

# Transforming into Dell 2.0: The Customer's Strategic Role in Design Innovation

by Kristina Goodrich

*This is a behind-the-scenes look at a corporate metamorphosis. Policies giving rise to Dell's notable record of past achievements were no longer sustaining growth; a new vision was essential. Kristina Goodrich reveals where Dell is headed today as it blends an awareness of marketplace realities with a nuanced assessment of user preferences. The result is an array of cutting-edge products that are renewing sales and the company's brand.*



Dell has made it to the front page many times in its history, but late in 2006 it got there for all the wrong reasons. This time, the focus was not on its many achievements, like its innovative distribution system and unprecedented growth. This time, it got the spotlight because it had slipped from the number-one position in PCs, and the pundits had fodder for what they do best: worry. Their hand-wringing sent nerves jangling on Wall Street, but at Dell, they had already begun the process of identifying and defining what had changed to undermine the company's position and what was needed to mount the comeback.

Noting the recent introductions of new models that break dramatically from Dell's grey flannel suit look, I decided to talk with its Austin, Texas-



Kristina Goodrich,  
Principal, Kristina  
Goodrich Communication

based director of experience design, Ken Musgrave, to understand what lies behind this change. How is the company altering its business practices to align with a new customer profile? How has it changed the conversation from the focus on direct and low-cost business models? Where does design fit into the dramatic shift in strategy that it embodies?

A year ago, Dell had extraordinary customer loyalty across all sectors. It had a tradition of service and strong standards of quality. It also relied on business models that had brought it to a high-water mark of prosperity in record time through industry-changing operational efficiency and a direct connection to its customer. Analysis, however, showed that its business models could be (and indeed had been) copied,

and thus now lacked the energy to push the company to the next level and sustain it into the future. "We recognized that what had made Dell one of the most successful enterprises in history in terms of operational efficiencies and quality products was not going to solely sustain us in the future," remarks Musgrave. The currents of change needed a preemptive response from Dell lest it fall victim to its own history. It needed to adapt, but within the framework of its fundamental principles. "Our heritage includes a tradition of industry firsts, leveraging and setting many industry standards. Dell recognizes that the road back to market dominance will have to build on this heritage with more compelling products."

The key change agent disturbing Dell's market position lay in the nature of purchasing psychology. Specifically, prices for notebooks and PCs were dropping to well within consumer range, with huge implications for brand and design. Much has been written about how HP, Sony, Toshiba, Acer, and others had capitalized on appealing to customers and how shopping for a computer in a store involves a different decision-making process from that used in



The UltraSharp 2707WFP shown here exemplifies how design found itself in a position to participate strategically in Dell 2.0. By developing standardized specifications and user-centric ergonomic designs, design helped OEMs to reduce costs and drive the prices of these displays down, democratizing access. The impact on Dell's flat panel market share was impressive, growing it from 14.7 percent worldwide in Q4'02 to 38.8 percent North American in Q1'05. Impact on this scale earned design the respect and trust of Dell's leadership team.

online shopping. "Consumers are developing their sense of what a computer should be and could do for them much more by shopping in stores today, where products make an impression on a visceral basis first," Musgrave explains. "The consumer's awareness of design is making all our customers more aware and demanding." When the consumers looked at Dell products, they saw the grey-flannel suit of computing—dependable, strong, sturdy, and low-cost, exactly the attributes Dell needed early on as a young upstart trying to gain the trust of corporate IBM buyers. What they didn't see was a personal lifestyle statement. Yet Dell gets 85 percent of its revenue from sales to businesses, so how to respond without throwing the baby out with the bath water?

"Dell 2.0 is based on building on our advantages—the direct model, our close relationship with customers, our commitment to quality—but expanding beyond that core to create best-in-class customer experiences (for all our customers), in large measure through the design of more-compelling products and experiences," says Musgrave. That did not mean styling its way back to the top, and that's the inspiring side of this story. According to Musgrave, Dell is focusing on design that emerges from an in-depth understanding of its customers and a commitment to value and quality.

