps your innovation efforts grounded in customer reality, ensuring that you're not just innovating for innovation's sake, but creating real, tangible value that resonates in the market.

Principle #48: Create Simple, Shareable, Scalable Assets

As an innovator, there's nothing more disheartening than creating brilliant solutions that languish in obscurity. To avoid this fate, you must master the art of communicating value swiftly, effectively, and in a way that compels others to spread the word. This is where simple, shareable, and scalable assets become your secret weapon.

While there are numerous types of assets you can create, we'll focus on explainer videos, building on the Dropbox success story from Chapter 9. Figure 10-9 illustrates how Dropbox's explainer video starts, a remarkably effective way to hook people in.

Figure 10-9 An effective explainer video succinctly highlights the problem, the pain point, and demonstrates your understanding of customer needs

Here's why explainer videos are effective tools for you to use:

- They distill complex ideas into engaging, easily digestible content.
- They can be shared across multiple platforms (website, social media, email).
- They provide a consistent message to all viewers.

In today's fast-paced business environment, you need content that's ready to deploy at a moment's notice – whether you're in a pitch meeting, talking to the press, or networking with potential partners. Your goal is to create content that acts like a magnet, drawing interest, aligning perspectives, and accelerating attention toward your offering.

An effective explainer video can be your always-ready pitch, working tirelessly to communicate your innovation's value, even when you're not in the room. By mastering this asset, you're not just preparing for opportunities – you're actively creating them, turning your innovation from a hidden gem into a must-have solution in the minds of your target audience.

Principle #49: Measuring Product-Market-Fit

In the innovation journey, achieving product-market fit is often hailed as the ultimate milestone. But how can you quantify this elusive concept? While qualitative feedback provides valuable insights, it's the quantitative metrics that offer concrete evidence of your progress. This principle focuses on establishing clear, measurable indicators of product-market fit.

Sean Ellis pioneered a powerful approach with his "40% Rule." This rule posits that product-market fit is achieved when at least 40% of surveyed users indicate they would be "very disappointed" if they could no longer use your product. This metric transcends mere satisfaction, signaling a level of dependency that truly indicates product-market fit.

Building on this foundation, Rahul Vohra, CEO of Superhuman, developed a more nuanced framework, illustrated in Figure 10-10.
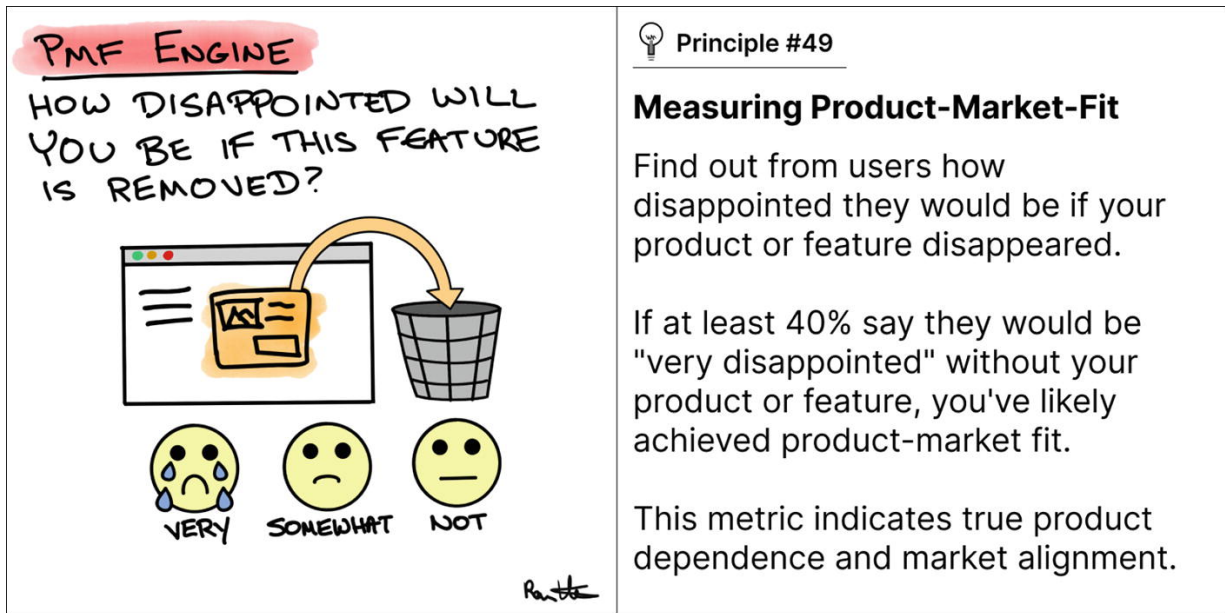
Figure 10-10 A visual representation of Vohra's product-market fit measurement framework

Survey or ask your users regularly, asking "How would you feel if you could no longer use [product/feature]?"

