Measure What Matters

2.4512 in

3.8701 in

How Google, Bono, and the Gates Foundation Rock the World with **OKRs**

John Doerr

WITH A FOREWORD BY **LARRY PAGE**

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FOREWORD

Larry Page
Alphabet CEO and Google Cofounder

I wish I had had this book nineteen years ago, when we founded Google. Or even before that, when I was only managing myself! As much as I hate process, good ideas with great execution are how you make magic. And that's where OKRs come in.

John Doerr showed up one day in 1999 and delivered a lecture to us on objectives and key results, and how we should run the company based on his experience at Intel. We knew Intel was run well, and John's talk made a lot of intuitive sense, so we decided we'd give it a try. I think it's worked out pretty well for us.

OKRs are a simple process that helps drive varied organizations forward. We have adapted how we use it over the years. Take it as a blueprint and make it yours, based on what you want to see happen!

For leaders, OKRs give a lot of visibility into an organization. They also provide a productive way to push back. For example, you might ask: "Why can't users load a video on YouTube almost instantly? Isn't that more important than this other goal you're planning to do next quarter?"

I'm glad to join in celebrating the memory of Bill Campbell, which John has done very nicely at the conclusion of the book. Bill was a fantastically warm human being who had the gift of almost always being right—especially about people. He was not afraid to tell anyone about how "full of shit" they were, and somehow they would still like him even after that. I miss Bill's weekly haranguing very much. May everyone have a Bill Campbell in their lives—or even strive to make themselves be a bit more like the Coach!

I don't write a lot of forewords. But I agreed to do this one because John gave Google a tremendous gift all those years ago. OKRs have helped lead us to 10x growth, many times over. They've helped make our crazily bold mission of "organizing the world's information" perhaps even achievable. They've kept me and the rest of the company on time and on track when it mattered the most. And I wanted to make sure people heard that.

Larry Page and John Doerr, 2014.

PART ONE

OKRs in Action

1

Google, Meet OKRs

If you don't know where you're going, you might not get there.

—Yogi Berra

On a fall day in 1999, in the heart of Silicon Valley, I arrived at a two-story, L-shaped structure off the 101 freeway. It was young Google's headquarters, and I'd come with a gift.

The company had leased the building two months earlier, outgrowing a space above an ice-cream parlor in downtown Palo Alto. Two months before that, I'd placed my biggest bet in nineteen years as a venture capitalist, an $11.8 million wager for 12 percent of a start-up founded by a pair of Stanford grad school dropouts. I joined Google's board. I was committed, financially and emotionally, to do all I could to help it succeed.

Barely a year after incorporating, Google had planted its flag: to "organize the world's information and make it universally accessible and useful." That might have sounded grandiose, but I had confidence in Larry Page and Sergey Brin. They were self-assured, even brash, but also curious and thoughtful. They listened—and they delivered.

Sergey was exuberant, mercurial, strongly opinionated, and able to leap intellectual chasms in a single bound. A Soviet-born immigrant, he was a canny, creative negotiator and a principled leader. Sergey was restless, always pushing for more; he might drop to the floor in the middle of a meeting for a set of push-ups.

Larry was an engineer's engineer, the son of a computer science pioneer. He was a soft-spoken nonconformist, a rebel with a 10x cause: to make the internet exponentially more relevant. While Sergey crafted the commerce of technology, Larry toiled on the product and imagined the impossible. He was a blue-sky thinker with his feet on the ground.

Earlier that year, when the two of them came to my office to pitch me, their PowerPoint deck had just seventeen slides—and only two with numbers. (They added three cartoons just to flesh out the deck.) Though they'd made a small deal with the *Washington Post*, Google had yet to unlock the value of keyword-targeted ads. As the eighteenth search engine to arrive on the web, the company was way late

to the party. Ceding the competition such a long head start was normally fatal, especially in technology.*

But none of that stopped Larry from lecturing me on the poor quality of search in the market, and how much it could be improved, and how much bigger it would be tomorrow. He and Sergey had no doubt they would break through, never mind their lack of a business plan. Their PageRank algorithm was that much better than the competition, even in beta.

I asked them, "How big do you think this could be?" I'd already made my private calculation: If everything broke right, Google might reach a market cap of $1 billion. But I wanted to gauge their dreams.

Larry Page and Sergey Brin at Google's birthplace, the garage at 232 Santa Margarita, Menlo Park, 1999.

And Larry responded, "Ten billion dollars."

Just to be sure, I said, "You mean market cap, right?"

And Larry shot back, "No, I don't mean market cap. I mean revenue."

I was floored. Assuming a normal growth rate for a profitable tech firm, $10 billion in revenue would imply a $100 billion market capitalization. That was the province of Microsoft and IBM and Intel. That was a creature rarer than a unicorn. There was no braggadocio to Larry, only calm, considered judgment. I didn't debate him; I was genuinely impressed. He and Sergey were determined to change the world, and I believed they had a shot.

Long before Gmail or Android or Chrome, Google brimmed with big ideas. The founders were quintessential visionaries, with extreme entrepreneurial energy. What they lacked was management experience.* For Google to have real impact, or

even to reach liftoff, they would have to learn to make tough choices and keep their team on track. Given their healthy appetite for risk, they'd need to pull the plug on losers—to fail fast.*

Not least, they would need timely, relevant data. To track their progress. To measure what mattered.

And so: On that balmy day in Mountain View, I came with my present for Google, a sharp-edged tool for world-class execution. I'd first used it in the 1970s as an engineer at Intel, where Andy Grove, the greatest manager of his or any era, ran the best-run company I had ever seen. Since joining Kleiner Perkins, the Menlo Park VC firm, I had proselytized Grove's gospel far and wide, to fifty companies or more.

To be clear, I have the utmost reverence for entrepreneurs. I'm an inveterate techie who worships at the altar of innovation. But I'd also watched too many start-ups struggle with growth and scale and getting the right things done. So I'd come to a philosophy, my mantra:

Ideas are easy. Execution is everything.