### Positioning design strategically

One of the most difficult steps a company can take is to change its fundamental models. Design can be central to innovation on that strategic a scale, but it must be positioned properly in the first place if it is to be invited to the table. It was no coincidence that design was in that position at Dell. Although Dell's design group was initially modest, over the years it accumulated successes that ranged from best-in-class notebooks for road warriors to the highest-performance gaming PCs. Best of all, the design group had contributed to the democratizing of flat-panel displays—with its huge eco-footprint advantage—by creating standardized specifications and user-centric ergonomic designs, which reduced costs for OEMs and drove the prices of these displays down. Furthermore, this was at a time when Dell's competitors seemed to be deliberately keeping such displays exclusive. The impact

on Dell's flat panel market share was impressive, growing it from 14.7 percent worldwide in Q4'02 to 38.8 percent of the North American market in Q1'05. By February 2007, Dell was the undisputed number-one supplier of flat panel monitors in the world, according to *DisplaySearch Q1 2007 Quarterly Desktop Monitor Shipment and Forecast Report* (February 2007).

Impact on this scale earned design the respect and trust of Dell's leadership team. "When Dell recognized that it would need to recapture its commitment to leadership, the design group was positioned, in step with the other partners in the company, to put flesh on the vision of Dell 2.0," Musgrave says.

To further understand the challenges facing Dell's reinvention, you have to look at the breadth of its customer base. Dell sells to the most extreme gamer, as well as to the most sophisticated IT data center managers. It sells to corporate IT purchasing agents and to small business owners. Its customers include tech savvy computer geeks and people like me, who just want something that will work fast and well and dependably, with minimum time invested in training. How do you earn a sustained and sustainable reputation for quality when each of these groups defines quality so differently? According to the Dell design team, the approach that has emerged places this highly differentiated customer at its center, with user explorations and design decisions informed by in-depth knowledge of the customer, respect for the individual experience, and a commitment to providing value.

To earn the intense customer loyalty to which it aspires, design at Dell has taken a year-long journey, the impact of which will unfold for many years as it focuses on the substance of aesthetics and interactions as integral to and a reflection of overall quality, the kind of quality that is tuned to the smallest vibration in consumer needs and aspirations, and delivers best-in-class technology through a fully satisfying user experience. "Everyone at Dell knows the work to be done goes beyond form. The brand needs to be designed at every level to deliver on our promise of optimum experience at every point of contact between our customers and Dell," says Musgrave.

To achieve products this saturated in quality requires that Dell do a lot more than change where and how it sells. It means that every sector of the company has to find a way to contribute, both to building a new and broader knowledge base and to the commitment to act on the findings. "This is where Dell's most exciting achievement has come," Musgrave says. "We know that Dell cannot rise as the premier consumer computing company unless every group in it looks for innovative ways to understand, engage with, and serve that customer. And design is central to achieving that kind of connection."

This article sets out the steps begun at Dell to earn the consumer market, and design's role in facilitating those measures. I will describe the key research tools and management strategies that have taken it to the point where Michael Dell can feel confident that design will be a strong leadership principle in the re-energized and dynamic Dell he is forging.

#### Listening to the Dell clique

Apple is not the only iconic company with a large crew of devotees. Dell has earned its own strong clique—supporters who esteem the technological sophistication, pricing, and delivery of its products. So one of Dell's first smart moves has been to listen to those customers and give them a chance to participate in forming new directions and arriving at decisions. The role of customers in the product development process is key to success, but responding to them with openness, sincerity, and honesty has required more than focus groups. This was the driving idea behind IdeaStorm.

Established in February 2007, IdeaStorm is a blog site where Dell supporters can submit ideas on ways Dell can improve its products and services. The site includes a mechanism through which these supporters can vote on their fellows' ideas, as well as comment on them. As Musgrave describes it, "IdeaStorm gives our most vested customers a way to directly tell us what is important to them and to exchange opinions with each other. It gives us another way to validate our customer knowledge and sense of connection, but it's a big commitment on Dell's part." In fact, very few companies have set up such a mechanism.

Predictably in any given thread you will have

people banging the proverbial table to demand that integral webcams are essential to their continued loyalty and almost as many people howling that webcams are a scam and a price burden they don't want. And while one blogger suggests that Dell make them optional, another groans at another choice, another step in the order process, another decision to make. "Within a few weeks of launch, IdeaStorm confirmed ideas we had uncovered using other tools," Musgrave notes. "It also highlighted the passion users felt around some aspects of the product."

