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Testing the Sizzle of the Steak: Usability Testing of Packaging

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Why Usability Test Packaging?

Today's high-tech products are crammed with features, each raising dozens of usability questions we haven't the time and research budgets to answer. Why should we assign already overcommitted usability specialists to testing packaging—the box that holds the product? Because the usability of product packaging affects the success of products in three important ways: by lowering support costs, by improving customer satisfaction, and by increasing sales.

The most immediately obvious effect of usable product packaging is on product support costs, especially warranty costs and "help desk" costs. Usable packaging minimizes the amount of damage during unpacking, and may also limit additional damage when products are returned.

Virtually all usability improvements cut product support costs, but the highest percentage of help calls occur immediately after purchase; flattening this "spike" will produce significant savings. Testing packaging identifies many problems that face customers before they can even begin to use a product.

Testing packaging improves customer satisfaction because it addresses users' first encounters. Packaging is often the first part of a product that users see, and first encounters leave lasting impressions. Also, packaging helps set appropriate expectations for products. Many customers are unhappy not because a product doesn't work correctly, but because it doesn't do what the customer expected it would do.

Testing packaging can help to increase product sales, particularly with products sold through retail channels. Although usability testing does not primarily address product appeal (the purview of market research), preference issues are inseparable from usability and usefulness.

Finally, usability testing of packaging is important because it addresses a high-risk area for problems. Usability problems are especially likely in packaging because the contents come from different groups and often are not assembled until shortly before shipping.

Overview of Case Histories

Although this presentation draws on a variety of testing experiences from both authors, it focuses on two case histories. Both of these case histories involve collections of products, adding to the complexity of the packaging and thus increasing the importance of addressing the usability of the packaging.

Case History 1: Product Suite of Programming Tools

This product suite includes six software products (C++ and related tools) packaged and shipped in one box. The packaging had gone through major changes to reflect both product changes and corporate image changes, and the product managers wanted to learn how well the new packaging worked for customers, as a guide for future decision-making.

The test protocol included task sequences in the usability lab, followed by in-depth interviews comparing the tasks with the participants' usual work processes. The participants unpacked a carton containing many items: Media Kit, License Pak, CD holder, registration cards, and documentation. We collected detailed feedback about each item, but stopped before the actual installation.

We tested 13 participants to represent three major characteristics: prior experience with the products, size of organization, and whether the participants were primarily developers or system administrators (used the product themselves, or supported others' use).

Case History 2: Product Suite of Distributed Computing Tools

This product suite includes four software products packaged and shipped in one box. The packaging was very important because the products only run on a particular operating system that was released at the same time. However, the install could be initiated on an incompatible operating system, so clear packaging conveying the need for the correct OS version was critical for customer satisfaction and for running the software.

This study tested both the packaging and the product installation process, a practical combination for many test designs. The participants first unpacked the product, then attempted to install it. The test protocol included tasks requiring unpacking the documentation, CDs, and License Pak, then selecting and using the correct items. We tested 8 participants representing both software developers and system administrators.

Issues that Usability Testing of Packaging Can Explore

Some of the questions we've addressed during usability testing of packaging include:

- How difficult is the package to open? Can the intended users open it easily without damaging the product?
- How are the documentation items and products positioned in the box with respect to each other? How many "Read Me Firsts" are there?
- How easily can people recognize the product, and understand what it does, from the packaging? Given a choice, do they choose the "correct" product?
- Upon examining the contents of the package, do people recognize what's inside? Do they believe they received the product they paid for?
- What impression does the packaging give people about the image or quality of the company that sold it?
- How well do people distinguish corporate "branding" compared to product line branding? What elements contribute to each identity image?
- For people who have used the product before, how does the new packaging compare with the previous packaging in usability, usefulness, and appeal?
- After unpacking the product, do people save the right pieces? What do they do with the various pieces? What is their impression of the number and characteristics of the pieces?
- Do people pick the right piece to use first (for example, for licensing)?

Differences in Methodology for Usability Testing of Packaging

Methodology for usability testing of packaging differs from typical product usability testing in three major ways: success measures, collection of preference data, and facilitator interaction with participants.

Success Measures Not Tied to Product Functionality

In typical product usability testing, when we observe and/or measure user problems or errors, these problems appear during misuse of a product, which often exhibits highly visible symptoms. In packaging testing, the usability specialist must often deduce from user behavior what problems will happen during product use. For example, a participant may choose the wrong CD for the product he said he wanted to install, or may begin reading the wrong manual for the installation process she said she was performing.

Non-explicit Collection of Preference Data

In many packaging studies, product managers want to learn the participants' reactions to the color, layout, logo, or other design-related packaging elements. But many people, especially users of technical products, resist expressing packaging preferences. For example, in Case History 1, participants made comments like:

> "This is the first time I'm reacting to logos and graphics and all that stuff."
> "I usually don't pay any attention [to packaging]; I just pop it open."
> "It's hard to get that excited about packaging."
> "I don't pay attention to that, I just use it."
> "It's attractive. I'm an engineer, though; I don't care."

