

2021 FIRST California Workshop Series:
PRODUCT DEVELOPMENT +
DESIGN THINKING

Session 4: Business Analysis

January 30, 2021



Theresa Bateman

FIRST Regional Director,
Greater San Francisco Bay Area



2021 FIRST California Workshop Series: PRODUCT DEVELOPMENT + DESIGN THINKING



Identify the Opportunity	Generate Ideas	Evaluate Ideas & Filter	Determine Business Strategies	Develop the Idea	Product Trial
<ul style="list-style-type: none"> Evaluate the Innovation Challenge Criteria Design Thinking - Empathy & Define Problem Statement Intellectual Property intro 	<ul style="list-style-type: none"> Design Thinking - Ideate Brainstorming Diversity & Inclusion of Ideas 	<ul style="list-style-type: none"> Product Design Specification Concept Sketches Pugh Analysis Matrix SWOT Analysis Market Analysis 	<ul style="list-style-type: none"> Strategy for Startups Product-Market Fit Value Proposition Innovation S-curve Prepare the Pitch 	<ul style="list-style-type: none"> Design Thinking - Prototype Design Engineering Manufacturability & Reliability Ergonomics & User Experience Patents 	<ul style="list-style-type: none"> Design Thinking - Test Test/Experiment Design A/B Testing Qualitative Testing Quantitative Testing
Jan 9 th , 1-3pm	Jan 16 th , 10am-Noon	Jan 23 rd , 10am-Noon	Jan 30 th , 10am-Noon	Feb 6 th , 10am-Noon	Feb 20 th , 10am-Noon

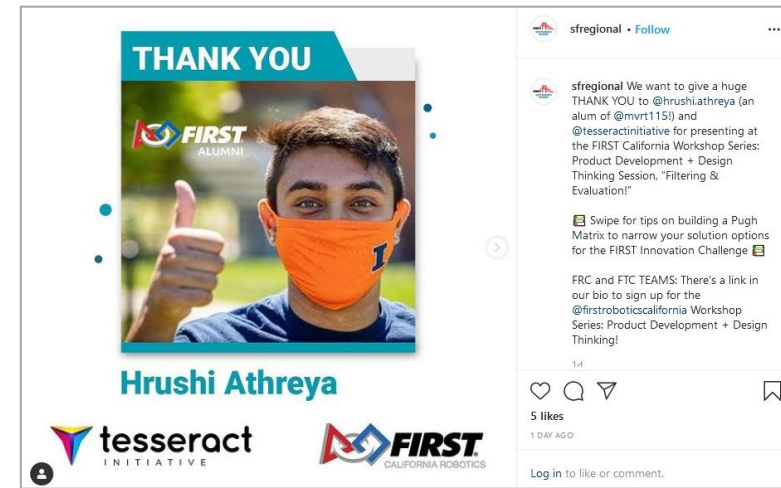
Teams are also invited to join a *Pitch Party* planned in March. [FIRST Regional Directors](#) will reach out to teams directly with details.

Session 4 Business Analysis

Time	Agenda Item	Presenter
10:00 - 10:10am	Intro and Session 3 Recap	Theresa Bateman, FIRST
10:10 – 11:15am	Intro to Entrepreneurship and Entrepreneurial Strategies	Anna Shaposhnik, Tesseract Initiative
11:15 – 11:30am	What Investors Seek	Brian Wilcove, Artiman White Space Investments
11:30-11:40	Business Pitching	Anna Shaposhnik, Tesseract Initiative
11:45 - 12:00pm	Wrap up & Prep for Session 5	Theresa Bateman, FIRST

Session 3 Fun & Feedback

Continue to tag us: **#FIRSTinCA**



San Francisco Regional FIRST Robotics Competition
17 hrs · 🌐

Thank you Jim Xu for speaking during the "Filtering & Evaluation" Session of the FIRST California Workshop Series: Product Development + Design Thinking last Saturday! We are so grateful to have local volunteers like you joining our virtual FIRST Robotics Competition season 🙌

