

Script of Stacy Chin TEDxBU Talk

Making Innovation Happen, One Condom at a Time

Attention Getter

- My story begins with three seemingly unrelated things: Bill & Melinda Gates and condoms.
- Yup, you heard right, CONDOMS. And YES, they do have something in common. Let me explain!

Grant

- Bill and Melinda Gates have a strong desire to make the world a better place, so they formed the Gates Foundation in 2000. Its mission is to support new research endeavors to tackle some of the world's most pressing problems to improve the quality of life for all people.
- One of these issues is the spread of Sexually Transmitted Infections or STIs, as well as HIV. Did you know:
 - **1 M STIs are acquired every day, worldwide**
 - **37 M people are living with HIV, globally**
 - **In the US - 2.3 M cases of STIs diagnoses were reported in 2017 -and this is at a record high**
- Now, these numbers are absolutely shocking. So the Gates Foundation asked: "How can we reduce STI transmission?" Condoms! That's how! Condoms are REALLY effective in preventing the spread of STIs and even help with family planning. They're globally accessible, they are cheap to produce, and they can help combat these issues.
- But here's the reality. People don't like wearing condoms! Sex without condoms is viewed as more pleasurable. So in 2013, the Gates Foundation put out a grant call and challenged the innovators around the globe to make a better condom. Their thought was, if there was a better designed condom that users would ACTUALLY like, perhaps this would encourage more people to wear them.
- Now this is where I come in. With support from the Gates' foundation grant, my team of chemists, materials scientists, engineers, and clinicians were challenged to INNOVATE THE CONDOM. We recognized that a huge problem in condom usage is that they are not lubricated sufficiently and that's actually leading to lots of discomfort and dissatisfaction for both men and women. So, as the lead chemist on a team, we were set on our journey to produce a self-lubricating condom.
- Now as a scientist, I was incredibly excited to work on such challenging material science problem. But I have to admit, it was a daunting task to improve such well-known product that hasn't seen innovation in over 60 years.
- This got me thinking about innovation. People have great ideas all the time, but the journey to make innovation happen can be incredible taxing. What makes one idea work, while others don't? Well, let me share my insights and lessons with you based on my own journey.

Story Take Away 1: Good ol' fashion grit

- When I started my innovation journey, I was no condom expert. I didn't know where to start! So, I decided to start my condom education at a place where I knew I could find all the answers... Target! So off to Target I went.
- I walked through the automatic doors, grabbed a plastic red basket, and headed straight to the infamous condom aisle. There was every single type of condom imaginable there. There were condoms in different colors, funny shapes, all sizes. There were glow in the dark condoms, polka-dotted condoms, and flavored condoms. I got my hands on every single type I could find, and collected them until my basket full. And as I rushed straight to the check-out counter, I smiled at the man in line behind me, as he disapprovingly looked down at me and my basket full of 20 boxes of condoms. "It's for research," I said, before I headed out the door.
- After my trip to Target, I needed to learn everything about material science and coatings. So for months, I consumed every scientific article and textbook on the topic, before I began to experiment.
- Finally, when I was in the lab, I tried many different formulations! I dissolved reagents my mother can't pronounce, I heated solutions up and cooled other solutions down. Days passed, then weeks went by, and nothing worked. As a scientist, I knew doing research takes time and patience, but man I did not realize at first how long this was going to take!

- By now, months are flashing by, and then a year has passed before my eyes. And still nothing worked! At this point, I was frustrated, and I felt like giving up. And the worse part is that these struggles were just the beginning of the journey.
- As I was trying to overcome these scientific hurdles, I felt like climbing Mt. Everest, every day was a new snow storm, steering you off track from the summit, but the summit seemed so far away, and I was already so weary.
- Just like research, innovation takes patience, focus, and lots of discipline. Innovation isn't created in an instant. It needs the struggle; it needs the time; it needs lots of effort. Marie Curie didn't come up with radiation in a week, so I wouldn't either!
- This brings me to my first take away lesson. We must rely on good, ol' fashioned grit to be close by our side to push ourselves through these taxing moments. Innovation needs grit to thrive. But these struggles can be a good thing for us and for innovation. They can serve as a sign for us that we have to pivot and start thinking of other creative solutions, and, oh boy, we did try some crazy things!

