

# Rendezvous with KnowGenesis

“More and more, companies are coming to understand that customer experience does not end with the sale of the product; rather, it begins there.”



*Dr. Carol Barnum*

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**KG:** The benefits of usability testing are many and form a significant aspect of the Return on Investment (RoI) of any project. Broadly speaking, most companies today focus more on increasing revenue and decreasing costs. What are your suggestions to help them maintain the proper balance?

**Dr. Barnum:** Certainly, successful companies need to be constantly increasing revenues and decreasing costs to stay competitive. They also need to stay in touch with the changing needs of the marketplace. That means knowing their customers and serving their needs most effectively, considering both features and benefits of the products and services offered. Usability occupies the space that provides information for marketing and product development about how the product that has been conceived, designed and built works for real customers in real situations. Of course, there is a cost associated with getting answers to the questions of usability, but these costs can be measured and justified against RoI, such as increased sales, reduced technical support, good product reviews in the media, fewer product returns, and so forth.

**KG:** Today, companies that develop computer products or new Internet services need a user experience strategy, just like they need an offshore strategy. Usability is simply one of the issues that executives are expected to care about. What are the important factors to be considered to implement, maintain and measure the outcome of such a user experience strategy?

**Dr. Barnum:** Similar to the point made above, knowing what the issues are and how to measure the improvements

made by usability testing can provide the assurance executives need that the cost of understanding the user experience is less than the return on the investment. For those executives reluctant to put forth the costs to implement a user experience strategy, they should be encouraged to observe a small test to actually see the user experience for themselves. Nothing can replace the real-time experience of seeing and listening to your users. Starting small allows companies to insert a usability test into a product development cycle without delaying the progress of development. Once the success of a single test is witnessed, the results can be shared more broadly to educate executives in all aspects of the company about the knowledge to be gained from understanding one's users. Everyone claims to know their user, but it often takes only a small usability test to prove that the user is often very different from what we have come to imagine. From this point, focus on the tasks user can begin. This includes not only more, and earlier, usability testing, but also the creation of personas, which are based on customer visits and other forms of contextual inquiry. Added up, these form a user-centered design process with the user at the center of all design decisions.

**KG:** How do you think designers can achieve better usability of their products while at the same time maintaining an edge on innovations?

**Dr. Barnum:** Designers need to trust their users to show them what works and what does not. When they add a new feature, they need to see if users can find it and use it, and more importantly, they need to see if the addition of the new feature makes the whole interface so much more

complex that overall usability declines.

A recent study showed that potential users will say in focus groups that they want all sorts of proposed new features on a product; yet, when they are asked to use the product with these new features, they then say that it's too complicated. The most recent example of this is the return of complicated cell phones. The complaint from users making these returns is often, "I just want a phone that makes calls."

So, innovation is always important; but simplicity and ease of use continues to be the driver that differentiates success from failure in the marketplace.

**KG: Usability evaluation is to a large extent based on qualitative and subjective methods and criteria and (mostly) concerns the system as a whole. It is possible that gaps remain in our knowledge of usability evaluation of a system. A major gap concerns what usability actually is and what exactly makes a user like a system. We know that there are several contributors to user satisfaction but we hardly know them all or the extent to which each of them contributes. Moreover, the importance of each criterion may differ across users and user groups. How do you think usability designers can explore these hidden territories while addressing the user requirements efficiently?**

**Dr. Barnum:** It is probably not possible, and it is certainly impractical, to expect that any usability evaluation will assure that all users will be equally well satisfied with the product and their experience. Setting realistic goals is an important part of selling the usefulness of usability and a user-centered design process. My work with clients focuses on usability for discovery. Our goal is to learn from the client's customers or potential customers how they experience the product (whether that is hardware, software, website, etc.) Such diagnostic testing helps developers understand their users and build that understanding into the continuing development of the product. No single test can certify the usability of the product. What it can do is indicate issues that can ripple throughout the design of the product. Seeing the problem in one place in the interface suggests other areas that can create similar problems for users.

At the same time, focusing on a few key user groups (using personas) tells developers what the issues are for critical market segments. It will not address every user in every situation, but there is no practical process that can do this. If expectations are realistically set about what usability testing is good for, then the results are far more likely to be understood and valued, especially when management commits to making changes based on findings. Making the

changes is important, but even more important is testing again to see if the changes worked successfully for users.

