The Five Keys to Developing Great New Products

BLOCKBUSTERS

THE SUMMARY IN BRIEF

All companies, no matter what size or in what industry, need to generate innovative new products and services if they are to succeed. Increased competition, both domestic and global, the rapid pace of new technology, and changing customer demands have created a marketplace that is more competitive than ever before.

One innovative product can alter the future of a single company, lead to entirely new families of products, and may even usher in a whole new industry.

In Blockbusters, Gary S. Lynn, Ph.D., and Richard R. Reilly, Ph.D., share the results of their exhaustive 10-year study of highly successful new product development teams.

This study, as shown in detail in this summary, discusses the five critical practices that all successful new-product teams must follow. Lynn and Reilly explain why senior management involvement, having a clear vision for a new product, sharing information, knowing your customer, and teamwork are keys to creating a winning new product.

To illustrate how the best new-product teams work, Lynn and Reilly tell the success stories of Colgate, IBM, Polycom, Iomega, Apple Computer and other organizations.

What You’ll Learn In This Summary

✓ Why the development of blockbuster products requires the full commitment of top management.
✓ How customers can point the way toward the best new product ideas.
✓ The secret of "lickety stick" improvisation.
✓ The power of unconstrained information sharing — and how Apple Computer continued to harness that power as the number of its employees went from a handful to several thousand.
✓ How new product development teams benefit from disagreement, but not dissension.
✓ Why companies learning the five best practices of new product development should start small.
How Blockbusters Happen

Great companies succeed and endure because they continually produce great products. Companies often fail because they’ve forgotten this simple truth. Tactics like manipulating inventory values, speeding up depreciation schedules or moving corporate headquarters offshore don’t create value. Even establishing world-class customer service won’t do much if a company’s products or services are inadequate. To create real value, companies must develop and launch great, blockbuster products—this is the heart and soul of any successful business.

This summary presents the five key practices required for developing blockbuster products. These five practices were identified through a multiphase, systematic, large-scale study of extraordinarily successful, award-winning products, as well as not-so-successful product launches and outright failures.

The study was based on a detailed survey called an “innovation report card.” This innovation report card was used to rate hundreds of new product development (NPD) teams in many different industries.

To identify the “best” of the best practices, authors Lynn and Reilly reviewed projects conducted by the top 100 teams. Those teams had earned either an award from their own company or in their industry for excellence by national publications, such as Business Week, Design News, Newsweek, PC World and Popular Mechanics.

The authors then screened the teams again, this time selecting only those award-winners who scored a “perfect 10” in meeting company goals, meeting or exceeding customer expectations, and meeting or exceeding profit and sales expectations. Thirty-four teams met all of the criteria.

For the next two years, the authors observed how these blockbuster teams did what they did, analyzing every phase of their development process from concept to launch and following up with personal interviews. They learned what the teams did on a day-to-day basis: how well they communicated, how they met deadlines, how deadlines affected the team, how often they held meetings, how those meetings were structured and how well they stayed focused.

The Five Critical Practices

Based on the data from the authors’ 10-year extensive research, here are the five “golden rules” of new product development that the best teams followed:

1. Commitment, Not Contribution of Senior Management. Blockbuster teams had the full cooperation of the highest level of management. Senior managers were either intimately involved with most aspects of the project, or they made it clear that they totally supported the project.

2. Clear and Stable Vision. Blockbuster teams stayed on course by establishing “project pillars” early on—specific, unchanging goals for the product that the team must reach.

3. Improvisation. Blockbuster teams did not follow a structured, linear path to market. Instead they moved “lickety stick.” That is, they were flexible, trying different ideas and prototypes in rapid succession (lickety) until they developed a prototype that clicked with their customers (stick).

4. Information Exchange. Blockbuster teams did not limit their information exchange to formal meetings. They shared knowledge in dozens of small ways—from coffee klatches to video conferencing to hundreds of e-mails.

5. Collaboration Under Pressure. Blockbuster teams focused on goals and objectives instead of interpersonal differences. They built coherent teams, but they were

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not especially concerned about building friendships or even insisting that everyone like each other.