In the early 1980s, I took a fourteen-month sabbatical from Kleiner to lead the desktop division at Sun Microsystems. Suddenly I found myself in charge of hundreds of people. I was terrified. But Andy Grove's system was my bastion in a storm, a source of clarity in every meeting I led. It empowered my executive team and rallied the whole operation. Yes, we made our share of mistakes. But we also achieved amazing things, including a new RISC microprocessor architecture, which secured Sun's lead in the workstation market. That was my personal proof point for what I was bringing, all these years later, to Google.

The practice that molded me at Intel and saved me at Sun—that still inspires me today—is called OKRs. Short for *O*bjectives and *Key* *R*esults. It is a collaborative goal-setting protocol for companies, teams, and individuals. Now, OKRs are not a silver bullet. They cannot substitute for sound judgment, strong leadership, or a creative workplace culture. But if those fundamentals are in place, OKRs can guide you to the mountaintop.

Larry and Sergey—with Marissa Mayer, Susan Wojcicki, Salar Kamangar, and thirty or so others, pretty much the whole company at the time—gathered to hear me out. They stood around the ping-pong table (which doubled as their boardroom table), or sprawled in beanbag chairs, dormitory style. My first PowerPoint slide defined OKRs: "A management methodology that helps to ensure that the company focuses efforts on the same important issues throughout the organization."

An *OBJECTIVE*, I explained, is simply *WHAT* is to be achieved, no more and no less. By definition, objectives are significant, concrete, action oriented, and (ideally) inspirational. When properly designed and deployed, they're a vaccine against fuzzy thinking—and fuzzy execution.

KEY RESULTS benchmark and monitor *HOW* we get to the objective. Effective KRs are specific and time-bound, aggressive yet realistic. Most of all, they are

measurable and verifiable. (As prize pupil Marissa Mayer would say, "It's not a key result unless it has a number.") You either meet a key result's requirements or you don't; there is no gray area, no room for doubt. At the end of the designated period, typically a quarter, we declare the key result fulfilled or not. Where an objective can be long-lived, rolled over for a year or longer, key results evolve as the work progresses. Once they are all completed, the objective is necessarily achieved. (And if it isn't, the OKR was poorly designed in the first place.)

My objective that day, I told the band of young Googlers, was to build a planning model for their company, as measured by three key results:

KR #1: I would finish my presentation on time.
KR #2: We'd create a sample set of quarterly Google OKRs.
KR #3: I'd gain management agreement for a three-month OKR trial.

By way of illustration, I sketched two OKR scenarios. The first involved a fictional football team whose general manager cascades a top-level objective down through the franchise org chart. The second was a real-life drama to which I'd had a ringside seat: Operation Crush, the campaign to restore Intel's dominance in the microprocessor market. (We'll delve into both in detail later on.)

I closed by recapping a value proposition that is no less compelling today. OKRs surface your primary goals. They channel efforts and coordination. They link diverse operations, lending purpose and unity to the entire organization.

I stopped talking at the ninety-minute mark, right on time. Now it was up to Google.

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In 2009, the Harvard Business School published a paper titled "Goals Gone Wild." It led with a catalog of examples of "destructive goal pursuit": exploding Ford Pinto fuel tanks, wholesale gouging by Sears auto repair centers, Enron's recklessly inflated sales targets, the 1996 Mount Everest disaster that left eight climbers dead. Goals, the authors cautioned, were "a prescription-strength medication that requires careful dosing . . . and close supervision." They even posted a warning label: "Goals may cause systematic problems in organizations due to narrowed focus, unethical behavior, increased risk taking, decreased cooperation, and decreased motivation." The dark side of goal setting could swamp any benefits, or so their argument went.

⚠ WARNING!

Goals may cause systematic problems in organizations due to narrowed focus, unethical behavior, increased risk taking, decreased cooperation, and decreased motivation.

The paper struck a chord and is still widely cited. Its caveat is not without merit. Like any management system, OKRs may be executed well or badly; the aim of this book is to help you use them well. But make no mistake. For anyone striving for high performance in the workplace, goals are very necessary things.

In 1968, the year Intel opened shop, a psychology professor at the University of Maryland cast a theory that surely influenced Andy Grove. First, said Edwin Locke, "hard goals" drive performance more effectively than easy goals. Second, *specific* hard goals "produce a higher level of output" than vaguely worded ones.

In the intervening half century, more than a thousand studies have confirmed Locke's discovery as "one of the most tested, and proven, ideas in the whole of management theory." Among experiments in the field, 90 percent confirm that productivity is enhanced by well-defined, challenging goals.

Year after year, Gallup surveys attest to a "worldwide employee engagement crisis." Less than a third of U.S. workers are "involved in, enthusiastic about and committed to their work and workplace." Of those disengaged millions, more than half would leave their company for a raise of 20 percent or less. In the technology sector, two out of three employees think they could find a better job inside of two months.

In business, alienation isn't an abstract, philosophical problem; it saps the bottom line. More highly engaged work groups generate more profit and less attrition. According to Deloitte, the management and leadership consulting firm, issues of "retention and engagement have risen to No. 2 in the minds of business leaders, second only to the challenge of building global leadership."

But exactly *how* do you build engagement? A two-year Deloitte study found that no single factor has more impact than "clearly defined goals that are written down and shared freely. . . . Goals create alignment, clarity, and job satisfaction."

Goal setting isn't bulletproof: "When people have conflicting priorities or unclear, meaningless, or arbitrarily shifting goals, they become frustrated, cynical, and demotivated." An effective goal management system—an OKR system—links goals to a team's broader mission. It respects targets and deadlines while adapting to circumstances. It promotes feedback and celebrates wins, large and small. Most important, it expands our limits. It moves us to strive for what might seem beyond our reach.

As even the "Goals Gone Wild" crowd conceded, goals "can inspire employees and improve performance." That, in a nutshell, was my message for Larry and Sergey and company.

