"This book belongs on the shelf of every leader and innovator."
—Daniel H. Pink, author of *DRIVE*

R. DUTT

RADICAL PRODUCT THINKING

The New Mindset for Innovating Smarter

More Praise for *Radical Product Thinking*

"Dutt's powerful methodology offers a step-by-step approach for building successful products that doubles as a guide to infusing meaning in everyday work and packing purpose into every organization. This book belongs on the shelf of every leader and innovator."

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"In *Radical Product Thinking: The New Mindset for Innovating Smarter,* R. Dutt offers a compelling and important antidote to short-term thinking so prevalent in product design and especially in redesign. She highlights how tinkering with established products, ignoring opportunities in large-scale product reinvention in favor of immediate financial performance, is often a recipe for longer-term product misalignment and irrelevance. The book's concepts are explained well, and the examples are helpful and illuminating. A book whose message is both timely and timeless."

—David Schmittlein, John C. Head III Dean and Professor of Marketing, MIT Sloan School of Management

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"R. Dutt hits the nail on the head with *Radical Product Thinking,* because what drives our brightest young talent to join one company over another is often not money but a powerful vision that guides every project in the organization. This is a book for our times that will help managers not only compete for talent but also leapfrog competitors by creating novel products that capture customer attention and inspire."

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"Dutt has written an insightful book on how you can change the world around you through your products. She offers refreshing perspectives on how a purpose-driven approach can make products that are truly transformative. Anyone making a product—from business leaders to entrepreneurs to policymakers—will find this book a useful guide."

—Ravi Menon, Managing Director, Monetary Authority of Singapore

INTRODUCTION

A Repeatable Model for Building World-Changing Products

For more than a century, building world-changing products seemed to be reserved for a small group of visionaries, such as Henry Ford, Steve Jobs, Bill Gates, and Richard Branson. These leaders were lionized for being able to set monumental goals and knowing just how to achieve them—they seemed to have an innate gift for being vision-driven.

It was clear that to succeed at building world-changing products, these leaders had a vision—most organizations have learned from this and have vision statements. Yet taking an idea from concept to reality seems elusively difficult, and only a few organizations (and individuals) seem to have a knack for delivering visionary products.

Despite knowing that it's important to be vision-driven, it's easy to default to being iteration-led. If you've ever experienced being iteration-led in an organization, you know that it feels like you're tinkering and focusing on the short term but ultimately missing out on the large-scale opportunity. It turns out that a vision alone isn't enough to be vision-driven—it requires a new mindset.

To understand the difference between vision-driven and iteration-led, consider the development of the 737 MAX, which had to be grounded worldwide in March 2019 after two newly delivered airplanes crashed within five months, killing 346 people.

Boeing's 737 platform first entered airline service in 1968. After 40 years of iterations on the 737, engineers at Boeing knew that the plane was nearing the end of its life span. Its low frame, which was a highly desirable feature in the early days of manual loading and unloading of cargo, was now limiting the size of the engine that could fit under the wings. Even in the '90s, Boeing had to make increasingly desperate attempts to fit larger engines on the 737—the engine in the Next Generation series, for example, had to be egg-shaped to fit under the low frame.[1]

At this point, Boeing could have pursued a long-term vision and committed to designing a completely new airplane to replace the 737. But on the heels of having invested billions in research and development to develop the new Dreamliner, it was tempting to keep milking the 737 cash cow, Boeing's bestseller since the '70s. Boeing management delayed addressing the market demand for a new narrow-body aircraft.

In 2010, archrival Airbus filled this void with the A320neo, which offered 20 percent better fuel efficiency. When American Airlines, Boeing's biggest and most important customer, decided to add the A320neo to its fleet, Boeing had to act fast. In August 2011, Boeing decided to create the 737 MAX by iterating on the existing 737 platform. While engineers rolled their eyes at having to upgrade the 737 yet again, it seemed to address Boeing's short-term business goals. This iteration would allow Boeing to launch a certified product in roughly half the time and at 10–15 percent of the cost of designing a new plane from scratch.[2]

But giving the 737 larger and stronger engines wasn't a simple task. The 737's low frame required engineers to move the engine forward. Unfortunately, this caused the plane to become dynamically unstable—its nose tended to tip upward, which made it prone to stalling. To get around this, Boeing developed an automated

anti-stall system, the Maneuvering Characteristics Augmentation System (MCAS), to point the noise downward when the plane risked stalling. Ultimately, the MCAS was blamed for both the Lion Air and Ethiopian Airlines crashes that resulted in 346 fatalities.