Without IdeaStorm, Dell might never have tapped into the strong desire for Linux among its core customers. Added to it are the engagements it now has with other online user groups (direct2dell; Dell Studio), all of which provide insights and a meaningful dialogue between Dell and its customers. "My hope is that we can also use these tools to help our most vested users learn how our experience design group makes design decisions. Perhaps we can build a more design-savvy customer," Musgrave observes.

The strategy of staffing for customer focus Dell's revitalized connection to its customer is also fueled by strategic changes in the way it staffs the broad design function, beginning by reconfiguring and reprioritizing the design investment in terms of focus, capability, geographic reach, and depth of knowledge. The company has recognized that it is a truly international concern by setting up a strong design group in Singapore and establishing eight testing sites around the world, with more than 1,000 people participating in the testing. "This is a very talented team, and we get invaluable information from this presence," says Musgrave. In fact, worldwide, Dell has nearly tripled its design group's staffing. The team now includes 12 PhDs, eight languages (from Romanian to Cantonese), and a fully global experience set, with backgrounds in medical, automotive, textiles and sporting goods, among others. They've established three usability labs in Austin and two in Singapore, and they also work with vendors and consultant sites in the US, UK, Europe, and Asia.

Indeed, Dell has essentially reshaped the experience design competency to meld the talents of cognitive psychologists interested in usability issues with industrial design and brand

experience professionals. Dell has also made a decision not to look at product lines but at customer types. Thus, business units are now defined first and foremost by those customer types, with the experience design group arranged accordingly. The result helps everyone devoted to the business customer share a perspective on that customer. The benefit is that research to understand the business use customer isn't diffused by questions about that customer's recreational needs. Confusion is minimized, focus is amplified, and delivery of meaningful innovation is maximized. As the competency grows in size and importance, Dell expects that additional leadership will be added to the team so that design can have a seat on the leadership teams of the major lines of business.

#### The methodologies toolkit

In any company, design and development resources are precious and the opportunities are many. You know you can't chase them all, and the enterprise is relying on you to invest for greatest impact. How do you make sense of the chaos of voices coming at you? 'As we began to transform our designs, we had to recognize that designing for everyone was designing for no one. We had to ensure that our design choices were resonating with the customer who recognizes and demands great design, whether in a gaming system or in a rack-mounted server," explains Musgrave. He adds that Dell has developed several methodologies to get into the minds and hearts of customers, putting the customer at the center of the process. These include net promoter, design target, psychometrics, and behavioral specifications.

Net promoter. The experience design group expanded on the concept of the net promoter, which is the idea that out of 10 people, there will be one who will influence what the other nine do. These people play a huge role in promoting or demoting products. "The net promoter gives us a view of how likely people are to be a promoter of Dell as a brand versus a detractor of Dell as a brand. The difference is the net promoter score. Our take on it is to dive into the drivers of those perceptions," Musgrave explains. "Some of those folks are basing their opinion of Dell on the product experience, as opposed to sales or support, for instance. The team then

needs to understand which role the product plays and, specifically, which attributes are shaping the net promoter score within that group."

**Design targets.** Intertwined with the net promoter tool is that of design targets. Understanding the key attributes that shape the net promoter score leads Dell's team to identify the most influential people within that population, those with whom it will be important to build credibility and influence. "Those are our design targets. The weakness of most market research is that every voice is equal, yet in reality only one voice out often is influential," Musgrave observes. By reconciling the expectations of the design targets with the overall net promoter score, Dell gains insights into where to make its design investments.

Thus, rather than try to develop scenarios around personas that are amalgamations of a consumer group, Dell has identified unique individuals whose goodwill it is specifically trying to earn. "Understanding their motivation, lifestyles, priorities, economics, sophistication, and so on—what they describe as satisfying or dissatisfying—helps us to divine the configurations, capabilities, form factors, and sources of satisfaction, if not delight, that will resonate with that target," Musgrave explains.<sup>1</sup> "Our tools tap into those people. We are very careful to choose whom to target, and then we design to ensure that we meet the expectation of that customer."<sup>1</sup>

**Psychometrics.** To conduct research that gets behind broad and possibly unfounded statements to understand what the customer really means, Dell developed an attributes-based psychometrics methodology. Two examples come immediately to mind: the "plastic-y" claim and the touchpad experience.