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As I opened the floor for questions, my audience seemed intrigued. I guessed they might give OKRs a try, though I couldn't have foreseen the depth of their resolve. Sergey said, "Well, we need to have *some* organizing principle. We don't have one, and this might as well be it." But the marriage of Google and OKRs was anything but random. It was a great impedance match, a seamless gene transcription into Google's messenger RNA. OKRs were an elastic, data-driven apparatus for a freewheeling, data-worshipping enterprise.* They promised transparency for a team that defaulted to open—open source, open systems, open web. They rewarded "good fails" and daring for two of the boldest thinkers of their time.

Google, meet OKRs: a perfect fit.

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While Larry and Sergey had few preconceptions about running a business, they knew that writing goals down would make them real.* They loved the notion of laying out what mattered most to them—on one or two succinct pages—and making it public to everyone at Google. They intuitively grasped how OKRs could keep an organization on course through the gales of competition or the tumult of a hockey-stick growth curve.

Along with Eric Schmidt, who two years later became Google's CEO, Larry and Sergey would be tenacious, insistent, even confrontational in their use of OKRs. As Eric told author Steven Levy, "Google's objective is to be the systematic innovator of scale. Innovator means new stuff. And scale means big, systematic ways of looking at things done in a way that's reproducible." Together, the triumvirate brought a decisive ingredient for OKR success: conviction and buy-in at the top.

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As an investor, I am long on OKRs. As Google and Intel alumni continue to migrate and spread the good word, hundreds of companies of all types and sizes are committing to structured goal setting. OKRs are Swiss Army knives, suited to any environment. We've seen their broadest adoption in tech, where agility and teamwork are absolute imperatives. (In addition to the firms you will hear from in this book, OKR adherents include AOL, Dropbox, LinkedIn, Oracle, Slack, Spotify, and Twitter.) But the system has also been adopted by household names far beyond Silicon Valley: Anheuser-Busch, BMW, Disney, Exxon, Samsung. In today's economy, change is a fact of life. We cannot cling to what's worked and hope for the best. We need a trusty scythe to carve a path ahead of the curve.

At smaller start-ups, where people absolutely need to be pulling in the same direction, OKRs are a survival tool. In the tech sector, in particular, young companies must grow quickly to get funding before their capital runs dry. Structured goals give backers a yardstick for success: *We're going to build this product, and we've proven the market by talking to twenty-five customers, and here's how much they're willing to pay.* At medium-size, rapidly scaling

organizations, OKRs are a shared language for execution. They clarify expectations: *What do we need to get done (and fast), and who's working on it?* They keep employees aligned, vertically and horizontally.

In larger enterprises, OKRs are neon-lit road signs. They demolish silos and cultivate connections among far-flung contributors. By enabling frontline autonomy, they give rise to fresh solutions. And they keep even the most successful organizations stretching for more.

Similar benefits accrue in the not-for-profit world. At the Bill & Melinda Gates Foundation, a $20 billion start-up, OKRs deliver the real-time data that Bill Gates needs to wage war against malaria, polio, and HIV. Sylvia Mathews Burwell, a Gates alumna, ported the process to the federal Office of Management and Budget and later to the Department of Health and Human Services, where it helped the U.S. government fight Ebola.

But perhaps no organization, not even Intel, has scaled OKRs more effectively than Google. While conceptually simple, Andy Grove's regimen demands rigor, commitment, clear thinking, and intentional communication. We're not just making some list and checking it twice. We're building our capacity, our goal muscle, and there is always some pain for meaningful gain. Yet Google's leaders have never faltered. Their hunger for learning and improving remains insatiable.

As Eric Schmidt and Jonathan Rosenberg observed in their book *How Google Works*, OKRs became the "simple tool that institutionalized the founders' 'think big' ethos." In Google's early years, Larry Page set aside two days per quarter to personally scrutinize the OKRs for each and every software engineer. (I'd sit in on some of those reviews, and Larry's analytical legerdemain—his preternatural ability to find coherence in so many moving parts—was unforgettable.) As the company expanded, Larry continued to kick off each quarter with a marathon debate on his leadership team's objectives.

Today, nearly two decades after my slide show at the ping-pong table, OKRs remain a part of Google's daily life. With growth and its attendant complexity, the company's leaders might have settled into more bureaucratic methods or scrapped OKRs for the latest management fad. Instead, they have stayed the course. The system is alive and well. OKRs are the scaffolding for Google's signature home runs, including seven products with a billion or more users apiece: Search, Chrome, Android, Maps, YouTube, Google Play, and Gmail. In 2008, a company-wide OKR rallied all hands around the Code Yellow battle against latency—Google's bête noire, the lag in retrieving data from the cloud. Bottom-up OKRs work hand in glove with "20 percent time," which frees grassroots engineers to dive into promising side projects.

Many companies have a "rule of seven," limiting managers to a maximum of seven direct reports. In some cases, Google has flipped the rule to a *minimum* of seven. (When Jonathan Rosenberg headed Google's product team, he had as many

as twenty.) The higher the ratio of reports, the flatter the org chart—which means less top-down oversight, greater frontline autonomy, and more fertile soil for the next breakthrough. OKRs help make all of these good things possible.

In October 2018, for the seventy-fifth consecutive quarter, Google's CEO will lead the entire company to evaluate its progress against top-level objectives and key results. In November and December, each team and product area will develop its own plans for the coming year and distill them into OKRs. The following January, as CEO Sundar Pichai told me, "We'll go back in front of the company and articulate, 'This is our high-level strategy, and here are the OKRs we have written for the year.'"* (In accordance with company tradition, the executive team will also grade Google's OKRs from the prior year, with failures unblinkingly dissected.)

Over the following weeks and months, thousands of Googlers will formulate, discuss, revise, and grade their team and individual OKRs. As always, they'll have carte blanche to browse their intranet and see how other teams are measuring success. They'll be able to trace how their work connects up, down, and sideways—how it fits into Google's big picture.

