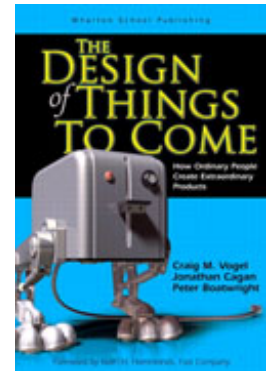




## New Generation of Innovators: Creating Extraordinary Products

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Many successful products today signify a revolution in product design that is driven by customer emotion, self-image and fantasy, not just function. In *The Design of Things to Come: How Ordinary People Create Extraordinary Products* (Wharton School Publishing), authors Jonathan Cagan, Craig Vogel and Peter Boatwright present a new generation of products that transform consumer lifestyles. The authors also profile a new generation of innovators, looking at how they inspire people around them and turn their visions into reality. Below is an excerpt from the book's first chapter.



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### Chapter One: The New Breed of Innovator

Innovation is about people. Companies focus on customer needs, wants, and desires as they design new products; after all, products are purchased by and for those who will use them. Those who design the products also are people -- ordinary people who apply their skills to develop new ideas and products. Yet certain individuals have evolved to a level of innovator who envisions, leads, and manages the complete context of a product or service. These people are the new breed of innovator, and they are the model for all of us to follow. Who are these innovators of today, how did they acquire the insight to innovate products that excite consumers, and how do they simultaneously inspire and motivate the people with whom they work? In this chapter we introduce three of these innovators in order to reveal their mentality and methods.

### Pragmatic Business

At the age of 18, Dee Kapur left India and arrived in New York City on the first leg of his journey to California to attend Stanford University. His flight was late, and he missed his connecting flight; Kapur found himself stranded in the Big Apple with \$200, his suitcase, his tennis racquet, and little sense of what to do. He eventually got to Stanford, and although economically poorer, he gained a new sense of confidence. With no money to his name, he found that he had to be innovative in small ways every day just to make ends meet. His current drive for innovation in business has its roots in such experiences, when he had to seek new and efficient solutions in daunting circumstances.

After earning a degree in mechanical engineering from Stanford and his MBA at Carnegie Mellon, Kapur eventually landed at Ford Motor Company. At Ford, he continued to seek innovative ways to turn supposed barriers into opportunities. At one point, he ran the most profitable line of vehicles in the United States and was part of the group at Ford that helped transform the SUV and a pickup truck from a service vehicle into a lifestyle vehicle. In 2003, after a successful career at Ford, Kapur was named president of the Truck Division of International Truck and Engine.

Kapur believes in what he refers to as pragmatic innovation, a term that perfectly captures the balance between creativity and profit. He recognizes that, even as he leads an organization, he cannot mandate innovation. However, he can institute a management process that fosters it. Kapur models his approach to his employees with one dose inspiration and one dose instruction. The level of interpersonal relationships is reinforced by the practical, by budget allocations, and by reward and recognition. In his work with others and in his business procedures, Kapur holds up innovation as a clear signpost that shows the direction of his leadership. How you allocate your time and money and how you groom your employees

show your priorities and establish incentives within a company.

At the end of the day, Kapur keeps an eye on results. Although his upbringing and engineering training continuously ensure attention to facts, logic, and results, often the road to the outcome is newly laid. He likes to set targets for his company that he has "no freakin' idea how to get to." These targets are not just goals; they shape corporate culture. The targets create a demand for unconventional input, and, more often than not, they coalesce into a game plan that would not happen with a "safe" goal. In setting such goals, he has developed an instinct for finding the sweet spot between the acceptable and the impossible. Setting the bar where he does helps motivate those under him and creates an environment of creativity. He also sets a positive example by walking the walk; he strives to be the ideal he wants others to be. He has a directness and honesty that you instantly respect. He wastes neither words nor time. He does not look to blame others; instead, he looks to accomplish goals. He never seeks to embarrass people, and he knows the power of win-win.

Throughout his career Kapur has looked to identify the people who, like him, are looking at the broader picture. He realizes that you can never bring everyone along with total conviction, but if you build a core team right away, you can change the way a group or project team works. In any organization, he says, approximately 30 percent of the people are passionate about wanting to win or at least make a difference. The leader's challenge is to identify those people, groom them, harness their energy, and let them be a beacon for others. If one can garner the allegiance of that 30 percent, that is success. Spend time with the people who want to be motivated. Challenge and "jazz" them, and they will introduce a velocity and energy that will propel the rest along with them.

