

# Participatory Development: Importance of Primary Market Research in Identifying Market Trends

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## **ABSTRACT**

This paper illustrates the importance of involving end consumers in product design, the need for directing open ended questions to those involved consumers, and the importance of having the product developer maintain awareness of technology developments in ancillary products or services. The product development case described in this paper is from the Participatory Development (PD) project of the Rehabilitation Engineering Research Center on Technology Transfer (T<sup>2</sup>RERC).

## **BACKGROUND**

The T<sup>2</sup>RERC is using a practice called "Participatory Development" (PD), which is defined as product development that incorporates the perspectives of people with functional limitations. The primary goal of PD is the integration of accessibility and usability features into new mainstream consumer products. In conjunction with partner corporations, we select one of their mainstream consumer products currently under development that will benefit from improved functional design. Consumers articulate critical design and functional features that will optimize ease of access and use, while leaving the mechanics of implementation of these features into the product to the company (1).

The pace of technology development continues to accelerate. Where once it took years for companies to incorporate a new technology into their products and more years for consumers to find and embrace the new features and functions, consumers today are rapidly identifying and assimilating products as soon as they are introduced. With the advent of the Internet, the same day a product is debuted at an industry tradeshow, tech savvy consumers are instantly aware of the functions and features of that new product offering.

Mainstream consumer product companies are all competing for a finite market in the United States (US). There are only so many can openers, blenders, or toasters that will be sold in a given year in the US (2). As a result, consumer product companies are always seeking methods to broaden their markets, increase their market share, and penetrate new markets. Companies seek product differentiators which will make their new product offering stand out from their competitors. If their product can be made more usable and accessible to people with disabilities and the elderly, at little or no additional cost, thus broadening their market, companies are willing to do so. However, these same companies have to be aware of their surroundings, new technologies, and new consumer preferences that come into play. These companies have to be able to see the forest as well as the trees.

And this is where a hidden problem lies. While technology is making leaps forward, product developers, corporate and otherwise, need to be aware of new technologies and ever changing consumer preferences that may render obsolete the products they are currently trying to improve. This hidden problem pertains both to Assistive Technology products and to general consumer products. This is where PD enters the picture.

## **RESEARCH / RESULTS:**

In an effort to increase the usability and accessibility features of the standard electric or battery operated can opener for people with disabilities and the elderly, the T<sup>2</sup>RERC undertook a project to improve the design and functional features of today's can openers. The resultant Alpha focus groups on electric and battery operated can openers were designed primarily to critique current products, suggest design feature modifications to be incorporated into the 'ideal' can opener, and to ascertain the needed usability and accessibility features to facilitate making the product more useful for people with disabilities. The end result of these groups was anticipated to be a new product offering that would result in a significant market broadening for the partner company.

The company was anticipating minor product changes which would result in minor retooling on their part. However, the end result of the consumer focus groups was the perceived need by consumers for a completely new product. Consumers were not pleased with the design and functional features of today's can openers. Can openers were described as difficult to use for left handed people or those with a motor control disability. Portability and safety issues regarding lid removal, blade cleaning and placement, and even the presence of metal slivers from the opening operation concerned consumers.

The focus group script was developed with open ended questions which would lead to detailed responses from consumers on their current situation as it is applied to can openers and to their current product preferences. Consumers were asked how often they used their can openers and what their current thinking in regards to meal preparation was when it came to canned foods. Their responses were eye opening.

As a result of these focus groups it now appears a completely new, accessible can opener may never be built. Why? It seems consumers are embracing new technology. Consumers in our focus groups confirmed that can openers are outmoded and they would not be willing to pay a premium for a device with improved usability and accessibility features that they may use less and less each week. The advent of pop top lids on cans, more variety and convenience in frozen foods, and the microwave oven have all had an effect on the use of can openers. This shrinking market for can openers will lead to a very cost competitive marketplace where companies will be trying to maintain their market share and maintain the number of units sold each year. History has shown us that they will be fighting a losing battle against new replacement technologies. The resultant decreased profit margins rule out major retooling of the product on a company's part. Why? Companies have to be fiscally responsible. They can't risk using their limited R&D dollars on a complete redesign of a product that is being used less and less by the consumer.

However, that is not the end of the story here. While a complete redesign of a can opener may be out of the question, involving consumers early on in the design process has allowed us to ascertain what customers want and what they are willing to pay for in the way of a marginally redesigned can opener. Even though the life expectancy of the can opener is limited, companies are still seeking that optimum solution: a way to reduce their product costs, add features the remaining consumers are seeking, and to broaden their markets to people with disabilities and the elderly. For example, in our can opener study, consumers had problems with the usability and accessibility features of the charging station, the operation of the device, the dishwasher safe cutting blade, and other aspects of can openers. By creatively addressing those issues, a company may be able to cut costs and gain market share. All this is a result of talking to and involving their customers early on in the design process (3).

## **DISCUSSION**

At the end of the 19th Century, there was a marked change in the transportation industry in the United States. With the advent of the automobile, the demise of the horse driven carriage and its ancillary products was imminent. At that time, there were multiple buggy whip manufacturers in the United States. However, with the introduction and acceptance of the automobile, the buggy whip was doomed to obsolescence. Buggy whip manufacturing companies fought hard for market share but fell by the wayside one by one. If a company doesn't realize where its consumers are headed, doesn't talk to its consumers, the company will spiral into oblivion, gaining an ever increasing market share of a shrinking market. Profit margins will shrink leading to the eventual demise of the corporation.

The Can Opener project case from the T<sup>2</sup>RERC illustrates the purpose and need for PD. Interjecting consumer input early in the design process and then later on when finalizing the pre-production prototype greatly increases the chance for a successful product introduction. Involving consumers in the design process will provide a heads up on ever changing consumer preferences that may render current products obsolete (4). This lesson of consumer involvement on product design applies to all product development fields, including Assistive Technology. Knowing what your customer wants and where your customer is headed makes product development a much easier science to master.

## **REFERENCES**

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## **ACKNOWLEDGMENTS**

This is a publication of the Rehabilitation Engineering Research Center on Technology Transfer, funded by the National Institute on Disability and Rehabilitation Research of the Department of Education under grant number H133E030025. The opinions contained in this publication are those of the grantee and do not necessarily reflect those of the Department of Education.

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