Not quite twenty years later, Larry's jaw-dropping projection now looks conservative. As we go to press, parent company Alphabet's market cap exceeds $700 billion, making it the second-most valuable company in the world. In 2017, for the sixth year in a row, Google ranked number one on *Fortune* magazine's list of "Best Companies to Work For." This runaway success is rooted in strong and stable leadership, a wealth of technical resources, and a values-based culture of transparency, teamwork, and relentless innovation. But OKRs have also played a vital role. I cannot imagine the Googleplex running without them, and neither can Larry or Sergey.

As you will see in the pages to come, objectives and key results drive clarity, accountability, and the uninhibited pursuit of greatness. Take it from Eric Schmidt, who credits OKRs with "changing the course of the company forever."

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For decades I've been the Johnny Appleseed of OKRs, doing my best to disseminate Andy Grove's genius with my twenty slides and earnest proposition. But I always felt I was skating on the surface, not really getting the job done. A few years ago, I decided it would be worth trying again—in print this time, and in enough depth to do the subject justice. This book—with its companion website, whatmatters.com—is my chance to bring a long-held passion to you, my reader. I hope you find it useful. I can tell you it has changed my life.

I've introduced the OKR system to the world's most ambitious nonprofit and to an iconic Irish rock star. (And you'll hear from them directly.) I've witnessed countless individuals use objectives and key results to grow more disciplined in their thinking, clearer in communication, more purposeful in action. If this book

were an OKR, I'd call its objective aspirational: to make people's lives, *your* life, more fulfilling.

Grove was ahead of his time. Acute focus, open sharing, exacting measurement, a license to shoot for the moon—these are the hallmarks of modern goal science. Where OKRs take root, merit trumps seniority. Managers become coaches, mentors, and architects. Actions—and data—speak louder than words.

In sum, objectives and key results are a potent, proven force for operating excellence—for Google, so why not for you?

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Like OKRs themselves, this book comes in two complementary sections. Part One considers the system's cardinal features and how it turns good ideas into superior execution and workplace satisfaction. We begin with OKRs' origin story at Andy Grove's Intel, where I became a zealous convert. Then come the four OKR "superpowers": focus, align, track, and stretch.

Superpower #1—Focus and Commit to Priorities *(chapters 4, 5, and 6):*
High-performance organizations home in on work that's important, and are equally clear on what *doesn't* matter. OKRs impel leaders to make hard choices. They're a precision communication tool for departments, teams, and individual contributors. By dispelling confusion, OKRs give us the focus needed to win.

Superpower #2—Align and Connect for Teamwork *(chapters 7, 8, and 9):*
With OKR transparency, everyone's goals—from the CEO down—are openly shared. Individuals link their objectives to the company's game plan, identify cross-dependencies, and coordinate with other teams. By connecting each contributor to the organization's success, top-down alignment brings meaning to work. By deepening people's sense of ownership, bottom-up OKRs foster engagement and innovation.

Superpower #3—Track for Accountability *(chapters 10 and 11):*
OKRs are driven by data. They are animated by periodic check-ins, objective grading, and continuous reassessment—all in a spirit of no-judgment accountability. An endangered key result triggers action to get it back on track, or to revise or replace it if warranted.

Superpower #4—Stretch for Amazing *(chapters 12, 13, and 14):*
OKRs motivate us to excel by doing more than we'd thought possible. By testing our limits and affording the freedom to fail, they release our most creative, ambitious selves.

Part Two covers OKRs' applications and implications for the new world of work:

CFRs *(chapters 15 and 16):* The failings of annual performance reviews have sparked a robust alternative—continuous performance management. I will introduce OKRs' younger sibling, CFRs (*C*onversation, *F*eedback, *R*ecognition), and show how OKRs and CFRs can team up to lift leaders, contributors, and organizations to a whole new level.

Continuous Improvement *(chapter 17):* As a case study for structured goal setting and continuous performance management, we see a robotics-powered pizza company deploys OKRs in every aspect of its operations, from the kitchen to marketing and sales.

The Importance of Culture *(chapters 18, 19, and 20):* Here we'll explore the impact of OKRs on the workplace, and how they ease and expedite culture change.

Along our journey, we'll rove behind the scenes to observe OKRs and CFRs in a dozen very different organizations, from Bono's ONE Campaign in Africa to YouTube and its quest for 10x growth. Collectively these stories demonstrate the range and potential of structured goal setting and continuous performance management, and how they are transforming the way we work.

2

The Father of OKRs

There are so many people working so hard and achieving so little.

—Andy Grove

This all began with an ex-girlfriend I was trying to win back. Ann had dumped me and was working in Silicon Valley, but I didn't know where. It was the summer of 1975, between terms at Harvard Business School. I drove through Yosemite and arrived in the Valley with no job and no place to live. Though my future was unsettled, I could program computers.* While earning my master's in electrical engineering at Rice University, I'd cofounded a company to write graphics software for Burroughs, one of the "Seven Dwarfs" battling IBM for market share. I loved every minute of it.

I'd hoped to land an internship at one of the Valley's venture capital firms, but they all turned me down. One suggested I try a chip company they'd funded in Santa Clara, a place called Intel. I cold-called the highest-ranking Intel person I could get on the phone, Bill Davidow, who headed the microcomputer division. When Bill heard I could write benchmarks, he invited me to come down and meet him.

The Santa Clara headquarters was an open expanse of low-walled cubicles, not yet a design cliché. After a brief chat, Bill referred me to his marketing manager, Jim Lally, who referred me on down the line. By five o'clock I'd scored a summer internship at the rising paragon of tech firms. As luck would have it, I found my ex-girlfriend there, too, working just down the corridor. She was not amused when I showed up. (But by Labor Day, Ann and I would be back together.)

Midway through orientation, Bill took me aside and said, "John, let's be clear about something. There's one guy running operations here, and that's Andy Grove." Grove's title was executive vice president; he would wait twelve more years to succeed Gordon Moore as CEO. But Andy was Intel's communicator, its operator par excellence, its taskmaster-in-chief. Everybody knew he was in charge.