THANK YOU



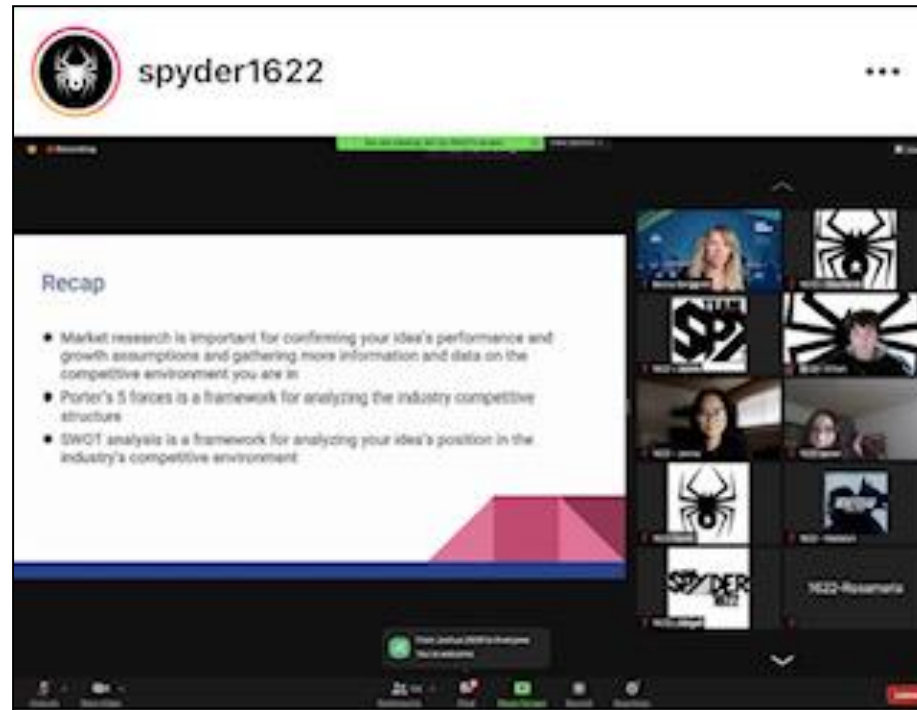
JIM XU



SWOT Analysis (cont.)


<p>Strengths What company does well? Questions that are it want from competitors: internal resources, assets</p>	<p>Weaknesses What does the company lack? Change competitors can exploit: Resource limitations</p>
<p>Opportunities Underexplored markets for products/services? Emerging needs for your product? Emerging needs for your product?</p>	<p>Threats Emerging competitors? Changing customer requirements? Changing customer requirements? Changing customer requirements?</p>

Tip: Strengths and Weaknesses are things the company can directly change/control while Opportunities and Threats affect the entire market and are not in a singular company's control




First Robotics Competition - Silicon Valley Regional
Yesterday at 12:32 PM · 🌐


THANK YOU!




Arjun, FRC #846
The Funky Monkeys




Kara, FRC #1967
The Janksters



Amelia, FRC #5104
BreakerBots



Helene, FRC #5430
Pittsburg High Robotics





Session 3 Recap

Filtering & Evaluation

Evaluate Ideas & Filter

- Product Design Specification
- Concept Sketches
- Pugh Analysis Matrix
- SWOT Analysis
- Market Analysis

Jan 23rd, 10am-Noon

- **Filtering & Evaluation Techniques**
 - **Concept Sketches** communicate ideas and link to How-Might-We
 - **Product Design Specifications** list helps ensure you've considered requirements
 - **Pugh Matrix** is a weighted matrix to compare different designs
 - **Market Research** validates your assumptions and compare with competitors
 - **SWOT** analysis framework for analyzing the market
- **Homework**
 - Create concept sketches
 - Used a filter/analysis tool like the SWOT analysis
 - Converged to your most viable ideas



Anna Shaposhnik

FRC 846 Alum and
University of Southern California student

Session 4: Business Analysis

wrap-up and prepare for

Session 5: Prototype & Development

Additional Resources

- **FIRST Innovation Challenge Content Series** webinars:

<https://info.firstinspires.org/innovation-content-series>

- Basics of Business Models – February 2
- Developing a Business Pitch – March *tbd*

- **Tesseract Initiative** workshops:

<https://tesseractinitiative.org/programs/courses/product-development-design-thinking>

- Product Branding & Storytelling – **Tomorrow**, January 31
from 1-2pm

Thanks for joining us & see you next Saturday!

Business Analysis	Prototype & Development
Determine Business Strategies	Develop the Idea
<ul style="list-style-type: none">• Strategy for Startups• Product-Market Fit• Value Proposition• Innovation S-curve• Prepare the Pitch	<ul style="list-style-type: none">• Design Thinking - Prototype• Design Engineering• Manufacturability & Reliability• Ergonomics & User Experience• Patents
Jan 30 th , 10am-Noon	Feb 6 th , 10am-Noon

- **Homework**
 - Identify your market and beachhead customer
 - Develop your business model, consider using the Strategy Compass
 - Develop an XYZ statement
- **Session 5**
 - Prototype & Development: Feb 6th, 10a–12pm
 - Patents: Feb 6th, 1 – 2pm
 - Brought to you in partnership with