These five practices fit together like interlocking pieces of a puzzle, and it was this “fit” that helped teams create blockbusters. All five practices must be implemented for success — implementing one or two isn’t enough, as revealed through the study. If a new product development team in the study executed the five practices poorly or not at all, its probability of failure was almost 100 percent. But if a team excelled at the five practices, its probability of failure was only 2 percent.

The remaining pages of this summary examine in detail each of the five practices.

PRACTICE #1

The Buck Starts Here

Blockbuster products do not happen without the intense personal involvement of senior management. Usually that’s the CEO — or the person who will be the next CEO or division head. Lynn and Reilly found that without the active participation of senior management, new product development teams were unlikely to create blockbusters, a finding that challenges the advice given by many management books today.

What Doesn’t Work

Coming up with the “big idea” is only the beginning. When you’re the senior manager, your involvement does not stop there. Effective senior managers didn’t practice “management-by-walking-around,” a style in which a company’s top executives “pop in” unexpectedly here and there to check what’s going on and sprinkle their wisdom like stardust. Rather than being helpful during new product development, this management style caused what might be called “hit and run.” When the senior manager comes in to “offer suggestions” on a problem and then moves on to the next crisis, the result is typically a Band-Aid solution. The suggestions are typically short-term, cosmetic fixes that don’t address underlying issues.

Another management style that fails for NPD is the “seldom-seen-and-rarely-heard” approach. This is when a senior executive provides the guiding hand at the beginning, but is conspicuously absent as the team develops the product. The team is constantly hampered by a lack of authority to move the product forward quickly.

Close Encounters of a Beneficial Kind

While “hit-and-run” management fails miserably on new product development, Lynn and Reilly define several useful roles that senior managers can play: project leader, technical guru, coach and active champion. The authors’ advice to senior management is that it doesn’t matter what role you play as long as you make an effort to play one of them.

Project Leader. At some companies, particularly smaller ones, company presidents might spend most of their day on NPD. James Hayssen of California-based Sequoia Voting Systems says that as company president he spent at least half his time on the development of the electronic voting machine which came to market in 1988. “We weren’t a big company — it was our lifeblood, it represented our future,” Hayssen says. The division manager at Sequoia, Craig Short, says, “Hayssen operated pretty much as an equal voice on the team, except when he needed to make decisions regarding financing and deadlines. He was the glue that made it happen. We were in constant communications with him whenever we felt any issues needed resolving.”

Technical Guru. In some cases, the role senior management played on blockbusters was that of technical expert, even though it was not a role that some envisioned for themselves when the project started. One CEO, Brian Hinman of Polycom, said he thought his role would be to go out and raise money. Instead, the mastermind behind the Polycom SoundStation teleconferencing unit turned out to be immediately useful as part of a team, and he ended up becoming the group’s main signal-processing person.

Coach. On other teams, senior managers were not technical experts driving the NPD; they were more like coaches. Iomega’s Kim Edwards describes what Lynn and Reilly call “management by coaching”: “The coaching aspect of managing is spending specific time to solve the problem. The problem may not get solved in my presence, but I get the process going, so when I leave, the group had a different way of looking at things. I taught them how to learn.”

Active Champion: Trust but Verify

The authors did find an exception to the rule of hands-on involvement. On some teams, particularly when the new product was a technological departure, the CEO or senior manager functioned like an executive sponsor and typically provided funding to the project in “chunks.” On the phenomenally successful IBM PC project, the CEO at the time, Frank Cary, got monthly reports from project director Bill Lowe and attended status review meetings. Cary would then release the next installment of cash for the project. He soon became comfortable enough with the team’s progress to give them the rest of the funds. Lynn and Reilly call this
approach “trust but verify.”

One caveat: If the trust-but-verify approach is the one your company favors, the team will more likely succeed if senior management is actively involved at the project’s inception and establishes the project’s parameters.

