



## The ideal user: A pilot study to find apparel collaborators

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**Introduction** The assumption is held that people want to participate in the design of their own products, but no research can say who. By identifying who is more successful participants in the design process, apparel producers may be able to generate products that are attractive to a target population, reducing risk and waste in production. Given the importance of developing viable apparel products, this pilot study aimed to identify consumers who are more appropriate to partake in the design process by exploring the output of lead users (Von Hippel, 1986) and traditional users in design sessions where the goal was to create a digitally printed uniform for the Cornell men's rowing team.

**Review of Literature** Von Hippel (1986) describes an exclusive set of lead users who possess the necessary intrinsic motivation to participate in collaborative design scenarios. Lead users (LU) exhibit two traits that traditional users (TU) lack: 1) they anticipate high benefits from obtaining a solution to their needs; and 2) they are at the leading edge of important trends and are experiencing needs that will later be experienced by many users in that marketplace. Von Hippel (1986) argues that TU are constrained by their real-world experience and are unlikely to generate novel product concepts. Lead users are outside of the constraints of TU and therefore may be more appropriate to participate in the apparel design process.

**Lead-User Construct (LUC) & Design Sessions** The LUC is an adaptation of constructs identified in the literature that contribute to the overall measure of usership (He & Chen, 2010; Franke, von Hippel, & Schreier, 2005). The survey was distributed electronically to all 84 members of the Cornell men's rowing team. The response rate was 27%. Each question was checked for reliability and the original survey components were synthesized to three constructs: 1) *Ahead on trends*; 2) *High expectation of benefits*; and 3) *Innovation competence*. Survey data were analyzed using a cluster analysis to identify LU respondents, who scored high on all three constructs and TU respondents with low scores. Twelve participants were clustered into two groups, including a random assignment to a control group. Mean scores for usership were generated at the group level for the control ( $a= 4.645$ ), LU ( $a=5.353$ ), and TU ( $a= 4.495$ ).

After clusters were identified, each group worked with a designer to develop graphics for a rowing uniform. The design sessions lasted for 1.5 hours and were held in a collaboration centre, which was outfitted with a PC equipped with Adobe Creative Suite, and a 'toolkit' of drawing supplies, paper and digital croquis, and inspiration pages.

**Findings** All raw concepts produced by each group were visually analyzed using content analysis for number of sketches and number of unique design features (Table 1). The LU group produced more sketches, more features, and more unique designs than any other group.

Table 1: Output of the design sessions

Design Session	Control	Lead Users	Traditional Users
Complete Sketches	10	12	9
Incomplete Sketches	3	7	4
Design Features	40	67	59
Unique Design Features	28	37	34

The digital mock-ups of the top two concepts from each design session, and an additional concept created by the designers, were distributed to the rowing team for a vote on the final design to be used for the rowing uniform.

The survey returned 113 votes and results favored both concepts developed by the LU group (Table 2).

An exit survey, administered to all the study participants, showed a preference of LUs to to work by themselves ( $a=4.50$ ) rather than working with a designer ( $a=4.25$ ) on a project of this nature. The level of complexity of this project (augmentation of graphics only) may have been viewed as something they could do on their own. TUs enjoyed working with the designer ( $a=3.63$ ) over working by themselves ( $a=6.31$ ). Findings from this pilot study suggest that LUs are more independent whereas TUs report a stronger reliance on the designer interaction.

From the perspective of the designer, lead users were able to quickly settle on a concept and continued to successfully develop several cohesive designs. In contrast, the TUs “could come up with ideas all day; they just were not able to follow through with any one concept. It was difficult to settle on one idea.”

**Discussion/Conclusion** In the pilot study, LU groups produced more sketches and more design features than TU groups and their design concepts were the highest rated from the larger community of rowers. Sixteen rowers purchased the uniforms, of which four were study participants, indicating an interest from the larger rowing community, but other factors such as price and need should be strongly considered before inferring too much from purchase intention. The TUs, over LUs reported enjoying the process with the designer, over designing by themselves. LUs, as we saw in this study, may feel they can perform the design challenge satisfactorily without the aid of a designer which be due to perceived product complexity. Future research will apply this study design with a more technically complex garment. It is proposed that 32 to 40 users will participate in the design of a thermal running garment where the findings of this initial research will be tested. At this point, the pilot is a good indicator of further areas of exploration when measuring and testing usership as a means to collaboratively design apparel products.

### References

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Table 2: Rowing community vote

Rank	Designed By	Design Concept	Weighted Score
1	Lead Users	Throwback Cornell	595
2	Lead Users	Throwback Stripes	452
3	Control	Repeated C's	417
4	Everyday Users	Hawaiian Print	398
5	Everyday Users	Bear Camo Print	274
6	Designers Choice	Designer's Choice	237