**KG: User experience is often a subjective term and therefore any concrete decision based on such subjective experience will probably fail to cater to the wider audience. Do you think that these experiences can be generalized to help build better products? Or do you think that modular and micro strategies are more useful to handle such subjective issues?**

**Dr. Barnum:** User experience is indeed subjective, but that makes it no less real. If there is some skepticism on the part of the developers that one person's experience is not representative of a real problem for users, then the team should wait to see it again.

Generally, significant problems will occur in the experience of more than one user, demonstrating the reality of the problem. However, even when there is only one user experiencing a particular problem, the team should analyze why this particular user had the problem and whether it is an "outlier," or something that is likely to cause problems for others. Every problem is legitimate in its own right, but not all problems should receive equal priority for a solution. Factors such as difficulty/cost to fix, effect on the user experience, and resources to address the problem before product release are all important parts of decision-making.

Any usability test needs to be based on the goals for that particular test. Does the team want to understand the initial experience, the successful path from desire to purchase, or a specific new feature? Each of these goals looks at a different part of the user experience.

**KG: What are the important factors that are driving the usability market today? Do you think these factors have changed considerably, at par with the technological growth in the last two decades?**

**Dr. Barnum:** The increasing use of the Internet, coupled with the increasing competition among popular products such as cell phones and other hand-held devices, has made usability much more important of late. Usability professionals are coming from many disciplines—not just human factors (psychology/cognitive science). They go by such titles as interaction designer, information architect, user experience specialist, and many more. I teach usability testing in a graduate degree program in Information Design and Communication (formerly called Technical Communication) and usability testing is not only a separate course but also included in a number of other courses in our program. New courses are being developed in programs at many universities to serve the growing usability market.

Certificates in usability are also gaining popularity.

Another important change in the increasing focus on usability is the appreciation that it needs to be built into product design. That means it starts before the product begins with user requirements gathering through contextual inquiry, site visits, and so forth. It continues through persona creation and early product/interface prototyping. And it is written into the development cycle with iterative testing as the product moves from early to middle to late stages of development.

**KG: Usability is all about making things simple to understand. It may sound way too futuristic, but do you think that the advancement in usability techniques will one day eliminate the entire support workforce particularly because the intuitive nature of the product does not leave any room for the description at all?**

**Dr. Barnum:** As far into the future as I can see, I don't see an effective way to reduce the need for support. As products change, features change (and become more complex) and new, untapped user populations become a part of the user base (those with disabilities, senior citizens, etc.), people still need and want support for their various learning styles, if nothing else. Some people still want to read the manual, even if it means downloading it from the Web because it is no longer shipped with the product. Others want to be able to talk to someone from the start, which explains the rapid increase in calls to technical support when a new version of a product is released. Still others want to know they can get answers to thorny problems once they get past initial installation. More and more, companies are coming to understand that the customer experience does not end with the sale of the product; rather, it begins there. Today's marketing is about building communities of loyal users. The means of support and community-building may continue to vary, particularly as tools support options for instant messaging, online chat to get answers to questions via a Web-interface, and customer-focused blogs. What is likely to decrease over time is the cost of maintaining telephone support; but the need for support that is easy and accessible from the customer's viewpoint is not likely to change, merely the methods of providing that support. The current pace of offshoring such activities is one example of the continuing need, now being offered in less costly support centers in India and elsewhere.

**KG: What are the main challenges that usability designers are facing today and what important developments do you think will decide the future of usability?**

**Dr. Barnum:** Right now we seem to be in a "boom"

economy and there is plenty of work for usability designers. However, several years ago it was a different story. In the lead-up to September 11 in the United States and certainly afterward, companies were in a slow to negative growth period and there were many layoffs. Frequently, usability engineering was among the first to be let to go.

The challenge facing usability engineers, even in these good times, is to make their value understood to the companies and clients that hire them. The sorts of questions raised here — what does usability do, how can it be effective with small numbers, why doesn't it solve all the problems of the product from the user's perspective, etc.—have to be addressed by the usability engineer to educate others about the value of the process, using metrics to measure savings against the cost of retaining the usability specialist and providing for testing. I certainly try to instill in my students the need to become usability advocates in the organizations they go to work for and the need to constantly promote the value of usability in support of a company's business goals.