PRACTICE #2

Have a Clear and Stable Vision

Having a clear idea of the product-to-be is a key element in creating a blockbuster. But a great idea is not enough to ensure success. Your chances of turning a good idea into a big success increase dramatically if you establish specific parameters of what the product will be.

Called “project pillars,” they must be easy to understand and agreed to by both senior management and the team. They must remain stable until you offer the product for sale. Changing project pillars midstream discourages the team, leads to conflict among team members, will probably hold up production, and will most likely result in the new product failing in the marketplace. So the second practice of blockbuster product development is: Articulate clear project pillars that remain stable.

Blockbuster teams were three times more likely to excel in having a clear and stable vision than the failed teams.

Finding Your Project Pillars

How can companies establish project pillars? The authors came up with 12 questions to ask when developing project pillars:

1. What is the product’s “reason for being”?  
2. At what level of excellence must the product’s main benefit be delivered?  
3. What features must the product contain?  
4. What are the design constraints affecting engineering, manufacturing, marketing?  
5. In what critical points must this product excel against competition?  
6. How must the product differ from the competition?  
7. How is the product better than the competition?  
8. Is this difference meaningful to the target market?  
9. Who is the specific target market for this product?  
10. Can you characterize the ideal customer for your product (age, income, lifestyles for a consumer product, size, geography, level of service for an industrial product)?  
11. How big is the potential market for your product?  
12. Are there schedule constraints for bringing the product to market, such as a trade show or holiday season?

To answer these questions, a company must analyze and test competitors’ products and truly understand who its customer is. This period takes study, observation, analysis, time and patience.

When Customers Lead the Way

Lynn and Reilly found that the visionaries and teams who created blockbusters followed a distinct, identifiable process that started with knowing the customer’s needs inside and out. Sometimes the visionary with the blockbuster concept was the customer himself.

Be Your Own Customer

The authors found that the “eureka” moment often occurred when product developers actually lived in the environment in which the innovative new product would be used. In effect, they were their own first customers. This happens so often with blockbuster products that we’ve come to think of this as the Golden Rule of Blockbuster New Product Development: You are your own first best customer. In other words, you’d buy and use your own product if it were available.

Guy Kawasaki, one of the first Apple Computer employees and a highly regarded Silicon Valley venture capitalist, says unequivocally, “If you want to create a revolutionary new product, design something that you yourself would use.”

Go, Look and Listen

Sometimes, however, you can’t be the customer. You must find a way to get in sync with your target buyers, to find out what they want in a new product — or what they could want — when they may not really know.

Developing this kind of consummate customer empathy won’t happen in a telephone conversation with a customer or a quick visit that’s little more than a hello and a handshake.

It takes in-depth, on-site dialogue that sometimes does more than nail down the exact features of your new product. It can lead to a nugget of information that could spawn a whole new product category for your company.

What are the questions to ask when you visit your customers? Here are some suggestions:

● What can’t you do that you’d like to do?  
● If you could change one thing about the product you’re now using, what would it be?  
● Are there tasks you’d like to do with the product you are now using that you can’t?  
● What does this product not do that it should do?  

The answers will probably give you insights you wouldn’t get otherwise. These up-close-and-personal
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interviews enable you and your team to make more informed decisions about the product you’re creating.

What can you achieve with go, look and listen?

● You identify unmet customer needs.
● You may uncover new opportunities.
● You hear firsthand the likes and dislikes about a product or service.

● You see how customers perceive a bundle of features.
● You understand what goes into making a purchase decision.
● You may generate alternative solutions to a design.

Knowing the Competition

However you choose to achieve consummate customer empathy, it’s only half the story when creating project pillars. You must also know the competition inside and out. Buy their products, study them, use them, take them apart. You’re looking for the answers to four questions:

1. Does any product already on the market solve the existing problem?
2. Does your concept do it better?
3. What are the advantages/disadvantages of competitive products?
4. What do customers like or dislike about those products?

“Lickety Stick” Improvisation

The authors call blockbuster practice number three improvising “lickety stick.” This practice advises team members to go from the first concept to prototype to market test to the next concept, prototype and market test “lickety” until the product “sticks” with the customer. Each effort doesn’t have to be perfect; it just has to be better than the last one.

