

**FIRST**® **LEGO**® **League**

**TUTORIALS**

teach

share

learn

TAKING YOUR INNOVATION PROJECT TO THE  
NEXT LEVEL FOR THE GIA

FRC D-BUG #3316 – TEAM D++ ALUMNI

# ABOUT THE AUTHORS

- We are part of D-Bug #3316, an Israeli FRC team from Tel Aviv.
- We are alumni of team D++, the GIA runners up from the 2018 Hydrodynamics season (Plasticker)
- 2018-2020 FLL Israel Regional Champions Award



# PITCH

- A pitch is a sum up of an idea, product or company
- We recommend building a pitch to sum up your innovative solution for someone passing by, a judge, or an investor
- Present your pitch with confidence and excitement!
- Keep it brief, a pitch should be up to 1-5 minutes depending on who you are presenting it to

- **What should your pitch include?**

- Who you are
- What problem are you solving?
- What is your solution?



***If talking to potential investors or judges***

- Who are your customers?
- Why is your product better than others on the market?
- What experts did you talk to?
- Your solution's strengths and market opportunities so they understand why they should vote for you or invest in you



# INNOVATION DEVELOPMENT PROCESS

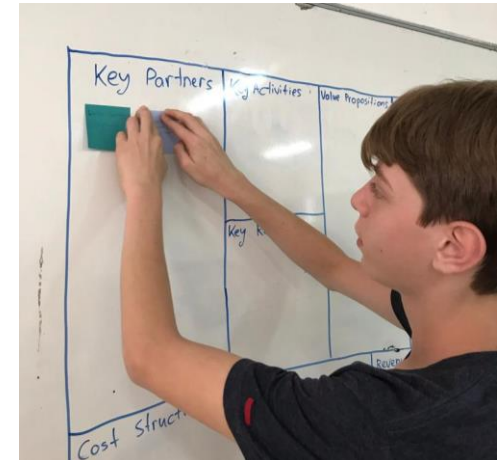
- Showing and documenting your innovation development process can take your project to the next level.
- There are four documents that can add to this process:
  - Engineering Change Notice
  - SWOT analysis
  - Business Model Canvas
  - Value Proposition Canvas



How can you build the Business Model Canvas & Value Proposition Canvas ?

- Watch videos explaining each canvas (linked above)
- Sit together as a team and draw the canvas on a board
- Talk about each block in the canvas, write down the relevant points on a post it note and add to the board

\*\* we recommend these canvases for higher levels of competition, since the Global Innovation Award our teams have been building one for the state championship level



# ENGINEERING CHANGE NOTICE

- An Engineering Change Notice (ECN) is a document authorizing and recording design changes throughout the prototyping and life-cycle phases of a product
- This is beneficial for your team and the judges – it tracks the changes you made and the reasons it also shows your product's development over time
- You can make an ECN not only for your innovation project but also for your robot!