- Very disappointed
- Somewhat disappointed
- Not disappointed

Segment your "very disappointed" users and analyze their common characteristics. Focus on improving the product for this segment, as they represent your ideal customers. Track the percentage of "very disappointed" users over time. As this number grows, you're moving closer to product-market fit.

This approach provides a data-driven method to measure and improve product-market fit. By consistently applying these metrics, you can objectively track your progress, identify areas for improvement, and make informed decisions about product development and market strategy.

Remember, achieving product-market fit is not a one-time event, but an ongoing process of refinement and optimization. These metrics serve as your compass, guiding you toward creating a product that doesn't just satisfy users, but becomes indispensable to them.

Summary

In this chapter, you learned key strategies for testing customer demand and communicating the value of your innovation:

- The importance of focusing on customer actions and willingness to pay rather than just verbal feedback ("Words are Cheap, Show Me the Money")
- How to prepare for the reality of customer interactions challenging your assumptions ("Getting Punched when Ideas Touch Reality")
- The value of creating a Minimally Experienceable Product (MXP) to get early feedback
- Using relatable case studies as a powerful tool to demonstrate value and gather insights
- The "Metronome Effect" of using case studies to create a consistent reference point
- Adapting your language to match your customers' perspective ("You Speak an Alien Language")
- Making your product's value obvious and tangible, like selling a Lego kit instead of loose bricks
- Letting customer case studies guide your innovation priorities
- Creating simple, shareable assets like explainer videos to communicate value effectively
- Measuring product-market fit quantitatively using frameworks like the "40% Rule" and segmenting highly engaged users

By applying these principles, you can more effectively test demand, refine your innovation based on real customer feedback, and communicate its value in a way that resonates with your target audience.

11. The ROI of Helping

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Individual commitment to a group effort – that is what makes a team work, a company work, a society work, a civilization work.
— Vince Lombardi, considered one of the greatest NFL coaches of all time

In 1997, a PhD dropout named Greg Linden joined Amazon with a dream: to help people discover knowledge. Inspired by Firefly, a popular movie recommendation system of the early web era, Linden envisioned creating something similar for books – a system that could help readers find their next great literary adventure.

But Amazon in 1997 was a company struggling to keep its website running as customer traffic doubled, then doubled again. The third-party recommendation software they'd licensed couldn't handle Amazon's massive scale – too many customers, too many books. While another team worked on book recommendations, his days were spent "trying to keep the wheels on the bus" as the company grew explosively.

Yet an idea persisted in Linden's mind: If "customers who bought this book also bought" could work for one item, perhaps it could work for many. What if an algorithm could examine all the books a customer viewed or purchased, then recommend other titles based on the collective behavior patterns of Amazon's customers?

It wasn't obvious this approach would succeed. The technical challenges were significant – from accessing order histories quickly enough for real-time recommendations to determining how best to combine and prioritize candidate recommendations. But Linden persevered, developing a

prototype and including it on a development version of the website where colleagues could test it.

The results stunned everyone, including Linden himself. The system worked remarkably well, generating useful recommendations even for customers with only a couple of orders. Product managers, just weeks away from a major redesign launch, immediately added it as a required feature.

But Linden's eureka moment was yet to come. His next innovation would fundamentally reimagine the digital shopping experience: personalized recommendations right in the shopping cart. While supermarkets had long mastered the art of impulse buys at checkout, Linden envisioned something far more powerful – a dynamic, intelligent system that would reorganize itself for each customer, suggesting precisely what they might need or love based on their unique shopping patterns

This proposal met resistance from a senior vice president concerned it would increase cart abandonment – already a significant problem. But Amazon's culture of experimentation through A/B testing, a way to present new changes to a small group (A) and compare it to another (B), gave Linden a path forward. Without seeking approval, he launched a test comparing customer behavior with and without the cart recommendations.