Story Take Away 2: Think outside the box

- Over the 2 years we spent developing the prototype, we easily tried 1000 different formulations. Literally, one.....thousand..... formulations. I actually still have my lab notebook to prove it.
- Every day, I remembered setting up containers, filling them with liquids, testing them, then just throwing them in the trash...failure. After heading home with a glass of wine, I would repeat that process again the next day.
- I was so desperate to make this work, that the problem started consuming my life. Condoms, chemistry, and coatings were constantly on my mind, from the moment I woke up, to the moment I went to bed every single day.
- At this time, my team and I were disgruntled, hopeless, discouraged. None of the obvious solutions were working, and I was so hungry for new inspiration. I was willing to try pretty much anything. I was so desperate that when I saw a bottle of Elmer's glue, I even thought "hell, it might work?!" Picture this, there I am in the lab, opening the jar of elmer's glue, and just smearing it over all a condom. I remember thinking, "Stacy, what are you doing?" And, it did not work, no surprise there.
- But as weird and insane as that was, that incident actually forced me to think of other solutions that might work. I started to think about the other "non-obvious choices." So with this new refreshed mindset, I went back into the lab with this a new perspective and started thinking outside the box.
- So one afternoon, two years in, I decided to try just one more thing. I opened up the last page of my 3rd notebook, jot down some notes, mentally prepared myself for another failed experiment, mustered up the courage to head into the lab. There, I mixed a couple of solutions together and slabbed that all over a condom. I got some water from the sink, wetted the condom surface, touched it with my fingers, and, it... was..... Slippery....
- I freaked out! After this realization, I ran straight to my co-founder and I remember telling him, "I think we may have something..."
- I was shocked that this coating worked because this formula was not obvious to me at all at first. But this experience taught me to stay open-minded to different perspectives and ideas that may seem unlikely to work. And this brings me to my second take away lesson which is this: Sometimes innovation isn't obvious and we have to force ourselves to think outside the box in order to make a creative solutions.

Story Take Away 3: Stories to educate

- Once we got going in the lab and FINALLY had a prototype that actually worked with our new secret sauce, we were really excited to share it with the world. So we started talking to customers, investors, and potential partners about our technology.
- But the more I told people about how our self lubricating condom and how it can address problems with condom lubricity, I started to realize that there was a difference in the way some people reacted in these meetings. This problem affects both men and women, but they experience condoms very differently. They don't see the exact same problem in the exact same way!
- For instance, nearly every time when I pitch this technology to some people they typically respond "Really? That's interesting...can you tell me more about this lubrication problem?" And then I spend another 10 minutes explaining issue and its impact on global health.

- But when I give the same pitch to others they lean forward to listen with encouragement, and they usually respond with “I can totally see that being a problem- I completely understand!”
- I was a bit confused and frustrated as to why some didn’t see the importance of our technology as others did. So when I started thinking of different ways to try to reach these other investors and customers, I thought back to those powerful stories that people have been shared with me.
 - After pitching my technology at an event, a middle-aged woman immediately ran up to me and frantically she told me how excited she was to learn about our self-lubricating condom. She was having problems being intimate with her husband to a point where her marriage was falling apart.
 - At another event, a younger girl in her mid 20s told me she was allergic to personal lubricant products due to the harsh chemicals in them. She hoped our solution would be a solution for herself and others like her.
- Armed with these stories, I started using them when pitching our condom innovation to investors. By putting a face to the problem, telling these stories of personal struggles, and creating context for my audience, they began to recognize the importance of condom usage and lubrication. I found that by using stories to educate others actually took away the reluctance of my audience to believe me.
- Sometimes we need to decenter ourselves from our own experiences and to seek other stories to get a holistic perspective of the challenge in front of us. And this brings me to my last take away lesson which is this:
- As you are in your innovation journey, look for the perspectives that are not your own, and use these stories to communicate to the world why your innovation is important and necessary.

Conclusion

- I hope these three takeaways I’ve shared with you give some insights as to what I believe innovation needs to thrive. Innovation is difficult, but it is through innovation that we can solve some of the most pressing issues facing our world.
- For my fellow scientists, innovators, dreamers, and entrepreneurs, keep going! Don’t give up! What you are doing is important, we all have the power to make big ideas come to life.
- In my case, I’m very hopeful we can reduce the number of people living with STIs and HIV around the world, one condom at a time.