Boeing had allowed market pressures to drive an iteration-led approach to product development. In building the 737 MAX, it had found what is referred to as a *local maximum*, a solution that optimized for the short term by preventing the loss of marquee clients to Airbus. In the process, however, Boeing had lost its focus on its most important mission: building safe and reliable aircraft. What Boeing needed instead was a vision-driven approach of investing in a brand new plane to reach what's called the *global maximum*, the optimal solution in the long term for Boeing, its passengers, and the airlines.

Finding a local maximum is like finding the best move while looking at only a few pieces on the chessboard that are under attack. In contrast, finding the global maximum means playing the long game to find the best move over the entire chessboard. This requires a vision for what you want to achieve and a plan for getting there.

Boeing wasn't vision-driven, although it had a vision statement. An iteration-led approach often takes root in a vision that's broad and driven by business goals, for example, "to be the best in . . ." or "to revolutionize . . ." In its *2018 Annual Report*, Boeing stated, "Our purpose and mission is to connect, protect, explore and inspire the world through aerospace innovation. We aspire to be the best in aerospace and an enduring global industrial champion."[3] A purpose defined this broadly is the equivalent of going on a road trip and stating your destination is "To go north and have the best road trip."

Without being able to picture your destination in the long term, your short-term needs are the most visible and determine your direction. Not only did Boeing focus on short-term financial results by iterating on the 737 platform over decades, it also optimized for short-term gains by spending $43 billion on share buybacks from 2013 until the first quarter of 2019.[4] To put these figures in perspective, consider that to build the Dreamliner from scratch, Boeing invested $32 billion

over eight years. A broad vision of having the best road trip can lead to a myopic focus.

For years, however, we had learned that starting with a broad and aspirational vision was key to building successful products and companies. We've even accepted and normalized the myopic focus on the short term that often accompanies this approach. Research shows that since the 1980s, companies on average are becoming more short-term oriented.[5] As the time horizon for organizational planning shrinks, companies increasingly seek investment opportunities that yield short-term returns—they find local maxima.

General Electric's vision, "Become the number one or number two in every market we serve," was heralded as exemplary. Soon after he became CEO, Jack Welch gave a speech titled "Growing Fast in a Slow Growth Economy" in which he said, "GE would be the locomotive pulling the GDP and not the caboose following it." In the speech he laid out GE's plan for consistently growing profits by either fixing or selling businesses that weren't attaining the goal of being number one or two. His speech was hugely influential in shifting management styles toward short-term performance.[6]

Under Welch, GE's revenues grew from $25 billion in 1981 when he inherited it to $130 billion in 2001 when he retired. Unfortunately, this phenomenal growth was largely driven by short-termism.

Quarter after quarter, to consistently meet analysts growth expectations, Welch often used growth from GE Capital to compensate for weak results in other parts of the business. Before Welch took the helm in 1981, GE Capital made up only 6 percent of GE's net profits. By 1990, it had steadily increased to 24 percent.[7]

In 1991, GE became the largest company by market capitalization—the stock market was giving loud feedback that GE's road trip was going well.[8] By the time Welch retired in 2001, GE had announced 101 consecutive quarters of growth and GE Capital had contributed to 42 percent of GE's profits.

Welch's successor, Jeffrey Immelt, did his best to continue the streak. In the financial downturn after 9/11, GE Capital's contributions

toward overall profitability became increasingly important. To continue growing GE Capital, in 2004, with the housing market booming, GE bought what seemed like an innovative company, WMC, for $500 million. WMC was the sixth largest subprime lender and dealt in something called mortgage-backed securities.

In 2007, GE lost $1 billion as a result of the subprime mortgage loan crisis and was later required to pay a penalty of $1.5 billion by the Department of Justice for its role in the financial crisis. The fallout from the subprime crisis continued to haunt GE for more than a decade afterward, until GE settled the case with the DOJ and sold off most of GE Capital's portfolio.

The vision of becoming number one or number two in every market meant GE was on a road trip without a clear destination. Even the markets were confused about GE's core offering—in 2005 they recategorized GE from a manufacturing company to a financial services company. The iteration-led approach led the company we know for bringing us the lightbulb to expand into lending subprime mortgages.

Applying the iteration-led approach in our organizations means that products often don't reach their full potential. They tend to become bloated, fragmented, directionless, and driven by the wrong metrics.

Occasionally, however, an iteration-led company strikes gold with a local maximum, and each such financial success further entrenches this model in our business practices. The birth of Twitter is one such example.

Twitter started as Odeo, a podcasting company that was founded in 2005. But in the fall of that year, when Apple announced iTunes with a built-in podcasting platform, it was clear that Odeo's days were numbered. As the founders solicited employees for new business ideas, Jack Dorsey, an engineer at Odeo, shared his idea for a platform where people could share status updates with groups. Twitter as a microblogging platform evolved from iterations of this idea that performed well with users. Twitter was a local maximum created in response to Odeo's imminent failure and happened to strike gold.[9]

Stories of iteration-led successes are fun to read, but for every product that becomes a financial success by applying an iterative

approach, there's a graveyard of failures that never get media attention.