The results were unprecedented. The experiment showed the largest sales increase of any A/B test Amazon had ever conducted, with no increase in cart abandonment. Customers loved getting personalized recommendations while shopping, and the feature was quickly rolled out to all users.

These innovations would prove transformative. Within a few years, recommendation features were driving approximately 35% of Amazon's revenue. But more importantly, they fundamentally changed how people discovered products online, creating a bridge between what customers knew they wanted and what they might enjoy but hadn't yet discovered.

The impact of Linden's innovations has been nothing short of revolutionary. While the exact value created is not easily calculable, Amazon's recommendation systems have consistently driven approximately one-third of the company's revenue for decades – making this possibly the highest-ROI innovation in business history from primarily a single innovator's desire to help people.

What began as one person's mission to help readers discover their next favorite book has transformed into an engine of discovery that has reshaped

how billions of people shop online. The reason this book ends with this chapter is because we started the book with *Principle #1: Collaboration is Our Superpower*. Collaboration is all about individuals helping a group work better together.

From Helping to Hyper Growth

What makes Linden's story remarkable isn't just the astronomical financial impact – it's how it began with a genuine desire to help people discover knowledge, was validated through data-driven experimentation, and scaled to help millions find products they love but might never have discovered through search alone.

In my interview with Greg, what struck me most was his laser focus on helping customers. Rather than emphasizing the technical complexity or business impact, he described his innovation in remarkably human terms. The recommendation system, he explained, was fundamentally about people helping people – the algorithm was simply a conduit for enabling that connection at scale.

The genius lay in systematizing this human expertise. Each customer interaction became a data point, each purchase a signal, each browsing session a breadcrumb trail leading to better recommendations. The system didn't replace human judgment – it amplified and scaled it, turning millions of individual choices into a collective intelligence that could help every customer.

While we may have grand innovation plans, sometimes the best approach is to simply roll up our sleeves and help people – independent of our innovation agenda. By doing so, we gain invaluable firsthand experience of their needs and challenges. We literally walk in their shoes. This hands-on understanding often proves crucial for innovation success. While we can't all be Greg Linden, we can start by helping one person, then another. Once you know how to help a few people effectively, figuring out how to scale or automate that assistance becomes much more straightforward.

This chapter explores how focusing on helping customers can lead to transformative innovation and sustainable business value. We'll examine the principles that made Amazon's recommendation system successful and how similar approaches can be applied to other innovation challenges.

Principle #50: Search and Discover – Two Paths to Value

In the digital marketplace, there are two fundamental ways customers find what they want: search and discovery. Understanding the distinction between these approaches – and how they complement each other – is crucial for innovation success.

Search is like a GPS – it efficiently guides customers to known destinations. When someone searches for "red running shoes size 10," they have a clear destination in mind. The value comes from speed and accuracy.

Discovery, on the other hand, helps people find what they didn't even know they might want or like. It's more exploratory, serendipitous, and often leads to delightful surprises. A customer who discovers a new author through recommendations might never have found them through search alone.

The difference between these two paths is illustrated in Figure 11-1.

Help People Discover Value

Search (top) is about helping people find the most direct and efficient path to their known goal.

Discovery (bottom) is about helping people learn what they didn't search for related to their goal.