For Kapur, pragmatic innovation requires a balance of the left and right brain working in unison. Such a balance enables him to see situations in a broader way than many others. He can manage the duality inherent in complex corporate decision making. He intuitively understands the concept of moving from one level of viewing the problem to another. He attributes this in part to the fact that he not only has an analytical ability to understand engineering and business systems, but he also has a feel for the lifestyle side of products, he appreciates the human reaction, and he recognizes the compulsion that drives prospective buyers. He was raised in the Himalayas in India, but he also spent time in Europe when his father was transferred there in the course of his career. He has a global perspective born of his personal life: high school in the Himalayas, several years in Europe as a child, and an exposure to life's possibilities without the luxuries of coddling.

His ability to see the value of the different major players in the process enables him to manage and motivate others and to unify them toward common goals. It is not who is right or wrong, but what needs to be done to get to the next level. In our work with the auto industry, we saw many examples of managers who were loyal to their area of expertise and defensive about the requests for change or perspectives offered by other areas in the company.

Many complain that employees in other areas of the company are myopic. If only they could learn to see the situation from another's perspective, they could move faster and make the right decision. Design stylists complain that others fail to grasp the gestalt, or entirety, of a design; when non-designers pick it apart and make changes to the pieces, they compromise the overall effect. Engineers argue about cost overruns and the inability to deliver on style without compromising performance quality. Manufacturing argues about the feasibility of maintaining tolerances given form complexity or material choices. Human factors and safety specialists constantly call for changes in engineering and styling to ensure a higher degree of safety. Cars are designed to be driven, but human-factors specialists are trained to think about when the car will fail. Marketing argues for details that stylists reject as incompatible with the new approach to style. In short, there are plenty of reasons to disagree. Kapur does not like to take sides; when he must, however, it is to ensure a successful outcome, and he strives to bring his team along with him. A persistent operating theme for him is "integrated execution!"

When Kapur started in automotive design, he was as fascinated with styling as he was with engineering.

While directing the Truck Division at Ford, Kapur, along with marketeers Bob Masone and Allison Howitt and head truck designer Pat Schiavone, was viewing an old two-seat roadster with saddle leather interior. The car exuded high class, and at the same time, the leather reminded him of the saddles cowboys used. And those cowboys happen to be customers of pickup trucks. Wouldn't it be great if a pickup had a similarly luxurious interior, one that still connected to the cowboy aura? That leap led to the development of a limited-edition F-150 pickup with saddle leather interior, co-branded with the King Ranch in South Texas.

The King Ranch accomplished a number of things inside Ford as well as with the F-150. The project not only made a strong brand statement of innovation for Ford, it also created a great working relationship with the whole team. Trucks and SUVs became the place where everyone wanted to be; it was where the action was. The new line of F-150s introduced in 2004 (and further discussed in the next chapter) was a product of the team that brought you the King Ranch as well as the Harley Davidson F-150 (designed jointly by Gordon Platto and Willie G. Davidson himself). According to Kapur, "The name of the game is to continually change it." That is the focus of Kapur's view on innovation.

Yet Kapur's last assignment at Ford was to deal with the challenging problem of controlling costs in vehicle programs. Controlling costs by itself is not a difficult task -- cut out all unnecessary parts, and cheapen those that are integral. But that approach leaves the company with little to sell other than a low price. The challenge is to produce great products while meeting cost goals. More managers are needed who can handle both the creative innovation such as that in the King Ranch and the pragmatics of cost, because the combination of these two positions gives Kapur the ying and yang of what it takes to develop innovative products. Now, Kapur will see whether that same approach can help clarify and rebuild the International brand in the trucking industry.

Kapur sums up his approach to managing innovation in three steps:

- Make innovation and boldness part of the culture -- everyone needs to know what you stand for.
- 1. Role-model innovation as often and in as many forums as you can.
- 2. Institute a management process that fosters innovation.

Kapur lives by the vision that "the future for society and the country is vibrancy in innovation." Kapur is a new breed of innovator.

## **Global Brand and Industrial Design**

It was August, and Chuck Jones was at Michigan International Speedway competing in a vintage Indy car race. Jones started racing cars at the rather young age of 8, turned professional at age 15, and now -- in addition to his career as vice president of global consumer design for the world's largest appliance manufacturer, Whirlpool Corporation -- at age 44, he still keeps sharp by participating in a half dozen high-speed races each year. Driving at speeds of 168 mph requires a level of concentration that anyone could learn from, and Jones excels at it. He is still winning regional championships against competitors less than half his age. Jones considers this experience to be the kind of event that allows him to escape from the daily grind and keep things in perspective. He learned how to manage quality programs when working at Xerox Corporation, programs that were a major part of the Xerox success story of the 1980s. At Xerox, he directed several successful product programs for new copiers, and he came away with a thorough understanding of digital product interface. The discontinuities between his day job and hobby are very much how he views innovation -- the ability to arrive at discontinuous solutions that yield paradigm shifts in your product, service, and brand.