The End of the Orderly Sequence

The lickety stick approach differs from the norm today. Conventional wisdom dictates that NPD teams complete a multiphase process (idea generation, screening and evaluation, development, testing, launch) in an orderly, sequential fashion. At the end of each phase, companies conduct a review meeting at which the core team and senior management make a decision about whether to move to the next phase or end the project.

Blockbuster teams took a different approach. First, the time sequence for NPD was significantly compressed. Second, the team frequently went back to the drawing board — if customers weren’t enthused about the prototype, the team reworked the design. And third, blockbuster teams rarely went through time-consuming phase reviews. There was never any discussion about whether the project should be killed — the decision to proceed was a foregone conclusion.

Lickety Stick Rule #1: Get That First Prototype Out the Door — Fast!

A main principle of the lickety stick theory is: Get that first prototype out the door quickly! The initial prototype, no matter how crude, is for customer feedback at the beginning of the development process. What kind of time frame is involved? Depending on the product, the time frame is weeks, not months. If possible, use off-the-shelf components to accelerate the time to first prototype.

Lickety Stick Rule #2: Now Do It Again . . . And Again

The next step in lickety stick is bringing out subsequent versions of the product as quickly as possible. It means showing each prototype to end users and refining the prototypes, but keeping your project pillars firm. It’s OK to tweak product specifications, but don’t constantly remake the project to try to meet every customer’s whim.

You can’t ferret out this invaluable kind of information any other way. Not only does prototyping make the final product more technologically polished, it can also inspire commitment from both inside the company, and outside from venture capitalists, suppliers and customers. It confirms that the idea is viable.

Lickety Stick Rule #3: A Hard Deadline

One more critical component to the lickety stick process is a hard deadline held over the heads of the NPD team. This creates a sense of urgency that drives blockbuster teams to great successes. There are several types of deadlines: the next annual trade show, the impending collapse of a company unless the next product saves it, or a team’s sense that if they don’t prove themselves soon, they might lose their jobs.

If you have a hard deadline, the emphasis changes from what you should do to what you can do given time constraints.
Information Exchange

When Lynn and Reilly asked blockbuster team members how they handled communication across disciplines, they found that this wasn’t a problem at all—team members readily shared information.

How effective information exchange can strengthen your NPD is best demonstrated with the story of Apple Computer.

Creating a Knowledge Core at Apple

Steve Wozniak, Steve Jobs and Ron Wayne started a computer company on April Fool’s Day, 1976. Their goal was to design, produce and sell an affordable personal computer primarily targeted to electronics enthusiasts.

The group first introduced its “computer” three months later. It was a kit with a printed circuit board that you plugged into the back of your television set. With a modest four kilobytes of memory, it didn’t even have a keyboard. It sold for $666.66 and was one of the first computers to be mass-produced, even though they made only two hundred. All but twenty-five of those early models were sold.

The following year, Wozniak worked on Apple’s next computer, designing it almost completely by himself—for himself. And when it came to market the following April, the Apple II was a huge leap forward. It had color graphics, a keyboard, a power supply in a distinctive case, and eight kilobytes of memory, all for $1,298. It appealed to many people because its operating system was easy to use, unlike the other computers available at the time that were too complicated for the typical user. You could play games on it. You could remove the case to see how it worked. You could work on two tasks at once using its split-screen capability.

Apple II was a big success for the fledgling company. More than 4,000 units were sold in nine months during 1977. Within two years, the company had shipped 35,000 units. By late 1981, more than 300,000 units were sold, and demand was growing. For those glorious years in Apple’s checkered history, the Apple II was the most popular PC in the world. As the market for computers broadened, the Apple II found a place in the home, the classroom and the office.

Wozniak and Jobs knew their early successes would be difficult to follow. Still, they were determined to make a better computer. They went on to create the legendary Apple IIE, the product that secured Apple’s lead in PCs for nearly a decade.