While search optimizes for speed and accuracy, discovery creates massive opportunities and long-term customer satisfaction.
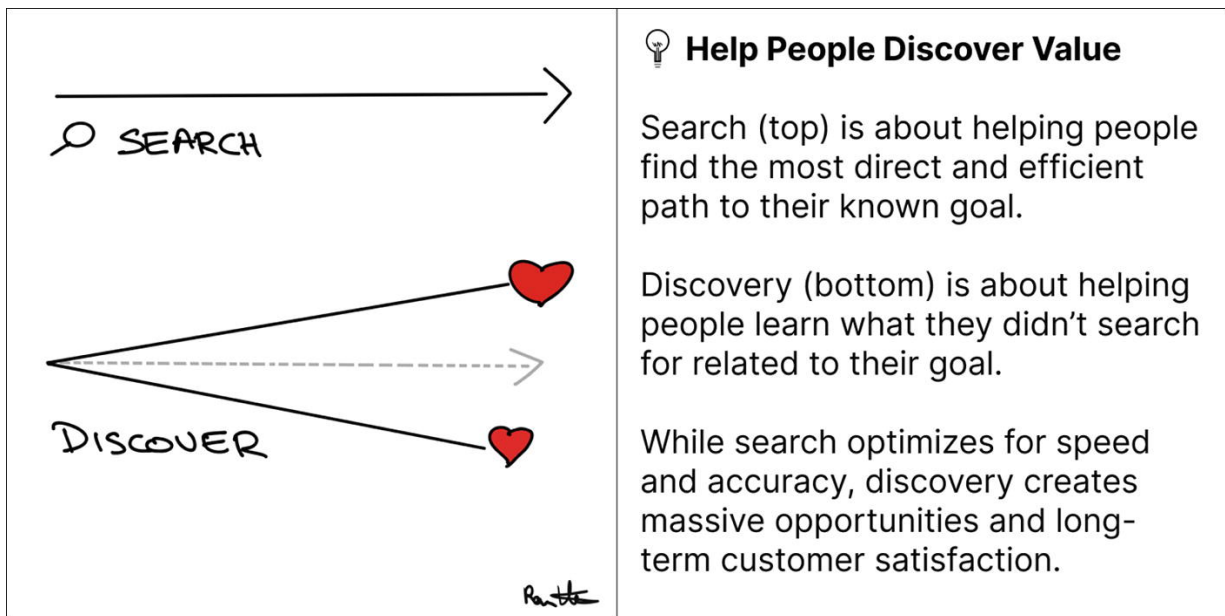
Figure 11-1 A straight line labeled "Search" leading directly to a target, and a meandering path labeled "Discovery" as two distinct paths

The magic happens when you can effectively bridge these two modes, helping customers move seamlessly between focused searching and open-ended discovery. This is what made Amazon's recommendation system so powerful – it created natural opportunities for discovery within the normal shopping process.

Great innovation often comes from understanding these dual needs and finding ways to satisfy both. While search helps customers achieve their immediate goals, discovery expands their horizons and creates long-term value.

Principle #51: Preferences Power Discovery

One of the most powerful aspects of Amazon's recommendation system was how it leveraged network effects to create ever-increasing value. As Linden noted about his algorithm: "[It] is not some magic intelligence where the algorithm understands you and knows what you want. Rather, it is computers helping people help other people."

> **Note**   *Recommendation engines,* while very technical to understand and implement, can be explained in a simpler fashion: when many people who like item A also like item B, we can recommend item B to new people who like item A.
>
> For example, Alice likes "blue shirts" and "red shirts." Bob likes "blue shirts" too, he might like "red shirts" too, because his preference pattern matches Alice's.
>
> This approach identifies patterns in what items people tend to like together, allowing customers to benefit from others' preferences without direct interaction – in other words, computers helping people help other people.

This idea of social networks being used by algorithms to make recommendations to search, discover, and decide more efficiently and effectively is called *collective intelligence*, or *collaborative intelligence*, illustrated in Figure 11-2, because it is about taking the collective actions of entire social networks, whether internal employees or external customers, and using that information to make predictions and recommendations.

Preferences Power Discovery

When people express interest in a product, learn and record their preferences.

Similar customer tastes can uncover what to recommend that they might not have considered searching for.