Global Innovation Award

SINCE 2011

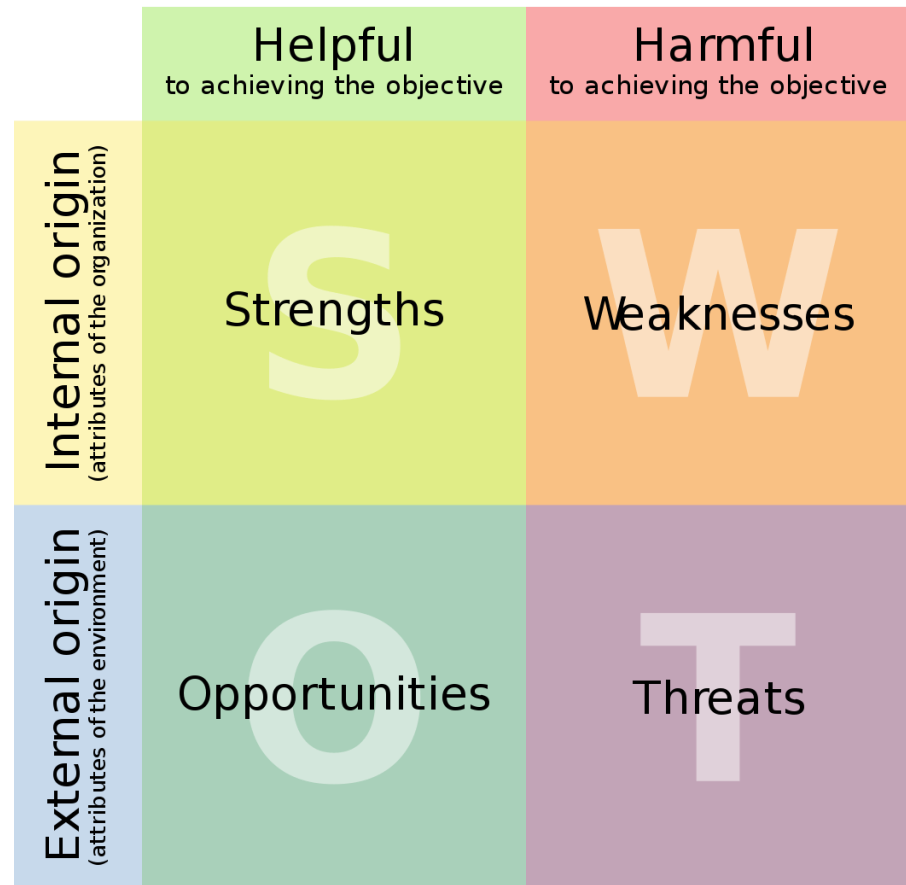
Engineering Change Notice (ECN) Log

| Innovation Name |                | Team Name             |                          |                      |
|-----------------|----------------|-----------------------|--------------------------|----------------------|
| Change #        | Date of Change | Type(s) of Change(s)* | Description of Change(s) | Reason for Change(s) |
|                 |                |                       |                          |                      |
|                 |                |                       |                          |                      |
|                 |                |                       |                          |                      |
|                 |                |                       |                          |                      |
|                 |                |                       |                          |                      |
|                 |                |                       |                          |                      |

\*addition / deletion / mechanical, visual, etc.

# SWOT ANALYSIS

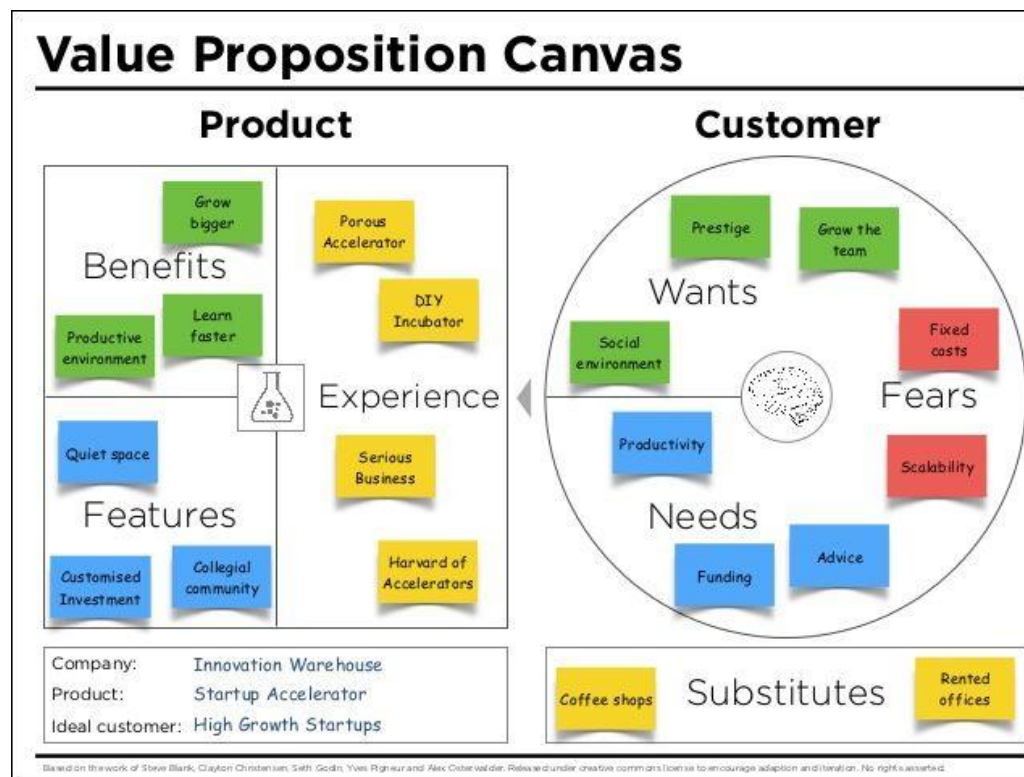
- A SWOT analysis is an incredibly simple, yet powerful tool to help you develop your product.
- Strengths and weaknesses are internal —things that you have control over and can change.
- Opportunities and threats are external. You can take advantage of opportunities and protect yourselves against threats, but you can't change them.