"The comment that some of our products seemed plastic-y really surprised us—especially since they were metal," says Musgrave. "In fact, we were one of the few computer companies using that much metal. So what gives people the idea that a notebook is made of plastic? And why is plastic equated to low quality—or is it just sloppy semantics?" To gain insight into this problem, Dell conducted a test in which customers were seated with a dark curtain between themselves and various notebooks. The customer would score the notebooks based on various factors including form, touch, and feel.

What was discovered after testing was that the issue isn't a matter of plastic versus metal. Instead, customers tended to feel that quality is associated with rigidity and other related factors far more than with any particular material.

**Behavioral specifications.** "Understanding who our customers are—their expectations of how they should engage our products—is vital from an interaction point of view," Musgrave explains. Dell's products serve first-time users and IT experts—people with little time to spend boning up on how to accomplish various tasks and people with little education and a repetitive task. What these people don't need is a jumble of elements that are not standard, nor one that is over-standardized to reflect their task structures. "The key here is consistency of behavior between systems—learn one, know many."

Nowhere is this as critical as in Dell's enterprise products. Dell had to eliminate error and confusion—in fact, failure of any sort that might arise from the user's interaction with the prod-



By investigating customer tasks in detail, Dell identified several items in its eighth-generation servers as points of customer dissatisfaction. Development of the PowerEdge (shown here) focused on these opportunities for improvement. Subsequently, these ninth-generation systems were benchmarked against the competition in terms of serviceability with actual IT administrators, and were rated best in class across many design categories.

uct, according to Musgrave. To this end, it developed a system for identifying the processes used by enterprise customers, who must use servers properly and on whose accuracy depends so many of a company's functions. Consider the development of the ninth generation (9G) of PowerEdge servers. By investigating customer tasks in great detail, researchers were able to identify several items in the eighth-generation servers as points of customer dissatisfaction, including nonintuitive design affordances, low perceived quality of components, and the lack of color coding for different technologies. The development of 9G focused on these opportunities for improvement. The 9G systems were benchmarked against the competition in terms of serviceability with actual IT administrators, and were rated best-in-class across many design categories, including accessibility to rear cable connectors, time needed to service and diagnose issues, and the robustness and feel of various components. This process demonstrates the profound impact behavioral specifications can have on customer satisfaction.

Another issue investigated by Dell's team in order to build a behavior specification was the touchpad buttons. "We looked at the entire characteristic of each—from size, shape, travel, and stability to force and feel—to build a model of the importance and weight of each characteristic

in driving customer preference," Musgrave explains. Samples were found or modeled that provided a range of performance values along these different characteristics. The overall preference aligned with stability, noise level, tactile feel, and travel distance.

The team then took a deeper dive to investigate the sound of notebook touchpad buttons. It turns out that a lot of business users are unhappy when the volume of sound produced by these buttons is excessive. They don't want other people in meetings to hear them click (since what they are really doing is reviewing the latest sports scores). Yet auditory feedback has always come through as important in usability studies, so eliminating it altogether was not an option. For this investigation, business users were brought into the Dell usability labs and presented with Dell notebooks, Dell notebooks with modified buttons, and competitive notebooks. They were asked to rate the loudness of all the systems on a scale of 0 (quiet) to 10 (noisy). At the conclusion of the usability test, the notebooks were taken to the Dell acoustics lab and, using highly sensitive acoustic equipment, sound measurements were recorded for all the buttons. The combination of the perceived sound levels collected from the usability lab (which ranged from quiet and fine to noisy and annoying) with the actual sound levels collected from the acoustics lab produced an accurate threshold of acceptability.

This "sound limit" is now ingrained into notebook engineering specifications, and all new Dell notebooks heed this threshold, according to Musgrave. The result is very favorable commentary indeed. NotebookReview.com (7/29/07) about the Latitude D830: "I really like the buttons under the touchpad. Instead of having a short, hard click, the D830 has buttons that have a longer, softer click to them which I just find to be rather nice." CNet (6/26/07) about the XPS M1330: "The plastic touchpad buttons (made to look like brushed aluminum) are well cushioned with a near perfect amount of feedback." And about the Inspiron E1505, LaptopMag (1/8/07) said, "We also appreciate the oversized, near-silent mouse buttons that accompany the scroll-equipped touchpad." As Mies van der Rohe said, "God is in the details!"