Through this collaborative approach, customers unknowingly help each other find value.
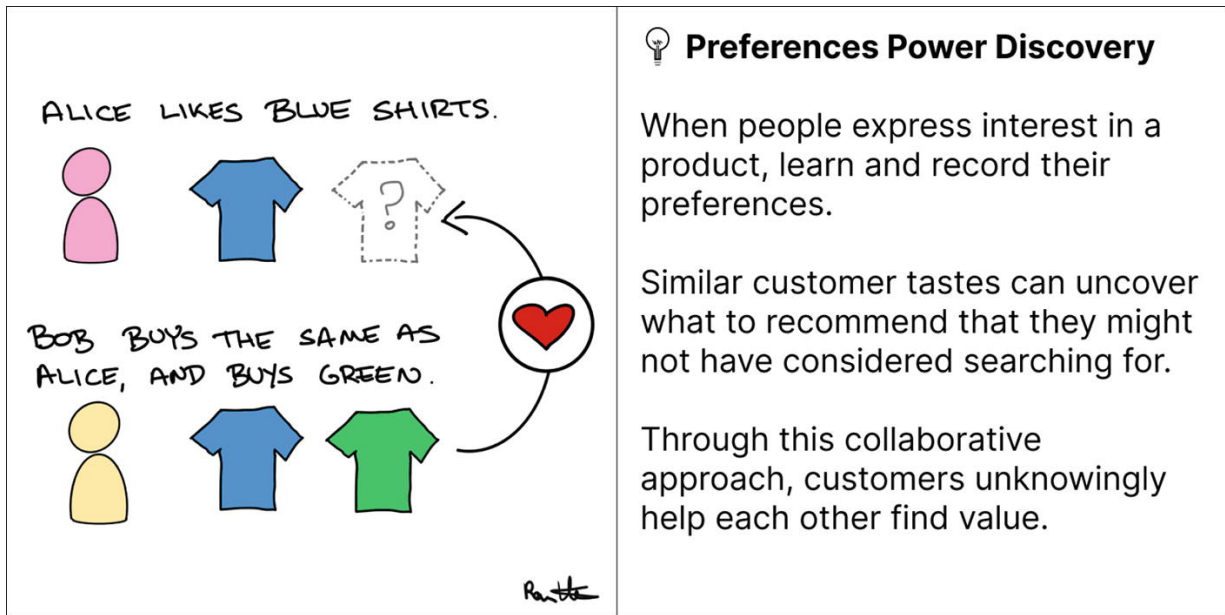
Figure 11-2 By having a way to track what people are buying, you can make recommendations what similar people may like

This principle reveals several key insights about innovation:

- *People-Powered Intelligence*: The system's intelligence comes from aggregating human behavior and preferences, not from trying to be artificially "smart."
- *Scalable Value Creation*: Each customer interaction makes the system more valuable for everyone.
- *Anonymous Collaboration*: Customers help each other without direct interaction, creating a frictionless experience.
- *Compound Benefit*: The system becomes more valuable over time as it accumulates more data and patterns.

The lesson for innovators is clear: look for opportunities to create virtuous cycles where helping one customer can benefit many others. This multiplier effect is what allows relatively simple innovations to create massive value at scale.

Principle #52: Measure for Long-Term ROI

Discovery features like recommendations target long-term revenue. The goal is to help people be more satisfied with what they buy now so they come back and buy more later. Immediate revenue through clicks is the wrong way to measure it (and will tend to optimize the recommendations on clickbait or popular items, which you don't

want). The right way to measure it is lifetime customer value, so increasing customer's likelihood of returning, their basket size when they buy, and revenue from customers over months and years.
—Greg Linden, creator of Amazon's revolutionary recommendation engine

This principle highlights a crucial aspect of innovation: the importance of choosing the right metrics. While it's tempting to focus on immediate results like click-through rates or short-term sales, truly transformative innovations often require a longer-term perspective.

Different measurement approaches can lead to different optimization decisions, as illustrated in Figure 11-3.
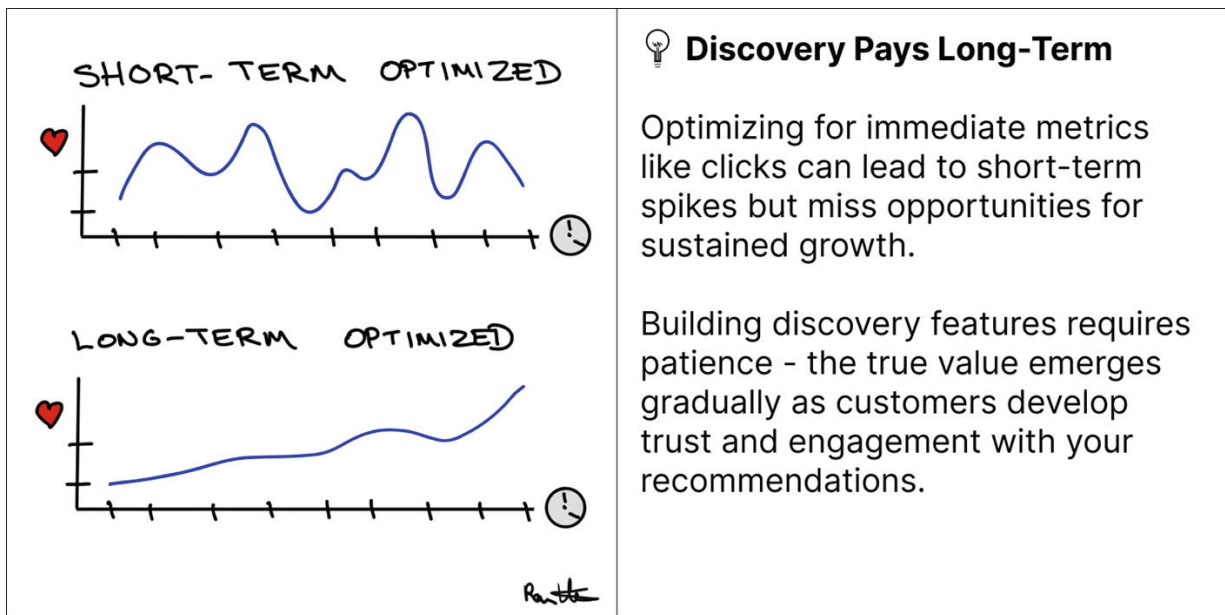
Figure 11-3 A graph showing short-term metrics (spiky line) versus long-term value (smooth upward curve)