[https://commons.wikimedia.org/wiki/File:SWOT\\_en.svg](https://commons.wikimedia.org/wiki/File:SWOT_en.svg)

# VALUE PROPOSITION CANVAS

- Your value proposition is your **unique identifier**. Your value proposition clearly presents why someone would want to buy your product instead of a competitor's.
- The Value Proposition Canvas is a tool which can help ensure that a product or service is positioned around what the customer values and needs



# BUSINESS MODEL CANVAS

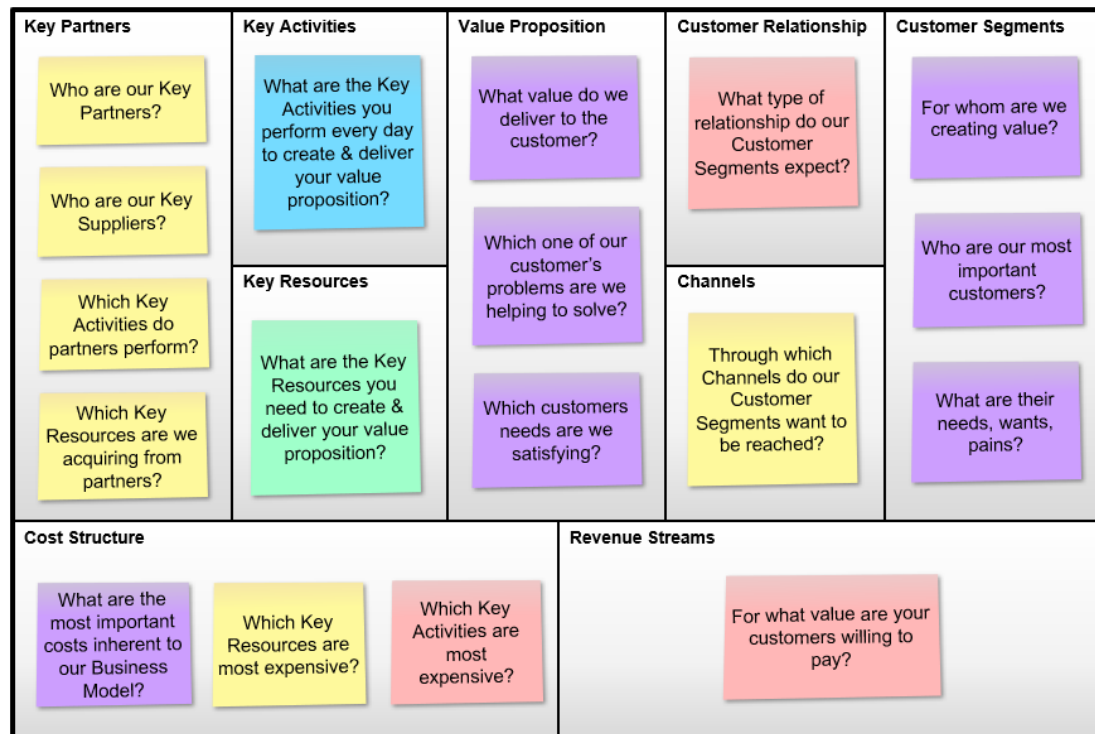
- The business model canvas is a shared language for describing, visualizing, assessing and changing business models.
- Why build one? The Business Model Canvas breaks your business model down into easily-understood segments you can present to judges and investors.

## The business model Canvas

XYZ Company

04-Jan-2013

Iteration #1



<https://slidehunter.com/powerpoint-templates/business-model-canvas-template-for-powerpoint/>



# CREDITS

- This lesson was written by FRC D-Bug #3316
- You can contact us at [outreach3316@gmail.com](mailto:outreach3316@gmail.com)
- More lessons available at [www.ev3lessons.com](http://www.ev3lessons.com) and [www.flitutorials.com](http://www.flitutorials.com)



**Attribution-NonCommercial-ShareAlike 4.0  
International (CC BY-NC-SA 4.0)**