How did an upstart little company create such phenomenal blockbusters? When the authors interviewed people who worked on the IIE, they learned that the team excelled at sharing information. When Wozniak created the Apple II, the company had only a handful of employees literally working out of a garage, so communication was free and easy. It was as if they were in an all-day meeting every day. But, by the time they developed the Apple IIE, the company had grown to over 2,500 employees. Now Apple Computer needed to create a real system for sharing information, and the one they created was simple, yet incredibly effective.

The War Room

Apple designated a conference room as the “War Room.” There, everyone working on the project could easily find the many bits of information amassed on the project.

In the War Room the status of the different functions (R&D, marketing, manufacturing) was constantly updated on handwritten notes posted on the walls. It looked untidy, but that comfortable, lived-in feeling made everyone feel welcome—not just those on the team, but also customers, suppliers and company representatives. The War Room was a communication conduit that embodied the “collective consciousness” of the project.

Some days the key people on the team spent whole days in the War Room as others streamed in and out with updates, concerns, criticisms and suggestions. The whole team met there once a week. Any significant changes on the project filtered out of the War Room within minutes, so all functional areas knew promptly if they needed to make an adjustment.

Collaboration Under Pressure

Why do some teams never seem to pull together? Why is collaboration sometimes so hard to achieve? Lynn and Reilly found that effective teamwork is a natural by-product of implementing the other practices they discuss in their book. This brings us to the last rule of blockbuster product development: Teamwork matters.

Effective collaboration is the result of a team sharing both a common commitment to the vision and a respon-
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ability for getting the job done. With all the different personalities and functional areas involved in bringing a new product to market, conflicts will occur. The trick is to manage them so they aren’t detrimental to the overall effort. Conflicts over product issues can actually be beneficial to the team effort because, if managed properly, they bring up design or manufacturing problems that others may have ignored.

NPD teams are different from many other teams — they’re multifunctional and highly interdependent. The team members are experts in their respective disciplines, and they’re not used to deferring to someone else’s judgment.

Teamwork Is the Result of Implementing The Other Practices

Teamwork was such a constant on blockbuster teams that nearly 90 percent of the top teams were rated excellent in this category.

How did blockbuster teams achieve effective teamwork? Lynn and Reilly found that teamwork was not a result of people liking one another. Teams worked as a unit because they had strong participation from senior management, a unified goal, effective information sharing and clearly delineated roles and responsibilities. Engineers knew what their jobs were, as did people in marketing, manufacturing, and so on. And by implementing the other four practices, effective teamwork emerged.

The Myth of Positive Team Chemistry

The authors found that on teams developing new products that take a large leap forward, intellectual argument was actually a plus. Here, the team maverick is not afraid to bring up problems with the design, and the team members willing to argue important points move the creative process forward in search of ingenious solutions. The people who “go along to get along” are not the original thinkers and problem-solvers a blockbuster team needs.

On the blockbuster teams, there may not have been constant camaraderie, but on the failed teams there was usually outright dissension. Dissension occurred because team members didn’t have clear project pillars or didn’t agree on the pillars they had, and senior management didn’t pay enough attention to the team.

The Message to Management

What are some of the lessons managers can draw from the study of best practices in product development?

The first and most obvious lesson is that top managers must be directly involved with new product development. New products are the lifeblood of your organization, and deserve your time and commitment.

Note that this doesn’t mean that as a top manager, you should immediately demand that all product development teams immediately adopt all five best practices. But you should apply these practices to one project per division, with the division manager or vice president shepherding the project from development to launch to refinement. A key step is selecting the right project to focus on.

Picking a Project

How do you select which project to shepherd? According to a recent study, product selection is one of the most poorly performed aspects of new product development. To select the project, consider the following questions:

1. Which project has the greatest potential if it succeeds?
2. In which area is your company most vulnerable to competition?
3. Which products could potentially change the competitive landscape in your market?
4. Which project is at the core of your competencies?
5. Which project excites the people on your team?