However, everyone exposed to the mass communication and advertising in today's Western society is influenced by presentation quality in products, even if they're not consciously aware of this influence. Thus packaging usability test protocols should be designed to elicit behavior and comments relating to color, other visual elements of the corporate and product image, and the design of the physical packaging elements. See Figure 1 for an example from Case History 1.

More Detailed Probes to Collect Fine-Grained Data

In many usability tests, the test administrator can observe participants using the product, without the need for much conversation, intervention, or other interaction with the participants. Sometimes participants can work directly from a task sheet without any administrator guidance.

Usability testing of packaging usually requires much more interaction with the participants to elicit preferences and details of intended use. For example, the test administrator may need to ask what the participants will do with the warranty information they receive with the product. (In Case History 1, after the pilot-test participant said, "Throw it away!" in response to one such question, we provided a wastebasket as part of the test materials.)

Therefore, protocols tend to include many probing questions. Because the test tasks are the same for all participants, the probing questions can be built into the administrator's script, as shown in Figure 1.

Task 1.4 Examining the License Pak and Media Kit (combined pkg.)

Expected duration: 2-3 min.		Timestamp:
Topics	**Administrator Script**	**Observer Notes**
Finding the combined pkg.	*[When they go to it:]* What were you looking for when you picked this up? What is there about this piece that drew your eye to it?	Wanted this? Y / N If not, what? _____ Recognition by: Size? Shape? Materials? Color? Other: _____ Other issues: _____ _____ _____ Quotes:
Expectations before opening the combined pkg.	What do you expect to find inside this piece of the package? What else? How can you tell what you've got here? *[Continued.]*	Media? Install manual? Other doc? _____ License? Registration? Marketing material? Other: _____ Version no. an issue? Y / N Other issues: _____ _____ _____ Quotes:

Figure 1: A page from the administrator's script in Case History 1.

Similarities with Other Usability Testing

In many ways, usability testing of packaging uses the same methodologies as other usability testing. Careful participant selection is critical to successful studies. Many of our specific experiences were similar to other usability tests, especially in the unsolicited data we collected; for example:

- When testing carrying cases for a large-screen portable computer, many participants wanted the case not to look like it held a computer, for anti-theft protection while traveling.
- Many participants raised ecological concerns about the use of plastic shrink-wrap and layers of interior/exterior boxes.

Also like other usability testing, we sometimes confirmed our worst expectations; for example, some participants:

- Threw away parts they would need later.
- Misidentified key product elements, including ones they'd need to begin work.
- Would have damaged the product during unpacking if the test administrator hadn't intervened.
- Preferred the previous, discontinued packaging.

However, these experiences were especially valuable, because they enabled product managers to make informed decisions.

Trade-offs: When to Test Packaging

When is it most important to conduct a usability test of packaging, or to include packaging-related tasks as part of a larger usability test? Resources will rarely permit testing every product package, so it's important to choose the tests likely to be most valuable. Look for situations where:

- Several groups contributed to the package contents. Limited communication between groups or lack of clear overall direction can result in convoluted procedures, missing items or information, and redundancy.
- Customer feedback indicates too many new-user problems. New users typically have the most problems, but some products or product lines receive a disproportionate number of calls for help.
- Changes in product branding or positioning are planned (or have been made). Collecting preference data is especially important at these times.
- A new product will be launched, especially if not much is known about the user audience or their expectations.

As with all usability testing, we can never do all the packaging usability testing we want. But the data collected from even a few tests can be used to inform other packaging designs. As with all aspects of product design, an iterative process of design, testing, and redesign creates the most successful results.

Biographies of Presenters

Stephanie Rosenbaum
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Stephanie Rosenbaum is founder and president of Tec-Ed, Inc., a 20-person firm specializing in usability engineering, user interface design (including graphic design), user documentation, and marketing communication. Headquartered in Ann Arbor, Michigan, Tec-Ed maintains offices in Palo Alto, California and Rochester, New York. Tec-Ed clients include Sun Microsystems, Netscape, Xerox, Intuit, Autodesk, and many smaller firms.

Stephanie has presented a wide variety of usability tutorials and workshops at conferences of UPA, ACM SIGCHI, and the Human Factors and Ergonomics Society. With co-presenter Janice Rohn and others, she recently gave a panel on "Corporate Strategy and Usability Research: A New Partnership" at CHI '97 in Atlanta. Stephanie is especially interested in the usability of packaging because Tec-Ed also designs packaging as part of marketing communication and corporate image projects.

Janice Rohn
Sun Microsystems, Inc.

Janice Rohn is Manager of Usability Labs and Services at Sun Microsystems. Janice joined Sun in 1992, when she founded the usability engineering group and designed and built usability labs for Sun's sites in California and Colorado. Janice has been working on human-computer interaction (HCI) and strategy issues across Sun, and has led several efforts to improve the integration and usage of HCI methods. Prior to joining Sun, Janice worked at Apple on the usability and design of products such as System 7, QuickTime, the PowerBooks, and the Quadras. Prior to Apple, Janice was a research assistant at Stanford University in expert systems and medical informatics. Janice has written number of publications including a chapter in "Cost Justifying Usability," and has given many presentations and courses on usability engineering. She is also President of the Usability Professionals' Association.