As Mies van der Rohe said, "God is in the details!" To build a behavior specification for the touchpad buttons and pointing stick, Dell looked at the characteristics of each—from size, shape, travel, and stability to force and feel—to build a model of the importance/weight of each characteristic in driving customer preference. The result? On June 26, 2007, CNet reviewed the newly released XPS M1330, and reported, "The plastic touchpad buttons (made to look like brushed aluminum) are well cushioned with a near-perfect amount of feedback."



Dell is certainly not the first company to offer color choices, and the Inspiron Notebook line is not the company's first foray into color, but now Dell is responding to the convergence of a rise in consumer interest in personalization with a greater penetration of notebooks into the youth and student market. Personalization and an array of color choices are well-suited for the Dell Direct model. The Inspiron color sales bear this out, beating expectations three times over.

#### Lessons learned

The real value of these findings lies in the use of the information across customer lines, the penetration of the insights to fuel "gotta have it/wanna show it off" innovation that will inspire advocacy, enhance value, and establish Dell as the smart choice. Learning how, when, and where to apply that information is also key. Weaving the tapestry by knowing which threads to select, and when, is central,

"The research toolkits and the customer commentary in our blogs combine to give us unprecedented insight into the wide range of customers that Dell serves, and allow us to understand what is driving satisfaction and dissatisfaction with our products," Musgrave explains. "But all the listening has to be coupled with imagination. Understanding needs and priorities does not make for compelling products. It does help you prioritize investment, but you still have to aggregate all the customer input into compelling ideas that have the right appeal to the opinion leaders, and broad appeal to the rest."

The decision to not only use color but which colors to choose and how to use them exemplifies the way customer knowledge and design creativity can come together to produce a compelling story. "We had feedback from IdeaStorm that many customers wanted a "cool" factor, especially for the Inspiron and XPS models of

our personal notebook lines. Testing validated the designers' insight that introducing color, among other things, would send a visual message and spark the 'gotta have it' response," Musgrave explains. According to Dell, the success of the new Inspiron line has dramatically exceeded expectations, which were already high, and the rate at which the color premium is paid is even more unexpectedly high, indicating that a choice of color may have been the key boost for those unanticipated sales.

#### The customer-centric strategy for design positioning

By making the customer central to its design and development process, Dell has diffused the sense of power loss that any shift in corporate culture might incite. It's not about the design group as savior of the day and flavor of the month. It's about how everyone can enhance the customer's experience. The company's perception of its customers, who they are, what they want and why, has to inform decisions from engineering and marketing to corporate communications and design. Innovation has to create real value, not flash. It has to penetrate into the psyche of the customer and deliver on every front, from the Web as sales and support center to the way a touchpad clicks. As Musgrave puts it, "Making this commitment systemic and sustaining it—

that's going to be core to Dell 2.0."

This article has described some of the ways Dell's experience design group is helping to inspire and integrate a customer-centric strategy and a fresh management philosophy about Dell's value proposition. Knowing the results are taking form while this is written makes it a difficult story to write. Dell's latest introductions—the Inspiron Notebook line, the XPS M1330 Notebook, and the Vostro small business product line—are products of its first steps toward integrating customers and Dell structure into a powerful strategic tool. Response has been resoundingly positive. In fact, within weeks of its introduction, the Inspiron 1520 made number one and the XPS M1330 came in at number two in NotebookReview.com's Top 10 picks. Actually, five out of the ten top picks were Dell products.

"And there is so much more and better to come," observes Musgrave, as he looks over the room of models scheduled to make their appearance in the coming 12 months. "It takes time to recast a company thoroughly and honestly. Building the internal trust and humility necessary to let the best ideas grow regardless of their authorship is key to seeing this emergence through to lasting success. But when it's all said and done, the test of our success will lie in passion—namely how much passion we feel about our own products and the passion our products incite in our customers." ■

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