Corporate Culture Constraints

A question senior managers often ask is how they can implement the lickety stick process in an established corporate culture that appears to be directly opposed to it. In that situation, create a team and let team members know that the old rules don’t apply — they have your permission to use the lickety stick approach.
How a Blockbuster Product Saved Iomega

One company that succeeded at producing a blockbuster product is the information technology firm, Iomega.

From Dire Straits . . .

In 1993, the company desperately needed a new product. Three years earlier, it had been flourishing in the information technology industry, but aggressive competition and technological advances by the competition left the company’s product line in the dust. Nearly half of its work force had been laid off. Stock was trading at an all-time low of $2.50 a share. Pieces of the company had been sold. Needless to say, a feeling of gloom hung over the company from the board room to the shop floor.

. . . to Billion-Dollar Revenues

But just when Iomega was about to collapse, it engineered a remarkable comeback. A new CEO, Kim Edwards, arrived to perform entrepreneurial CPR, and in just over a year, the company began shipping an innovative new product that took the market by storm. Four months later, the company’s stock had skyrocketed from just under $7 a share to an after-stock-split equivalent of $112 a share. In the first full year of sales, a million units were shipped. In two years, sales increased from $141 million to $1.2 billion, climbing in the next year to $1.7 billion with $115 million in net income. The company’s blockbuster product was the Zip Drive.

How did Iomega accomplish such a remarkable turnaround? By integrating the five key practices throughout its product development process. Doing so wasn’t a matter of starting with one practice and then moving methodically through two to five. Each of the practices — senior management involvement, clear and stable vision, improvisation, information exchange, and collaboration under pressure — affected the other practices and remained in play throughout the entire development process.

CEO Edwards Plays Key Role

The gravity of Iomega’s situation — and Edwards’ persistent involvement — eventually won everybody over. “I talked about having a maniacal focus,” said Edwards. “This is what we have to do, and anything that gets in the way has to be removed.”

Edwards was the employees’ constant coach. “What can we do to get the price down?” he would ask. Or he’d remind them that the product “has to be fast, but only fast enough.” Edwards explains: “If you really want to maximize performance, you can’t tell people what to do, you have to help them get there. If you say, ‘I’m going to take you out and you’re going to run the hundred-yard dash in 9.5 seconds,’ you’re never going to get there. You have to run alongside and tell them what’s necessary to do it.” With this kind of coaching, Iomega’s engineers became determined to prove they were up to the task.

The team held weekly cross-functional meetings that were informative rather than finger-pointing exercises. Engineering, marketing, sales, advertising and operations were cooperating like parts of a well-oiled machine.

A Great Success — In Half the Time

The whole Zip Drive project, from inception to delivery, took only 11 months, less than half the development time Iomega had allotted for previous products.

The initial sales target was 200,000 units for the first 12 months. The company sold a million instead. A few months after launch, Iomega set up production in Switzerland and Japan to try to keep up with demand. Three years after Zip’s launch, Iomega’s stock soared from approximately $2.50 to $150 in real dollars. The market capitalization of the company went from $59 million before Zip to $3.2 billion in 1997. Business-Week awarded the Zip Drive its gold medal, its highest honor for an innovative new product.

The intense focus of working on a blockbuster team is immensely rewarding for the people involved. It is an experience they usually want to re-create. “A whole bunch of other very able, very talented people are ready to do the next project,” says Greg Allen, electrical manufacturing engineer on Zip, who is still with Iomega. “All we need to know is what the next project is. We would do it again in a second.”

Everything, All at Once

What did Iomega do right? The quick answer is: absolutely everything. CEO Edwards and R&D director George Kreiger established a clear, easily understandable vision for their new product, stuck to it, and made sure everybody bought into their vision. The engineers did whatever it took to get from concept to reality, improvising as needed and using all kinds of equipment.

The CEO was a highly visible part of the team, visiting R&D regularly and sitting in on morning get-togethers over coffee. Everybody kept him in the information loop. More formal meetings were true exchanges of information among different functional areas. Iomega unconsciously implemented the five practices of blockbuster success, and came up with a winner.