By pedigree, Grove was the least likely member of the Intel Trinity that ran the company for three decades. Gordon Moore was the shy and revered deep thinker, author of the eponymous law that underpins the exponential scaling of technology:

Computer processing power doubles every two years. Robert Noyce, co-inventor of the integrated circuit (aka the microchip), was the charismatic Mr. Outside, the industry's ambassador, equally at home at a congressional hearing or buying a round of drinks at the Wagon Wheel. (The semiconductor crowd was a hard-partying crowd.)

And then there was András István Gróf, a Hungarian refugee who'd narrowly escaped the Nazis and reached the U.S. at age twenty with no money, little English, and severe hearing loss. He was a coiled and compact man with curly hair and a maniacal drive. By dint of sheer will and brainpower, he rose to the top of the most admired organization in Silicon Valley and led it to phenomenal success. During Grove's eleven-year tenure as CEO, Intel would return more than 40 percent per annum to its shareholders, on a par with the arc of Moore's law.
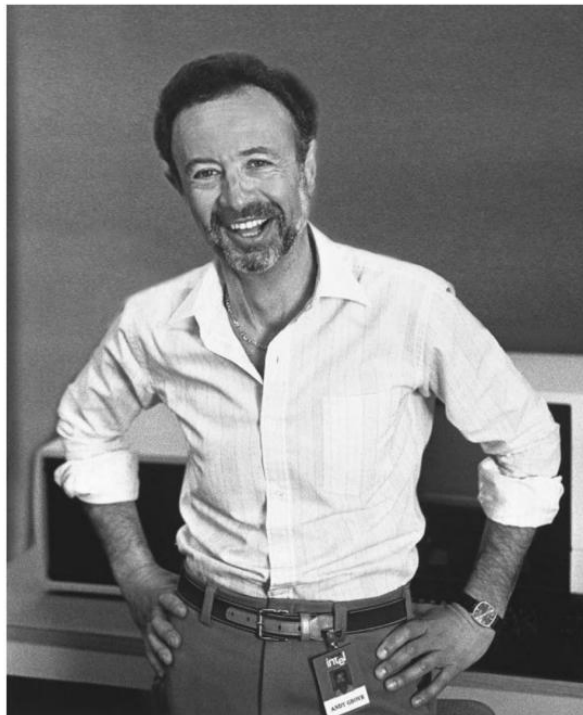
Andy Grove, 1983.

Intel was Grove's laboratory for management innovation. He loved to teach, and the company reaped the benefits.* A few days after getting hired, I received a coveted invitation to Intel's Organization, Philosophy, and Economics course, known as iOPEC, a seminar on Intel strategy and operations. Resident professor: Dr. Andy Grove.

In the space of an hour, Grove traced the company's history, year by year. He summarized Intel's core pursuits: a profit margin twice the industry norm, market leadership in any product line it entered, the creation of "challenging jobs" and "growth opportunities" for employees.* Fair enough, I thought, though I'd heard similar things at business school.

Then he said something that left a lasting impression on me. He referenced his previous company, Fairchild, where he'd first met Noyce and Moore and went on to blaze a trail in silicon wafer research. Fairchild was the industry's gold standard, but it had one great flaw: a lack of "achievement orientation."

"Expertise was very much valued there," Andy explained. "That is why people got hired. That's why people got promoted. Their effectiveness at translating that knowledge into actual results was kind of shrugged off." At Intel, he went on, "we tend to be exactly the opposite. It almost doesn't matter what you know. It's what you can do with whatever you know or can acquire and actually accomplish [that] tends to be valued here." Hence the company's slogan: "Intel delivers."

It almost doesn't matter what you know. . . . To claim that knowledge was secondary and execution all-important—well, I wouldn't learn *that* at Harvard. I found the proposition thrilling, a real-world affirmation of accomplishment over credentials. But Grove wasn't finished, and he had saved the best for last. Over a few closing minutes, he outlined a system he'd begun to install in 1971, when Intel was three years old. It was my first exposure to the art of formal goal setting. I was mesmerized.

A few unvarnished excerpts, straight from the father of OKRs:*

> Now, the two key phrases . . . are objectives and the key result. And they match the two purposes. The objective is the direction: "We want to dominate the mid-range microcomputer component business." That's an objective. That's where we're going to go. Key results for this quarter: "Win ten new designs for the 8085" is one key result. It's a milestone. The two are not the same. . . .
>
> The key result has to be measurable. But at the end you can look, and without any arguments: Did I do that or did I not do it? Yes? No? Simple. No judgments in it.
>
> Now, did we dominate the mid-range microcomputer business? That's for us to argue in the years to come, but over the next quarter we'll know whether we've won ten new designs or not.

It was a "very, very simple system," Grove said, knowing simplicity was catnip to an audience of engineers. On its face, the conception seemed logical, commonsensical—and inspiring. Against the stale management orthodoxy of the period, Grove had created something fresh and original. Strictly speaking, however, his "objectives and key results" did not spring from the void. The process had a precursor. In finding his way, Grove had followed the trail of a legendary, Vienna-born gadfly, the first great "modern" business management thinker: Peter Drucker.

Our MBO Ancestors

The early-twentieth-century forefathers of management theory, notably Frederick Winslow Taylor and Henry Ford, were the first to measure output systematically and analyze how to get more of it. They held that the most efficient and profitable organization was authoritarian.* Scientific management, Taylor wrote, consists of "knowing exactly what you want men to do and then see that they do it in the best and cheapest way." The results, as Grove noted, were "crisp and hierarchical: there were those who gave orders and those who took orders and executed them without question."

Half a century later, Peter Drucker—professor, journalist, historian—took a wrecking ball to the Taylor-Ford model. He conceived a new management ideal, results-driven yet humanistic. A corporation, he wrote, should be a community "built on trust and respect for the workers—not just a profit machine." Further, he urged that subordinates be consulted on company goals. Instead of traditional crisis management, he proposed a balance of long- and short-range planning, informed by data and enriched by regular conversations among colleagues.