Although Jones's formal degrees are in industrial design and human-factors engineering, his first degree

was really from the fields in Indiana, where he grew up in farm country. He knows all about machines and how to disassemble and fix an engine. As a side note, Jones family lore has it that Chuck successfully diagnosed a problem on an engine, disassembled it, reassembled it, and got the engine running at age 5. On the farm, innovation meant having to find a fix for a broken gear on the combine during harvesting season at 4 a.m. when no stores were open. Discontinuity meant working on the family farm at 4 a.m. during harvest season when running the farm was just a family hobby and your dad had a day job as a chemical engineer. Tending to a hobby farm at 4 a.m. as a kid built a strong work ethic and solid values.

Although he trained primarily in industrial design, Jones, like Kapur, has balanced capabilities in the left and right parts of his brain. His engineering side is comfortable with the precision and logic of math, which has enabled him to thrive in management; at the same time, he explores the possibilities of creation through design. After finishing college, he gained experience in business and quality systems development. He went through several product development cycles at Xerox and had developmental jobs such as running the business strategy office, eventually becoming the manager of industrial design and human interface. Whirlpool recruited him, and he now directs one of the biggest global brand design, user interface, and consumer understanding programs in the world. From the headquarters of little-known Benton Harbor, Michigan, he manages the global design empires of the Whirlpool and KitchenAid product lines in the United States as well as the 11 other Whirlpool global brands, and he manages design for appliances under the Kenmore and IKEA brands.

One brand innovation championed by Jones and a team inside Whirlpool's North America business unit is the Gladiator GarageWorks line of products for garage and basement storage systems. The innovation team that developed the idea of Gladiator GarageWorks recognized that, in many households, women tend to take the lead for purchase decisions in every "living quarters" room -- the kitchen, living room, bedrooms, bath. Therefore, the last bastions for men in the home are the basement and garage. With the Gladiator GarageWorks system, consumers may pay up to \$25,000 extra when building or refurbishing a house for the sake of a "dream" garage shop, complete with quality shelving and cabinetry, a "Freezerator" that allows one to adjust the percentage used for refrigeration versus freezing, and a "Beverage Box" to keep 170 cold ones. The appliances sense both hot and cold temperature extremes; they not only refrigerate, they also have built-in heaters, ensuring that the contents stay chilled in a steamy hot garage but are never frozen in an unheated one. This new Whirlpool brand brought in \$25 million in revenue in just its second year!

Jones's timing in going to Whirlpool was perfect. He had just gained experience in a company that went from being a "copier company" to a "document company." Xerox was in the printing business and making some of the most complex modern industrial and business printers in the world. The company was attempting to integrate complex digital-driven products with electronic, electromechanical, and mechanical systems in one product. The daily use of these machines is intense, and the complexity of interaction and range of users demanded an entirely new approach to the design of the interface of the products. Jones learned the power of digital interface design to connect people to machines. The best copier or printer in the world is useless if you cannot understand how to use it and if you waste more time making mistakes than the copies you want.

Jones understood that the appliance industry was ripe for the same change. He recognized that an appliance company could dominate in the industry if it could figure out how to improve the function and service without making the product interface too complex. He also knew that most appliance companies were still living in the "big white box" world without grasping the fact that the market had changed. Kitchens and laundry rooms were taking on a whole different meaning in the contemporary United States home. The washer and dryer were seen as a bland and generic commodity -- a "sea of white," as Jones likes to call it. The old paradigm was that no one cared about the aesthetics of the laundry room -- when one machine broke, you bought any other one, and possibly from the same brand. Only 18 percent of washers and dryers were sold as pairs.

So Jones leveraged the international structure of his group and, along with global engineering and brand

marketing in Europe and the United States, helped create the Duet washer/dryer. The Duet adapted a technology platform from Europe to the tastes and reliability expectations of North America. The focus on consumer interaction and ergonomics led to the insight that the washer and dryer should be raised on a pedestal so that consumers do not have to bend over to reach inside the machines. The aesthetic and ergonomic statement of Duet has changed the face of laundry rooms. Today, more than 90 percent of Duets are sold in washer/dryer pairs. The product is so successful that Whirlpool was able to raise the price three times after its initial introduction. Each Duet machine sells for three times the average competitive machine because of its integrated consumer benefit package of world-class aesthetics, great energy efficiency, and benchmark ergonomics. Consumers see the value, and that is successful innovation!

While the Whirlpool brand has been enjoying tremendous success, there is an equally interesting story in Jones's developments in KitchenAid (another brand of Whirlpool Corporation). The KitchenAid mixer is an icon of the American kitchen and stands head and shoulders above the competition in perceived value. In the age of digital-driven products, the KitchenAid mixer stands alone as a throwback electromechanical marvel. Timeless like any great icon, it sits supreme in a kitchen of baby boomers or newlyweds. Often the anchor gift for a young couple's new kitchen, the mixer will last them until retirement. That's the good news.