Key considerations for measuring innovation impact:

- Focus on lifetime customer value rather than immediate revenue
- Track customer satisfaction and likelihood to return
- Monitor basket size and purchase frequency over time
- Look for indicators of expanded customer exploration and discovery

Getting these metrics right is crucial because they shape behavior and decision-making throughout the organization. As Linden notes, optimizing

for immediate clicks can lead to recommendations that favor clickbait or popular items rather than truly helpful suggestions.

The Science of Helping at Scale

While the impulse to help others may start from human empathy and intuition, scaling that help to serve millions requires rigorous methodology and measurement. Amazon's recommendation system succeeded not just because it helped people, but because it did so in a systematically measurable and improvable way.

Innovators and organizations can bring scientific rigor to their helper-driven innovations, ensuring that good intentions translate into quantifiable customer value. From choosing the right metrics to creating frameworks for consistent value delivery, these approaches help organizations move from ad hoc assistance to scalable, sustainable impact.

The challenge lies in bridging the gap between individual acts of assistance and systematized help that can reach millions. This requires a deliberate approach that

- Identifies patterns in successful helping interactions
- Creates frameworks for consistently delivering value
- Measures and improves the effectiveness of assistance
- Scales solutions without losing the human touch

The following tools provide practical frameworks for transforming helper-driven innovation from concept to reality. They're designed to help teams systematically capture insights from customer interactions and turn them into scalable solutions that create lasting value.

Tool #7: Data & Discovery ROI Checklist

The *Data & Discovery ROI Checklist* is a structured framework for translating helper-driven innovation from concept to scalable reality. This tool helps teams break down their innovation ideas into clear, actionable components focused on systematic value creation.

This checklist is particularly valuable in the early stages of innovation planning, when teams are trying to identify opportunities to create scalable value from individual customer interactions. Just as Amazon's recommendation system turned individual purchase data into value for all

customers, your innovation efforts can benefit from systematically considering how to leverage each customer touchpoint.

By answering key questions about data collection, value multiplication, and manual processes, teams can better understand how to scale their helping efforts effectively, as shown in Table 11-1. Use this checklist in team meetings and planning sessions to ensure you're maximizing the potential value of every customer interaction.

Table 11-1　The Data & Discovery ROI Checklist is a set of questions to surface insights about how to leverage data for discovery that creates ROI

Research Questions	Answers
What valuable information can we collect from each interaction?	
How can we use collected data to benefit others?	
If we were to manually help people discover items, how would we do that?	

By systematically working through these questions as a team, you can begin to identify the hidden opportunities for creating scalable value in your customer interactions. Just as Amazon turned individual purchase data into a powerful recommendation engine, your responses to these questions can illuminate paths to transform individual helping actions into systematic value creation.

Tool #8: Start Small to Think Big

Before investing heavily in automation or complex systems, start by helping customers directly to understand their needs and behaviors. Through these personal interactions, you'll uncover patterns and insights that can inform larger-scale solutions. This approach minimizes risk while maximizing learning.

This tool embodies Greg Linden's approach at Amazon – starting with a simple desire to help customers find books they'd love, then systematically expanding that vision based on real-world interactions and data. Use this tool as an example of what and how to document your team's direct customer interactions and identify patterns that could inform larger-scale solutions. It's particularly valuable for teams that might be tempted to over-engineer solutions before fully understanding customer needs.

Remember, even the most sophisticated recommendation systems started with someone simply trying to help another person make a better

choice. This tool helps you capture those crucial early insights that can later inform transformative innovations.