Drucker aimed to map out "a principle of management that will give full scope to individual strength and responsibility and at the same time give common direction of vision and effort, establish team work and harmonize the goals of the individual with the common weal." He discerned a basic truth of human nature: When people help choose a course of action, they are more likely to see it through. In 1954, in his landmark book *The Practice of Management*, Drucker codified this principle as "management by objectives and self-control." It became Andy Grove's foundation and the genesis of what we now call the OKR.

By the 1960s, management by objectives—or MBOs, as the process was known—had been adopted by a number of forward-thinking companies. The most prominent was Hewlett-Packard, where it was a part of the celebrated "H-P Way." As these businesses trained their attention on a handful of top priorities, the results were impressive. In a meta-analysis of seventy studies, high commitment to MBOs led to productivity gains of 56 percent, versus 6 percent where commitment was low.

Eventually, though, the limitations of MBOs caught up with them. At many companies, goals were centrally planned and sluggishly trickled down the hierarchy. At others, they became stagnant for lack of frequent updating; or trapped and obscured in silos; or reduced to key performance indicators (KPIs), numbers without soul or context. Most deadly of all, MBOs were commonly tied to salaries and bonuses. If risk taking might be penalized, why chance it? By the 1990s, the system was falling from vogue. Even Drucker soured on it. MBOs, he said, were "just another tool" and "not the great cure for management inefficiency."

Measuring Output

Andy Grove's quantum leap was to apply manufacturing production principles to the "soft professions," the administrative, professional, and managerial ranks. He sought to "create an environment that values and emphasizes output" and to avoid what Drucker termed the "activity trap": "[S]tressing output is the key to increasing productivity, while looking to increase activity can result in just the opposite." On an assembly line, it's easy enough to distinguish output from activity. It gets trickier when employees are paid to think. Grove wrestled with two riddles: How can we define and measure output by knowledge workers? And what can be done to increase it?

Grove was a scientific manager. He read everything in the budding fields of behavioral science and cognitive psychology. While the latest theories offered "a nicer way to get people to work" than in Henry Ford's heyday, controlled university experiments "simply would not show that one style of leadership was better than another. It was hard to escape the conclusion that no optimal management style existed." At Intel, Andy recruited "aggressive introverts" in his own image, people who solved problems quickly, objectively, systematically, and permanently. Following his lead, they were skilled at confronting a problem without attacking the person. They set politics aside to make faster, sounder, more collective decisions.

Intel relied on systems in every facet of its operations. Marking his debt to Drucker, Grove named his goal-setting system "iMBOs," for Intel Management by Objectives. In practice, however, it was very different from the classical MBO. Grove rarely mentioned objectives without tying them to "key results," a term he seems to have coined himself. To avoid confusion, I'll refer to his approach as "OKRs," the acronym I assembled from the master's lexicon. In nearly every respect, the new method negated the old:

MBOs vs. OKRs

MBOs	Intel OKRs
"What"	"What" and "How"
Annual	Quarterly or Monthly
Private and Siloed	Public and Transparent
Top-down	Bottom-up or Sideways (~50%)
Tied to Compensation	Mostly Divorced from Compensation
Risk Averse	Aggressive and Aspirational

By 1975, when I arrived at Intel, Grove's OKR system was in full swing. Every knowledge worker in the company formulated monthly individual objectives and key results. Within days of the iOPEC seminar, my supervisor directed me to do the same. I'd been put to work writing benchmarks for the 8080, Intel's latest entry in the 8-bit microprocessor marketplace, where it reigned supreme. My goal was to show how our chip was faster and generally beat the competition.

BULLSHIT.) The best way to solve a management problem, he believed, was through "creative confrontation"—by facing people "bluntly, directly, and unapologetically."*

Despite Andy's hot temper, he was down-to-earth and approachable, open to any good idea. As he once told *The New York Times,* Intel managers "leave our stripes outside when we go into a meeting." Every big decision, he believed, should begin with a "free discussion stage . . . an inherently egalitarian process." The way to get his respect was to disagree and stand your ground and, ideally, be shown to be right in the end.

After I'd logged eighteen months as a product manager, Jim Lally—by then the head of systems marketing, and a great mentor and hero of mine—said to me, "Doerr, if you want to be a really good general manager someday, you need to get out in the field, sell, get rejected, and learn to meet a quota. You can have all the technical expertise in the world, but you'll succeed or fail in this business based on whether your team makes their numbers."

I chose Chicago. In 1978, after Ann and I got married, I became a technical sales rep in the Midwest region. It was the best job I've ever had. I loved helping our customers make a better dialysis machine or traffic-light controller. I loved selling Intel microprocessors, the brains of the computer, and I was pretty good at it. (I came by this talent honestly; my father, Lou Doerr, was a mechanical engineer who loved people and loved selling to them.) Since I'd written all the benchmarks, I knew the programming cold. My sales quota that first year was an intimidating $1 million, but I beat it.

After Chicago, I returned to Santa Clara as a marketing manager. Suddenly I had to hire a small team, guide my people's work, and measure it against expectations. My skill set was stretched, and that's when I came to more fully appreciate Grove's goal-setting system. With an Intel manager coaching me through the process, I developed more discipline, more constancy. I relied on OKRs to communicate more clearly and help my team get our most important work done. None of this came naturally. It was a second, deeper level of learning objectives and key results.

In 1980, an opportunity surfaced at Kleiner Perkins to leverage my technical background in working with new companies. Andy could not fathom why I would want to leave Intel. (He himself put the company ahead of everything, with the possible exception of his grandchildren.) He had an amazing ability to reach into your chest and grab your heart, pull it out, and hold it in his hands in front of you. By then he was the company's president, and he said, "Come on, Doerr, don't you want to be a general manager and own a real P&L? I'll let you run Intel's software division." It was a nonexistent business, but could have been built into one. Then he added a zinger: "John, venture capital, that's not a real job. It's like being a real estate agent."