**KG: With growing competition in the global e-marketplace, the focus of e-businesses is moving from customer acquisition to customer retention. Towards this, e-businesses, in addition to providing a usable site, are integrating customer relationship management (CRM) strategies into the design and usability of e-commerce environments. Do you think that such integration is necessary? What are the key points that determine the success of the integration and what should be the focus of such strategies?**

**Dr. Barnum:** Although I am not a CRM expert and therefore cannot comment on the effectiveness of an integrated strategy, my earlier comments about the importance of creating a good customer experience—from the outset and continuing through the life of the product and into the next product release—suggest that this is a very important part of current market strategy, particularly in the e-market. Community-building and customer knowledge (not only knowing the customer when she returns to the website, but also, as in the Amazon.com model, knowing what she likes to purchase and thereby making other recommendations) are critical parts of the customer experience. Blogs are another; and there are an increasing number of ways that e-commerce companies are reaching out and connecting to customers in a meaningful way.

**KG: One of the earliest challenges for usability professionals has been usability testing with participants with disabilities. Do you think companies are spending enough to improve the usability of their product for physically-challenged people, and to the success of their**

**strategies? What more is required to be done in this direction?**

**Dr. Barnum:** Not nearly enough. In the United States, the very large companies, particularly those doing business with the U.S. government, are required to address usability issues for people with disabilities. But the motivation for other companies has not been strong.

I don't expect much improvement in this area for some time, because the argument is that the disability market is "small". Those with experience make the valid case that the disability market is disproportionately inclined by circumstance to shop online if it is feasible. But, until more companies are convinced that any funds expended to improve the user experience for any group improves the experience for all, progress is likely to be slow.

When I think of the untold numbers of companies developing products and services without any knowledge of their users, it doesn't surprise me that they haven't jumped on the bandwagon to understand the user experience for people with disabilities. Similarly, I get the same push-back when I suggest to clients that we test with their international users. The comment usually is something along the lines of that audience representing only a small percentage of their market share, so it is not worth the effort.

**KG: Many organizations have realized a 10-to-100-fold return on their investment by incorporating usability methods into the development cycle. Despite the positive returns generated from practicing usability and user-centered design, many organizations have not implemented it because of the costs involved, including a significant investment in infrastructure, time and training. What would be the best way for an organization to implement a software solution that enables it to incorporate usability testing and analysis into development processes with low risk and higher returns?**

**Dr. Barnum:** I've addressed this in several ways in some of the other answers. However, my advice—to paraphrase a popular Nike commercial—would be "just do it." That is, figure out a way to conduct a very small, simple test, even without funding or support beyond your immediate supervisor; then broadcast the results widely through video highlights, sharing the results with product developers, managers, and so forth.

**KG: The use of low-fidelity prototyping techniques has blossomed over the last five years. In the later stages of**

**user-interface design, are low-fidelity prototypes as effective as high-fidelity prototypes in identifying usability problems?**

**Dr. Barnum:** Low-fidelity prototyping is advantageous over high-fidelity prototyping in several significant ways.

1. It allows everyone on the development team—not just the one who writes the code—to participate in the prototyping process. So, more ideas are represented and generated.
2. It allows for extremely fast testing; changing the prototype; and testing again. Several different prototypes could be done in a single day, for instance. Specific answers to specific questions can be addressed and solved this way with the solution also tested via the next version of the prototype.
3. It avoids cosmetic issues that can distract users such as colors, fonts, etc.
4. It has a powerful effect on participants who really do understand that you want their feedback to help make the design better.

What's also relevant is that several studies have documented that the results/findings are no better with higher-fidelity prototyping than low-fidelity prototyping.

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Her graduate and undergraduate courses in technical communication at Southern Polytechnic include a graduate level course in usability testing. Her consulting work includes testing hardware, computer-based training, software, and websites. Her most recent book, *Usability Testing and Research*, reflects the focus of her work on usability since 1992.

**How to quote this discussion?**

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