

# DESIGNING SUCCESSFUL KILLER EXPERIMENTS: NUMBERONE

## INTRODUCTION

In today's environment, even promising healthtech innovations fail to get investments from financially motivated investors. As a result, solutions do not survive the so-called Valley of Death. There are numerous good reasons why investors choose not to invest. In many cases, it is because the innovator did not anticipate and prepare a response to a question about a particular risk. This can be traced back to the fact that innovators often fail to put themselves in an investor's shoes. Doing so is critical to understanding why they may not invest in their solution—the “deal killers”. Unnecessary deal killers can be avoided throughout the entire commercialization journey by understanding the questions investors are asking or thinking—the “killer questions”. Innovators can then design and implement “killer experiments” to address them increasing the likelihood of funding for good solutions and successful navigation of the Valley of Death. This case study outlines two killer experiments developed during the [CIMIT CRAASH course](#) to address potential deal killers posed from CIMIT's Accelerator Executives who's role is to provide experienced mentorship throughout the course.

## BACKGROUND

NumberOne is a start-up company developing a solution for treating stress urinary incontinence (SUI), a problem that affects at least 30 million American adults. The founding team included a radiologist and urologist from Boston Children's Hospital in Boston and entrepreneurs from the [CIMIT CRAASH course](#).

Urinary incontinence is a common, undertreated problem, which often carries an extremely heavy social stigma. An estimated ~40% of women have suffered SUI after childbirth. Estimates also show that ~5% of all men, with more than 40% of men over age 65 and 80% who have had prostate surgery, also experience SUI.

Pelvic floor strengthening exercises called Kegels are known to be >85% effective but can make matters worse if performed incorrectly. Intrusive physical therapy is often prescribed to teach patients how to properly perform Kegels, intravaginally for women and intrarectally for men. Reconstructive surgery can be done in extreme cases.

## SOLUTION STATUS

At the time of the course, NumberOne was in the concept stage of developing a solution that used externally applied muscle contraction sensors, electromyography (EMG), to provide feedback to help users learn how to perform Kegels properly and other sensors to provide feedback on their progress. The team had an existing technology platform used in research and rehabilitation settings that provided sufficient proof-of-concept to address most of the technical risk at this stage.

## INITIAL KILLER QUESTION

CIMIT's Accelerator Executives immediately questioned if the solution was just another “Kegelator”? Even if it worked as advertised, why would this one be commercially successful when so many others have tried and failed in the past?

The picture became even bleaker during initial interviews with physical therapists the team initially thought would be key influencers and potential customers. Instead of supporting the idea, they noted the reasons it would not be as good as the service they provided and seeing it as a threat to their business.

With the realization that physical therapists would likely be anti-users, the team persisted and pivoted to focus solely on selling the product directly to users. They hypothesized that users would like a solution that afforded them a comfortable, convenient solution that they could use in the privacy of their own homes to regain a sense of normalcy.

The primary question the team needed to address to determine the viability of NumberOne as business shifted to figure out if a customer base could be acquired cost-effectively through an online presence and not through physician and therapist referrals.

## INITIAL KILLER EXPERIMENT

To address the question, an initial Survey Monkey survey was created and posted on several message boards and online communities specifically catering to individuals with SUI. Rather than jump into purchase intent, which would require detailed product descriptions and pricing, the survey's intent was to find customers who were willing to be interviewed. It allowed interested customers to provide contact details and overall incontinence levels easily via the multiple online forums through in-line replies and stand-alone threads.

Within hours there were replies to the survey, people willing to provide more information through interviews, and a surprising trend was discovered. Over 90% of self-identified respondents were male. Initially, the beachhead market was thought to be women post childbirth to help recover their pelvic floor strength. On the surface this seemed to be the easier point of market entry, however, by going directly to potential consumers through online communities, a new, motivated, and underserved target population emerged.

This new information influenced the team to pivot the beachhead market to males. Follow-up interviews highlighted that men valued the external application, privacy, and ability to access to the solution through anonymous means. This initial, quick, successful response not only showed that there was a current customer need but also that the unserved beachhead market of potential users were accessible directly through everyday use of the internet.

## NEXT KILLER QUESTION

With the initial question answered, prototyping continued and immediately created additional questions for potential investors. How large is the beachhead market and how efficient is customer acquisition through online marketing?

## NEXT KILLER EXPERIMENT

A Google AdWords campaign was developed to see the customer acquisition rate for online sales focused on males as the target market. Keywords were chosen consistent with the beachhead market, including words that focused on alternative methods to *manage* their SUI rather than *treat* it. This helped the team see if additional consumers could become purchasers.

With a small budget under several thousand dollars, the AdWords campaign provided good estimates of pricing, customer acquisition cost, and how much traffic could be driven to the company's site. The overall customer acquisition cost did not need to be final, just enough to get a sense of whether it was feasible given the targeted cost of the solution.

As a result of this simple online experiment, there was enough traction to justify additional resources to back the project and confirmation that the number of customers and cost of customer acquisition was acceptable given the current pricing of materials.

## CONCLUSION

While it was valuable to have confirmation to buoy the team forward and prove that the work was worthwhile, the ultimate rewards from designing and successfully answering these killer questions came in the form of funding from an investor, Boston Children's Hospital, as well as acceptance into the Mass Challenge program to continue work towards commercialization.