Questions to Consider	Answer
Who have we helped directly, end-to-end?	
What patterns emerged in how we helped them?	
Where were they getting stuck or having friction?	
What information are they overlooking that we wish they would see?	
Was anything surprising or delightful?	
Can anything be automated in the flow where we helped?	
How could we test our automations?	

Working through these questions helps create a detailed map of your customer assistance efforts, revealing patterns and opportunities that might otherwise remain hidden. This systematic documentation of hands-on customer interactions becomes your blueprint for scaling solution development, ensuring that automation and technology decisions are grounded in real customer needs and behaviors.

Summary

This chapter illuminates how a simple mission to help customers discover new books evolved into one of the most transformative innovations in retail history. Through Greg Linden's journey at Amazon, we've uncovered the profound power of helper-driven innovation, the delicate balance between search and discovery, and the crucial importance of measuring long-term value creation.

Key principles covered in this chapter:

- *Search vs. Discovery:* Understanding the two fundamental ways customers find value and how to bridge them effectively.
- *Network Effects of Helping:* How to leverage collective intelligence to create compounding value.
- *Long-Term ROI Measurement:* The importance of choosing metrics that drive sustainable growth over short-term gains.

Essential tools introduced:

- *Data & Discovery ROI Checklist:* A framework for identifying and scaling valuable customer interactions.
- *Start Small to Think Big:* A systematic approach to documenting and learning from direct customer assistance.

The story of Amazon's recommendation system demonstrates that some of the most valuable innovations come from a simple desire to help people combined with the technical capability to scale that help efficiently. By focusing on genuine customer benefit and measuring what matters long-term, organizations can create sustainable value that compounds over time.

Conclusion

Here's to the crazy ones. The misfits. The rebels. The troublemakers. The round pegs in the square holes. The ones who see things differently. They're not fond of rules. And they have no respect for the status quo. You can quote them, disagree with them, glorify or vilify them. About the only thing you can't do is ignore them. Because they change things. They push the human race forward. And while some may see them as the crazy ones, we see genius.

Because the people who are crazy enough to think they can change the world, are the ones who do.
—Steve Jobs

At its core, innovation is a deeply human endeavor. The stories of failures and triumphs scattered throughout the chapters serve as powerful reminders that behind every innovation are real people grappling with uncertainty, facing their fears, and daring to dream big.

If this book was successful, it challenges the notion that innovation is the domain of a select few geniuses or visionaries. Instead, it presents innovation as a skill that can be learned, practiced, and mastered by anyone willing to put in the effort. This democratization of innovation is not just empowering – it's essential in a world where rapid change demands that we all become innovators in our own right.

The goal was to provide a collection of fundamental lessons, shared as stories, principles, and tools, that were gleaned from years of consulting in innovation, and seeing common mistakes that leaders and teams were making because of skipping fundamentals.

The Language of Innovation is an invitation to join a community of practicing techniques that can bring people together in their understanding of a shared way of thinking about how to make awesome things.

What I love, professionally, is watching people's experience when they realize that what they didn't even know was possible, what was better than they imagined, was suddenly available to them. The closest way I can describe that experience is that it is like magically shifting and shaping a shared sense of reality.

There are two principles left that I'd like to share with you, on more of a personal level.

Principle #53: The Principle of No Principles

Take the things that work and run with them, take the things that don't and learn from them.
—Michael Kaplan, American businessman, psychologist, and philanthropist

As we reach the end of this journey through the Language of Innovation, it's crucial to remember that no set of principles, no matter how well-crafted or time-tested, can fully encompass the vast, ever-changing landscape of innovation. The final principle, paradoxically, is to be ready to abandon all principles when the situation demands it.

