



Element F

Problem Statement

One in six women are a victim of sexual assault. Women from the ages 18 to 24 who don't have the physical means to fight back are the ones most commonly attacked. The victims afterwards then suffer mentally, physically, and financially for something that they weren't responsible for.

Introduction & Background Information

In this element we will determine things related to our new product. We will figure out the cost to manufacture, market size, possible market share, purchase price, and distribution options that we're thinking about for our ring knife. Our design requirements that need to be met are that it still needs to be compact/discrete, easily accessible, durable, harmful but not lethal, inexpensive, and easy to use. The material that we are going to make our prototype out of is 3D printing plastic, but the material that we would make it out of to put on the market is stainless steel. The basic procedures that we are going to use to create a prototype are designing the ring knife in a program called autodesk inventor. Then we're going to be putting it into a software called stratasy's so that we can connect to the 3D printer and print our prototype.


Design Review

- Cost to Manufacture: 55¢ is the cost for the materials of each ring plus the cost of machinery to mass produce them.
- Market Size: 88% of the women we surveyed said that they would buy a product that was not an app to help them in the event of an attack. We then took the percent of them that were from the ages 18-24 (18%) because that is the age range that is most likely to be attacked and calculated those percentages out of the the amount of women that are in the United States. This is what shows that our market size is 26.5 million people.
- Possible Market Share: About 1%
- Purchase Price: We decided that a good price for the ring would be \$12 because we compared our product to other similar products on the market and decided it was a fair and affordable price.

- **Distribution Options:** We think that the easiest method of distributing our project will be online and through the mail so that we could ship the different sizes of rings right to the home of the buyer.

Obstacles

There are a few obstacles that we will face when we try to put our product on the market. The main issue we will face is that we have some competition with some similar products that are already out there.



Fisher Defensive
Fisher Defensive Go
Guarded- Black, Medium


★★★★★ 6 customer reviews

Amazon's Choice for "go guarded ri..."

Price: **\$12.99 & FREE Shipping.**
[Details](#)

- SIZE MEDIUM: Fits ring size 5 to 9
- Comes with four ring sizer adjusters. Insert adjuster to change ring size
- Better than pepper spray- won't blow back, won't get knocked out of your hand, effective even if you're attacked from behind
- CONVENIENT- COMFORTABLE- EFFECTIVE

New (1) from \$12.99 & FREE shipping.



Devastator

★★★★★ **Husbands, get this for your wife and daughters without a second thought!!!**

October 9, 2018

Verified Purchase


I am impressed! It is very hard and sharp plastic that's not going to take any mercy on flesh. The teeth on the side are like saws, so you don't have to stab to do some damage. There are a lot of cowards out there that prey on women and this device will turn the odds into their favor. Obviously wearing it is job one right? The only gripe I have is, the rubber piece covering it is pretty much worthless. Which honestly isn't that big a deal.

One person found this helpful

Helpful

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LHT

★★★★★ **Great for Runners**

October 22, 2018


Verified Purchase

Perfect item for a runner. Just wear it. No need to think about how to use it as its always at the ready.

Helpful

Comment

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Amazon Customer

★★★★★ **Great defender**

November 1, 2018


Verified Purchase

Thank God I haven't had to use it, but the feeling of safety it brings me while hiking is priceless

Helpful

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abrock

★★★★★ **Awesome**

October 30, 2018

Verified Purchase

The only bad thing about this product is that there is a need for it to exist! Bought one, immediately bought a second for the other hand. Sizing is super easy and quick to change! Highly recommend this for anyone who runs alone or in the dark

Helpful

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Another big obstacle we'll face is that our product will have a lack of name recognition since we are putting out a new product from a newly formed company. One major way to overcome both obstacles is marketing because we can get our name out there and compete with other companies.

Project Merit

The project has merit beyond the classroom because it is designed for real life situations. It is intended for use by women in society for self-defense in the event of an attack. From our market research 46.91% of women have been attacked in sexual assault. 88.14% of women would buy something to help them defend themselves in this situation. This project was worth the time and money because it affects so many people. Millions of people in the world are sexually assaulted so to make something that can decrease that number is worthwhile. In order to get someone to invest their money in this project we would tell them, "if it was your daughter getting attacked would you want her to have something easily accessible such as our product to defend herself?" Almost everyone would say yes.

Conclusion

We decided many things about our ring knife in element F. The cost to manufacture our product is 55¢ plus the cost of machinery to mass produce. The market size is 26.5 million people. The possible market share will be about 1%. The purchase price is \$12. Our distribution options will be online and through the mail. We will face a few obstacles while attempting to put our product on the market, like competition and possible lack of name recognition. Our plan to overcome these obstacles is good marketing so that it can get our name out there as well as our product which would help us against the competition.