Andy Grove's Legacy

When Grove died at seventy-nine after years of stoic suffering with Parkinson's disease, *The New York Times* called him "one of the most acclaimed and influential personalities of the computer and Internet era." He wasn't an immortal theorist like Gordon Moore or an iconic public figure like Bob Noyce. Nor did he publish enough to rest beside Peter Drucker in the pantheon of management philosophy. Yet Grove changed the way we live. In 1997, three decades after his experiments at Fairchild, he was named *Time* magazine's Man of the Year, "the person most responsible for the amazing growth in the power and the innovative potential of microchips." Andy Grove was a rare hybrid, a supreme technologist and the greatest chief executive of his day. We sorely miss him.

Dr. Grove's Basic OKR Hygiene

The essence of a healthy OKR culture—ruthless intellectual honesty, a disregard for self-interest, deep allegiance to the team—flowed from the fiber of Andy Grove's being. But it was Grove's nuts-and-bolts approach, his engineer's mentality, that made the system work. OKRs are his legacy, his most valuable and lasting management practice. Here are some lessons I learned at Intel from the master and from Jim Lally, Andy's OKR disciple and my mentor:

Less is more. "A few extremely well-chosen objectives," Grove wrote, "impart a clear message about what we say 'yes' to and what we say 'no' to." A limit of three to five OKRs per cycle leads companies, teams, and individuals to choose what matters most. In general, each objective should be tied to five or fewer key results. (See chapter 4, "Superpower #1: Focus and Commit to Priorities.")

Set goals from the bottom up. To promote engagement, teams and individuals should be encouraged to create roughly half of their own OKRs, in consultation with managers. When all goals are set top-down, motivation is corroded. (See chapter 7, "Superpower #2: Align and Connect for Teamwork.")

No dictating. OKRs are a cooperative social contract to establish priorities and define how progress will be measured. Even after company objectives are closed to debate, their key results continue to be negotiated. Collective agreement is essential to maximum goal achievement. (See chapter 7, "Superpower #2: Align and Connect for Teamwork.")

Stay flexible. If the climate has changed and an objective no longer seems practical or relevant as written, key results can be modified or even discarded mid-cycle. (See chapter 10, "Superpower #3: Track for Accountability.")

Dare to fail. "Output will tend to be greater," Grove wrote, "when everybody strives for a level of achievement beyond [their] immediate grasp. . . . Such goal-setting is extremely important if what you want is peak performance from yourself and your subordinates." While certain operational objectives must be met in full, aspirational OKRs should be uncomfortable and possibly unattainable. "Stretched goals," as Grove called them, push organizations to new heights. (See chapter 12, "Superpower #4: Stretch for Amazing.")

A tool, not a weapon. The OKR system, Grove wrote, "is meant to pace a person—to put a stopwatch in his own hand so he can gauge his own performance. It is not a legal document upon which to base a performance review." To encourage risk taking and prevent sandbagging, OKRs and bonuses are best kept separate. (See chapter 15, "Continuous Performance Management: OKRs and CFRs.")

Be patient; be resolute. Every process requires trial and error. As Grove told his iOPEC students, Intel "stumbled a lot of times" after adopting OKRs: "We didn't fully understand the principal purpose of it. And we are kind of doing better with it as time goes on." An organization may need up to four or five quarterly cycles to fully embrace the system, and even more than that to build mature goal muscle.

3

Operation Crush: An Intel Story

Bill Davidow

Former Vice President, Microcomputer Systems Division

O peration Crush—the fight for survival by a young Intel Corporation—is the subject of our first extended story on OKRs. Crush illustrates all four OKR superpowers: focus, alignment, tracking, and stretching. Most of all, it shows how this goal-setting system can move multiple departments and thousands of individuals toward a common objective.

Near the end of my time at Intel, the company faced an existential threat. Led by Andy Grove, top management rebooted the company's priorities in four weeks. OKRs allowed Intel to execute its battle plan with clarity, precision, and lightning speed. The entire workforce shifted gears to focus together on one prodigious goal.

Back in 1971, the Intel engineer Ted Hoff invented the original microprocessor, the multipurpose "computer-on-a-chip." In 1975, Bill Gates and Paul Allen programmed the third-generation Intel 8080 and launched the personal computer revolution. By 1978, Intel had developed the first high-performance, 16-bit microprocessor, the 8086, which found a ready market. But soon it was getting beaten to a pulp by two chips that were faster and easier to program, Motorola's 68000 and upstart Zilog's Z8000.

In late November 1979, a district sales manager named Don Buckout shot off a desperate eight-page telex. Buckout's boss, Casey Powell, sent it on to Andy Grove, then Intel's president and chief operating officer. The communiqué set off a five-alarm fire—and a corporate crusade. Within a week, the executive staff had met to confront the bad news. One week after that, a blue-ribbon task force convened to map out Intel's counteroffensive. Zilog, all agreed, wasn't a serious threat. But Motorola, an industry Goliath and international brand, posed a clear and present danger. Jim Lally set the tone for the war to come:

> There's only one company competing with us, and that's Motorola. The 68000 is the competition. We have to kill Motorola, that's the name of the game. We have to crush the f—king bastards. We're gonna roll over Motorola and make sure they don't come back again.

That became the rallying cry for Operation Crush,* the campaign to restore Intel to its rightful place as market leader. By January 1980, armed with Andy Grove videos to exhort the troops, Crush teams were dispatched to field offices around the globe. By the second quarter, Intel's salespeople had fully deployed the new strategy. By the third quarter, they were on their way toward meeting one of the most daring objectives in the history of tech: two thousand "design wins," the crucial agreements for clients to put the 8086 in their appliances and devices. By the end of that calendar year, they'd routed the enemy and won a resounding victory.

Not one Intel product was modified for Crush. But Grove and his executive team altered the terms of engagement. They revamped their marketing to play to the company's strengths. They steered their customers to see the value of long-term systems and services versus short-term ease of use. They stopped selling to programmers and started selling to CEOs.

Grove "volunteered" Bill Davidow, head of Intel's microcomputer systems division, to lead the operation. Over his long career as an engineer, industry executive, marketing maven, venture investor, thinker, and author, Bill has made many lasting contributions. But one is especially dear to my heart. Bill grafted the critical connective tissue—the phrase "as measured by," or a.m.b.—into Intel's company OKRs. For example, "We will achieve a certain OBJECTIVE *as measured by* the following KEY RESULTS. . . ." Bill's a.m.b made the implicit explicit to all.