I've fallen into the trap of being iteration-led myself. The economy was on an upswing during the dot-com bubble when I cofounded my first startup, Lobby7, in 2000. Our vision was to "revolutionize wireless," and we started building wireless applications for phones and personal digital assistants (remember PDAs like the PalmPilot?) that could be connected over Wi-Fi. We were a services company, so we could explore the needs of many different industry verticals until we found a "killer app." We'd then pivot into a product company to focus on that killer app. In today's language, our plan was to iterate until we found a product-market fit.

On our road trip of building wireless apps for clients, we realized that the lack of keyboards or touch screens on phones made any app very hard to use. You had to type each letter slowly by using the number pad. Being a group of smart technologists, we asked, "What if you could interact with your device using voice and text interchangeably?" This was a hard problem to solve at the time as devices didn't have enough computing power for voice recognition. But we overcame the hurdles and enabled voice recognition on phones as our main product—an early version of Siri.

Like many other startups with funding, we iterated on different products and business models to see what worked. In the end, we developed an interesting technology, but we didn't survive the downturn—our iterations had burnt through the funding we had, and Lobby7 was acquired for the technology.

I didn't get rich at Lobby7, but I left with a priceless education.

After brief stints at two other startups that were similarly iteration-led, I landed at the broadcast division of Avid Technology in 2003. There I got to experience a very different strategy for building products.

Avid at the time was well-known in the Hollywood movie studios; practically every movie nominated for an Oscar had been edited on an Avid Media Composer. Now Avid was trying to break into the broadcast news market, dominated by Sony. Television news stories in 2003 were still filmed on tape (mostly Sony's) and then edited for

broadcast on Sony editing machines. David Schleifer, the head of Avid Broadcast, had a vision for how a completely digital newsroom could transform TV news production.

While editing a story, production crews needed to find older news stories that were related and then edit in relevant excerpts to add context and impact. But it was hard to access videotape that had been created by other teams, find the exact clips you wanted, and integrate them into a new piece. While most of our competitors replicated the tape-based workflow in a digital format, we set out to build a digital product suite that offered a completely new and vastly easier workflow. David believed that if we made our offering irresistible, broadcasters would give up on tape altogether.

We built our product suite incrementally, adding a new component roughly every year: Avid Unity for storing data storage, Avid Media Manager for finding and sharing video, Avid Airspeed for preparing the stories for transmission. Our development was steady and deliberate, with no dramatic pivots. Instead of repeating a memorable slogan for a vision statement, we were driven by a clear understanding of the problem we had set out to solve.

The only downside was that we often felt that Avid wasn't investing aggressively enough in our work. To complement our limited engineering resources, we partnered with customers—those who saw the value of a completely new digital workflow and were willing to pay extra so we could add additional features. My role at Avid was to work closely with customers to understand their workflow needs and identify gaps in our product suite. Where needed, we would build additional functionality to fill those gaps. In essence, our customers became our incremental R&D function.

Without a clear vision, however, this strategy could have easily gone awry by leading us to add niche features that only one customer would want. Had we offered 100 percent customized features for each customer, we would have found local maxima through increased sales, but this approach would have been a huge distraction from our overall product development. And ultimately, it wouldn't have been good for

customers either, because customized products wouldn't be sustainable in the long run. Instead, we helped our customers buy into our vision of a digital workflow that solved the inefficiencies of tape to transform TV news production.

Within five years Avid dominated the broadcast market, with nearly every major TV news organization (including NBC, CBS, and ABC in the United States; CBC in Canada; BBC and ITV in the United Kingdom) using Avid's suite of products. David Schleifer's vision-driven strategy had worked.

I found it interesting that the success of that strategy showed even in our social interactions. At Avid, any drinks night or party would lead to passionate but friendly debates over our products and management decisions. Years later, when ex–Avid employees get together, we still talk just as passionately about the company. At Lobby7, on the other hand, whenever the staff got together socially, we didn't talk much about work—in being iteration-led we didn't share a deep conviction of purpose.

To be clear, my criticism of being iteration-led is not intended to dismiss the importance of iteration. In the last decade, we've learned to innovate faster by testing ideas in the market to discover what customers want and then refining our products through feedback-driven iteration—we've learned to harness the power of iteration. Until now, however, we haven't had a methodology to guide us to be more vision-driven. The result is that our ability to iterate has given us a faster car for this road trip, but our ability to set the destination and navigate to it hasn't kept pace.

If your vision is as broad as "to go north and have the best road trip," your feedback-driven iterations could take you to Boston or lead you to Toronto. Taking a vision-driven approach means your vision drives your iterations so you end up where you intended to.