Innovation, at its heart, is about venturing into the unknown, illustrated in Figure A-1, challenging established norms, and creating something that didn't exist before. It requires a delicate balance between structure and chaos, between following proven methods and breaking all the rules.
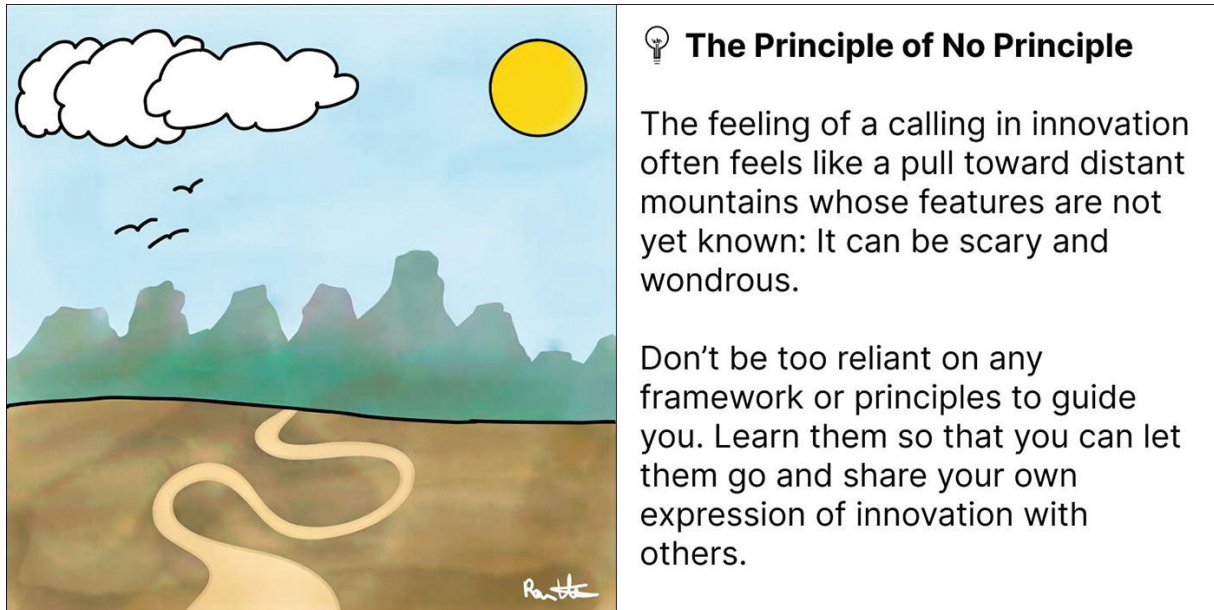
Figure A-1 A path with distant, hazy mountains, representing the innovation journey of going into the unknown

The principles and tools outlined in this book are not meant to be rigid commandments, but rather a foundation from which you can launch your

own unique explorations. They are scaffoldings to support your creative process, not chains to bind it.

Remember that some of the most groundbreaking innovations in history came from those who dared to think differently, who questioned everything, including the established "best practices" of their time.

This experience, creating joy and better lives for people, is what I pour my love into, and a great source of love back into my psyche. Thank you for joining me on this journey, I hope this book has helped you in some meaningful way: working through current challenges, gaining knowledge for future endeavors, or inspiring you to take the leap into innovation.

Index of Principles, Tools, and Warnings

Principles

A *Principle* is a guiding rule of thumb, used to discuss the story presented in the chapter.

Chapter *1*: Your Innovation Superpowers

Chapter *2*: Systems Thinking for Innovation

Chapter *3*: The Mother of All Invention

Chapter 4: The Exponential Power of Processes

14. Processes & Paradigm Shifts
15. Design for Laziness
16. The Pollination Effect of Processes
17. Be on Alert for "Dark" Knowledge

Chapter 5: Rewriting Your Business Playbook

No principles in Chapter 5

Chapter 6: The Many Facets of Product Innovation

18. Product Innovation vs. Invention
19. The "Better" Product Paradox
20. The Value of Precision
21. Key Measures of Success
22. Hindsight, Insight, and Foresight
23. The Art of Abstraction
24. Customer-Centric Value Creation

Chapter 7: Innovation in the Art of Persuasion

25. Demand Keeps Companies Alive
26. Dimensions of Demand
27. Design for Social Engineering
28. Mesmerizing Meta-Marketing

Chapter 8: Making Ideas Collide with Reality

29. The Magic of Colliding Ideas
30. The PMF Crystal Ball
31. The Product Market Fit Loop
32. Understand your Audience
33. The Right Time for Innovation

Chapter 9: You Own Your Communication

34. The Innovator's Hierarchy of Needs
35. Start with What
36. Define Your Value Equation

Tools

A *Tool* is an actionable activity the user can take individually or as a group, such as filling out a canvas, whiteboard drawing, or form.

Chapter 11: The ROI of Helping

Warnings

A *Warning* is a cautionary principle based on experience implementing them in real-life situations.

Chapter 5: Rewriting Your Business Playbook

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