At a 2013 panel discussion hosted by the Computer History Museum, Crush veterans recalled the importance of structured goal setting at Intel—and how objectives and key results were used "down into the trenches." The OKRs for Operation Crush, which are sampled here, were classics of the genre: time bound and unambiguous, with every *what* and *how* in place. Best of all, they worked.

As Jim Lally told me: "I was a skeptic on objectives and key results until Grove sat down with me and explained why they mattered. If you tell everybody to go to the center of Europe, and some start marching off to France, and some to Germany, and some to Italy, that's no good—not if you want them all going to Switzerland. If the vectors point in different directions, they add up to zero. But if you get everybody pointing in the same direction, you maximize the results. That was the pitch Grove gave me—and then he told me I had to teach it."

As Bill Davidow recounts here, OKRs were Grove's secret weapon in Operation Crush. They turbocharged a large and multifaceted organization, then propelled it with surprising agility. Up against a unified, goal-driven Intel, Motorola never stood a chance.

—

Bill Davidow: The key result system was Andy Grove's way to mold behavior. Andy had a single-minded commitment to making Intel great. He discouraged people from serving on

Establish the 8086 as the highest performance 16-bit microprocessor family, as measured by:

KEY RESULTS (Q2 1980)

1. Develop and publish five benchmarks showing superior 8086 family performance (Applications).
2. Repackage the entire 8086 family of products (Marketing).
3. Get the 8MHz part into production (Engineering, Manufacturing).
4. Sample the arithmetic coprocessor no later than June 15 (Engineering).

ENGINEERING DEPARTMENT OBJECTIVE (Q2 1980)

Deliver 500 8MHz 8086 parts to CGW by May 30.

KEY RESULTS

1. Develop final art to photo plot by April 5.
2. Deliver Rev 2.3 masks to fab on April 9.
3. Test tapes completed by May 15.
4. Fab red tag start no later than May 1.

Turning on a Dime

Early on, just after the first of the year, Bob Noyce and Andy Grove staged a Crush kickoff at the San Jose Hyatt House. Their directive to Intel's management corps was simple and clear: "We're going to win in 16-bit microprocessors. We're committed to this." Andy told us what we had to do and why we had to do it, and that we should consider it a priority until it was done.

There were close to one hundred people at the meeting. The message penetrated two levels of management off the bat, and to a third level within twenty-four hours. Word spread awfully fast. Intel was close to a billion-dollar company at the time, and it turned on a dime. To this day, I have never seen anything like it.

And it couldn't have happened without the key result system. If Andy had run the San Jose meeting without it, how could he have simultaneously kicked off all those Crush activities? I can't tell you how many times I've seen people walk out of meetings saying, "I'm going to conquer the world" . . . and three months later, nothing has happened. You get people whipped up with enthusiasm, but they don't know what to do with it. In a crisis, you need a system that can drive transformation—quickly. That's what the key result system did for Intel. It gave management a tool for rapid implementation. And when people reported on what they'd gotten done, we had black-and-white criteria for assessment.

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intel

TO: All Intel Field Sales Engineers

From: Andy Grove

Subject: OPERATION CRUSH

OPERATION CRUSH is the largest and most important marketing offensive we have ever undertaken. It is large in terms of our commitment--it is the corporation's number one key result; it is large in terms of the manpower we have devoted to it--more than 50 man-years of CRUSH effort in the next six months alone; and it is large in terms of its impact on Intel's revenue--over $100 million in revenue over the next three years.

The importance of OPERATION CRUSH does not come from its size and business impact alone though. Strategically the success of this campaign will highlight a significant evolution that has taken place--and will continue to take place--in our business. We intend to establish ourselves as offering complete computer system solutions--in VLSI form. The 4 CPU's, 15 peripheral devices, 25 software products, and 12 system level products we will be announcing over the next 18 months are the most tangible and meaningful testimonials to the reality of this strategy. OPERATION CRUSH represents the articulation of this strategy.

As an Intel Sales Engineer you will play a major role in making OPERATION CRUSH a success. We are counting on your efforts in two major areas:

- Sell our total microcomputer solution. Use the information in this notebook and follow on material to sell your customers on the need for a complete and integrated microcomputer solution including both hardware and software, rather than just a set of components.

- Exploit all of Intel's resources to win current designs. Take the lead in formulating action plans that take advantage of all the OPERATION CRUSH resources described in the accompanying material.

With your help, I know OPERATION CRUSH and the Intel of the 1980's will succeed!

Andy Grove marshals the troops for Operation Crush, January 1980.

Crush was a thoroughly cascaded set of OKRs, heavily driven from the top, but with input from below. At Andy Grove's level, or even my level, you couldn't know all the mechanics of *how* the battle should be won. A lot of this stuff has to flow uphill. You can tell people to clean up a mess, but should you be telling them which broom to use? When top management was saying "We've got to crush Motorola!" somebody at the bottom might have said "Our benchmarks are lousy; I think I'll write some better benchmarks." That was how we worked.

The Greater Good

Intel stayed on a war footing for six months. I was in a staff position, with no line authority, but I got whatever I needed because the whole company knew how much it mattered to Andy. When the key results came back from Intel's divisions, there was virtually no dissent. Everybody was on board. We redirected resources on the fly; I don't think I even had a budget.

Operation Crush ultimately included top management, the entire sales force, four different marketing departments, and three geographic locations—all pulling together as one.* What made Intel different was that it was so apolitical. Managers sacrificed their little fiefdoms for the greater good. Say the microprocessors division was putting out the futures catalog. Somebody might notice, "Oh my God, we've got a peripheral missing"—and that would ripple out to the peripherals division and the allocation of engineering resources. The sales force organized the seminars, but they leaned on application engineers and marketing, and on my division, too. Corporate communications wrangled articles for the trade press from all over the company. It was a total organizational effort.