The bad news is you cannot sell a lot of products if each lasts a lifetime -- that is, unless you can leverage the brand equity, which KitchenAid has done with its new Pro Line series of countertop products. If you go to the nearest Williams-Sonoma store in the United States, you will see a line of products that are all in a neutral, metallic gray. They look like scale models of little factories and embody the heft and robust nature of the KitchenAid stand mixer. These are serious, professional-looking products. This new line is the interaction of organic growth and consulting at its best, designed by the in-house KitchenAid Brand Design Studio with support from Ziba, one of the world's best design consulting firms. The new line of gray KitchenAid children sits right next to the proud mixer parents, which come in a range of colors and finishes. The offspring are contemporary but bear a striking family resemblance both in appearance and in their iconic potential. The price tag of many of these new products is a mere \$300 plus tax. Williams-Sonoma signed an exclusive agreement for six months, and, during Christmas 2003, they could not stock them fast enough. Imagine paying \$300 for a waffle maker, which in the Pro Line series is not a waffle "iron" but a waffle "baker." On display nearby is a European waffle maker that sells for \$50. Why would someone pay \$300 for a waffle iron?

It is often the case that an experience on a vacation can become the stimulus for the purchase of a new product. For example, your kids may have loved the brunch at a Hilton because of the make-your-own-waffles experience with the large-scale professional-grade waffle iron. This big waffle iron has large handles that lock shut and allow the whole unit to be turned over, enabling users to make two waffles at a time. You walked the children through it the first time, and from then on, they were on their own. The machine steamed and hissed as the waffles cooked. The kids loved turning over that big handle and in a few minutes, out popped huge, thick waffles. Forget the muffins, Danishes, pancakes, and eggs. All the kids wanted to eat were waffles, and lots of them. Wouldn't it be great if you could give your kids the same experience in your home? Somehow the small, single-waffle iron no longer cut it. So when you got home from that vacation, you went to Williams-Sonoma, and there it was. Sitting next to the \$50 Belgian waffle iron is the \$300 KitchenAid waffle baker, just like the one that made the waffles the kids raved about on vacation. People buy SUVs for the experience of height, the roominess, the safety, and sometimes for all-wheel drive. These benefits are worth the extra fuel costs. Similarly, people buy KitchenAid for the experience; cost and size are thrown to the wind. Now Saturday can be a special family event as everyone relives a vacation experience.

What Jones (in a Field of Dreams scenario) knew and the team delivered on was that if they could make a compelling product that drafted off the success of KitchenAid, they would succeed -- If they built it, they would come"...and they would buy. The profit margins are enormous, more so than for many traditional Whirlpool products. Giving Williams-Sonoma a six-month exclusive for the new line added to its appeal and supported the price tag. The rest of the story is equally as interesting from a brand perspective. If you

go into Target, you will see the same KitchenAid mixer (because this product crosses all demographics), but you will not see the Pro Line series. What you will see instead is a \$50 set of KitchenAid products in Target red and individual KitchenAid tools selling for \$20. This extension from upscale to box store is not easy to accomplish. Using the KitchenAid mixer as the anchor is an innovative marketing move that so far has paid huge dividends. The idea of updating and extending the brand of KitchenAid caught the competition napping.

Like Dee Kapur, Jones has learned to see the other perspectives in the company with equal clarity and respect. While he has a keen sense of visual design and style, he also knows the issues that impact the bottom line -- the core business architecture. He and his Brand Studio directors oversee a group that includes industrial design, graphic design, interface design, user research, and human-factors engineering. His brand teams are multidisciplinary and work in an integrated way with other areas of the company.

Jones is one of the new breed of innovator. In five years, he has built his global brand group to more than 100 people from the 15 he started with, and his staff are all in demand from other brand- and consumer-driven companies that hope to hire them away and capture some of Whirlpool's success. When Jones was awarded the Smithsonian Institute's National Design Award at the White House in 2003, it was the culmination of his and his team's success of a multiyear strategy to make Whirlpool the most recognized appliance brand in the world and recognized as a design leader. Consistent with Kapur, Jones can "see" the playing field; that is, his experiences have enabled him to see and understand the interconnected challenges of design, engineering, and marketing.

As a leader of innovation, Jones has several main goals:

- Make the resources -- time, space, money -- available for the team to explore; 20 to 30 percent of his resources goes to innovation.
- 
- Use the resources to keep a pipeline of innovation going; on a yearly basis, the group generates hundreds of ideas, explores dozens of the promising ones, and then focuses on a dozen as possible product or brand introductions.
- Make the tough decisions on which ideas fit the corporate business case.
- Create an environment where everyone has the opportunity to contribute; to build such a rich team of talent is meaningless unless you use that talent.
- Track innovation, understand its impact, and make it visible throughout the company so that the value of the group is clear; what gets measured gets attention!
- Hire people who embody both "book smarts" and "street smarts" -- those who can use both sides of their brain.

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