To date, the road to being vision-driven has been foggy. Much of the conventional wisdom that a good vision must be aspirational and a BHAG (Big Hairy Audacious Goal) has often led us astray. To build vision-driven products, it's not enough to have just *any* vision. We need a radical approach to crafting a vision.

Once we have a good vision, we then need to translate it systematically into our everyday actions. Our short-term business needs often compete for attention as we work toward the long-term—along the way, it's easy to be tempted to settle for a local maximum and lose sight of the global maximum. We need a practical approach to stay vision-driven once we craft a vision.

Radical Product Thinking helps you build the mindset you need to systematically build vision-driven products and innovate smarter.

My path to product leadership helped me realize that we can all apply product thinking and take a methodical approach to build products, irrespective of our role and industry. I've built products in media and entertainment, advertising technology, research, government, public art, robotics, and wine to name a few. In fact, every job I've ever taken has been in a new industry. The roles I've held have been equally varied, including marketing, strategy, project management, operations, and CEO. This diverse experience has made me realize that "product" is a way of thinking, not a job title or function. Whether you work in a nonprofit, a government organization, a service provider, research, a high-tech startup, or freelancing, you have a product. Our traditional view of a product as a physical or virtual object is outdated.

Radical Product Thinking (RPT) means finding the global maximum by thinking about the change you want to see in the world. Your product then is an improvable system to bring about that change. In RPT your product is led by the vision for the change it's intended to create. A radical product is vision-driven and has a clear reason for being, which drives strategy, prioritization, and execution. RPT offers organizations a clear guide to developing this mindset so each of us can build vision-driven products.

This book is structured in three parts. The examples in the introduction raise awareness of the drawbacks of being iteration-led and make the case for a new way of creating world-changing products. Part I explains how vision-driven products create transformative change and helps you recognize the need for Radical Product Thinking in your own organization. Chapter 1 illustrates how vision-driven products can be built

systematically to change the world and introduces the RPT approach. In chapter 2 we'll build a common vocabulary so we can explore the barriers, or "diseases," that get in the way of great products. Reading about these diseases will help you diagnose the areas that need the most attention so you can begin to build successful, vision-driven products.

Part II of the book gives you easy and practical steps to apply this approach and spread this thinking across an organization. In chapters 3–7, you'll start to get good at using the five elements of RPT—vision, strategy, prioritization, execution and measurement, and culture.

Each of these chapters is designed to give you one practical tool—you could use any one of these tools by itself and start reaping the benefits. In fact, you may find it helpful to read through the entire book first before picking the tools that you think would be most beneficial and then work through the exercises one chapter at a time. While the chapters are organized linearly, your process of working through the exercises doesn't have to be. As you develop your strategy, for example, you may realize that you need to go back and edit your vision.

The chapters contain the templates you need. But to make it easier to flip back and forth as you work through the exercises, you may want to print out the tool kit and use it alongside the book when you're ready to do the exercises. You can download the printable tool kit for free from the RadicalProduct.com website.

The exercises are intended to help you apply RPT on a regular basis until these skills become muscle memory. At that point you'll be able to apply this thinking intuitively and help your colleagues do the same.

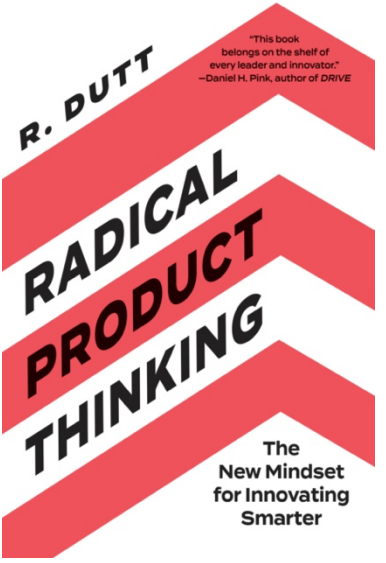
Part III of the book explains the responsibility that comes with the superpower of building vision-driven products. Chapter 8 explains the concept of "digital pollution" and the unintended consequences of our products on society. Chapter 9 introduces the Hippocratic Oath of Product and how you can embrace the responsibility that comes with building successful products.

The book concludes with examples that will inspire you to apply this philosophy to any activity through which you want to create

change. Creating world-changing products doesn't have to be reserved for rare, visionary leaders—each of us can engineer change through vision-driven products.

I myself have applied Radical Product Thinking in the process of writing this book: it's a product designed to create change. My goal is to make it easier for you to build dramatically better products that help you bring the world a little closer to the world you want to live in. I look forward to guiding you on this journey because your success will be the main metric for my own success.

We hope that you enjoyed this excerpt from *Radical Product Thinking* by R. Dutt.



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