

Selling Good Product Design

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Jobs are hard to come by, managers are cutting budgets and that cool, OXO can opener just isn't necessary for your kitchen. That's the news we're accustomed to hearing these days in boardrooms, newsrooms and in homes across America. That's why it's all the more surprising to hear the importance some managers of technical products are placing on producing products that exemplify good design. Good design, which, more often than not, means "easy to use", is crucial to a product's and ultimately, a company's success. But it can be a subjective concept and not everyone agrees – particularly those holding the purse strings. What can product managers (or anyone else responsible for delivering a competitive product) do to sell the necessity of spending money and resources on good design? How can managers justify the cost? Predict a return on investment? Organize for improved design & innovation? This article will answer these questions by passing on lessons learned from two top players in the Pittsburgh technical region: LogicLibrary and Medrad.

What Gets in the Way of Good Design?

The experiences and challenges faced by the managers of both LogicLibrary and Medrad will probably sound familiar to you. Innovation requires trial and error- and more often than not, disagreement over priorities and methodologies. One obvious conflict occurs between the drive to bring as many new products to market as possible and the **restriction of limited or inaccurately planned resources with** which to do it. As Paul Adam, Manager of Product Development Process at Medrad notes: "Developing new products isn't a repetitive, predictable process like manufacturing. Variability between projects makes resource estimation very difficult — more new products end up in the pipeline than the organization has the capacity to handle. A funny dynamic can happen where managers overestimate to ensure their needs are met so management feels justified in asking for more from the product."

Raised expectations often lead to **conflicts between different disciplines** about what to build and by when. Whether engineers resist managers pushing back on their technical expertise or marketing adds features to an already full development schedule, the net result is often a product that lacks design consistency. Jerry Callan, Program Manager at Medrad, notes: "How a product feels to users, and to the team developing it, are often at odds with the literal requirements."

Even the most thorough requirements list can't anticipate what happens when real users test a product. **Unplanned customer feature requests and unanticipated technical issues** that become obvious requirements can result in cut corners in thinking through how the new requests fit in with the rest of an application or product's workflow. Unexpected features can also mean that "desirable" aspects of a good user interface (colors, standards) get dropped.

A company's **unwillingness to spend time or money on usability testing before a product releases** is yet another factor hindering good design. According to Matt Beale, President of Daedalus/Excel, a Pittsburgh-based product design firm, medical products in particular, often face resistance to pre-release usability testing because of an assumption that federal regulatory requirements mean engineers are already designing for usability.

Bad Design Can Cost You

All of the executives interviewed at LogicLibrary and Medrad emphasized that ignoring design issues could be disastrous to a company's existence. Better products don't matter to customers if it can't be communicated in a sales presentation. Greg Coticchia, CEO of LogicLibrary, flinches at the memory: "In the beginning, we lost customers to competitors with a superior user interface. But we're now superior. The work we've invested in improving our user interface is one of the main reasons we're winning business instead of losing to our competitors. The lessons weren't lost on us."

UI-Driven Strategies

So how did Coticchia's and Adam's teams face these challenges and end up with products capable of winning sales on the virtue of it's user-interface (LogicLibrary) and of a top five ranking in diagnostic imaging products (Medrad)? The short answer is by incorporating UI-driven strategies into every aspect of the organization and product development process. Read on for more details. As Alan Himler, LogicLibrary's VP of Product Management, declares: "UI is not an afterthought – not now."

Both companies see usability from a wide vantage point. Callan says, "Usability can be the/a whole branding strategy, or just a feature." Coticchia's vision for LogicLibrary takes the concept further and offers three principles to justify investing in a well-designed user interface: "Three things make or break the deal: a good GUI [graphical user interface], an easy install process, and meaningful reporting."

Both companies have instituted processes to support the **planning and resource allocation** necessary for good design – which, incidentally, also help resolve the **interdisciplinary conflicts** issue. At Medrad, along with a an integrated R & D and Marketing coalition, every new product requires "The Triad" – a core product team consisting of a Program Manager, Product Planner, and Lead R & D Systems Engineer. All three of these roles are all involved with every step of the product development process and meet regularly to determine the original business plan (which specifies usability concerns), work out resource issues; incorporate customer research; and, triage iterative customer testing results. LogicLibrary uses a nearly identical process. All cross-functional roles are involved in the process from beginning to end; Product Management determines what to build and Engineering decides how. All parties are held accountable for the product's success: nothing is released without cross-signatures from all managers. Even the customer is virtually "present" in the guise of empathic Product Managers. Coticchia notes: "We knew we needed someone to be responsible for thinking about who will be using our product and under what circumstances."

Upfront design planning via product planning/customer research goes a long way towards avoiding unplanned **feature requests & unanticipated technical issues**. Medrad has employed an effective product planning method called the “Genesis Process” since the early 90’s. Utilizing extensive customer research, including recently training product team members in ethnographic research methods, focus groups, early prototyping and input from a separate Product Innovation Group, Medrad plans extensively for new product development. Adam is particularly enthusiastic about the possibilities arising from new methods: “Ethnographic research is used especially when we need to make major step changes and find additional new product ideas.”

LogicLibrary supplements engineering plans with constant customer communication and encourages a continual feedback loop to offer and receive reciprocal product design improvements. Both firms bring in outside design consultants as needed to finesse navigation flow, standardize user interface elements and ensure accessibility.

Planning ahead for good design or responding to unexpected requirements costs money, however. Both companies have found themselves needing to go to upper management for additional resources but have done so with success. Coticchia found himself needing to ask his company’s board for an unbudgeted \$100,000 once early customer testing revealed significant design flaws he felt needed to be resolved to be competitive. Coticchia used estimated lost sales figures and anticipated cost savings from reduced product support to get the budget he needed and respond to a **return on investment argument**. Now he says, “It’s gotten easier and easier to sell UI – both to customers and to our board. With the increased interaction with customers, our technology and applications are more exposed. Everyone – including the board – has had more exposure to the concept [of good design] and can better relate to the need for it.” Adam concurs: “We’ve recognized ease of use as a key competitive advantage. We know we have to spend time and money on it. Medrad management is willing to spend money on design but we still face pressure to make it an efficient and affordable process.”

Industry studies are discovering more proof to justify spending on design. Dell, for example realized an increase from \$1 million in daily sales (1999) to \$34 million per day by March 2002 after redesigning their e-commerce site. Database administrators using Oracle’s improved navigation structure performed their tasks 20% faster. While neither of these examples is life threatening, medical instrument interfaces too confusing to use properly just might be.

Ultimately good design makes sense. From increased sales to refined product development processes to preventing deadly mistakes, taking the time and money to create products that customers desire and find easy to use is a good investment.