Prototyping

Visualizing Your Idea

Ken Baldauf
Design Thinking

- Attack ambiguous, complex, gnarly wicked problems
- Develop empathy for stakeholders
- Open-minded exploration
- Extreme collaboration and diversity
- Tangible and testable solutions (through prototyping)
Design Thinking
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Prototyping for InNOLEvation Challenge

Overview

The InNOLEvation® Challenge is a Business Model Competition with a focus on identifying problems and potential solutions, building effective teams and precisely defining the assumptions of a new venture, testing those assumptions in the field, and then pivoting (changing) based on the lessons learned. Students are rewarded for:

- solving real problems with their business ideas
- breaking down ideas into key business model assumptions
- getting outside the building and testing assumptions with customers
- applying customer development and lean startup practices to nail the pain and solution
- learning to pivot (change) until arrival at a customer-validated business model
- businesses with a social mission at their core will also receive consideration for the Jim Moran Challenge Social Venture Award.

The foremost goal of the InNOLEvation® Challenge is to make this a valuable learning exercise for all participants. Students learn to build a business model by attending workshops provided by FSU’s Entrepreneurs in Residence throughout the competition. The InNOLEvation® Challenge has a business MODEL focus in which the idea for the business is customer-tested to enhance the odds of success, versus a business PLAN competition, where assumptions are made, perhaps flawed, and the business is established based on those assumptions.

Students are encouraged, but not required, to work in teams instead of working alone to develop their ideas. For best results, team members should have complementary skills and a wide range of backgrounds.

Judging Criteria

Each round of the InNOLEvation® Challenge Business Model Competition is judged using the following questions:

Did the team identify a significant problem or unmet need and create a venture to solve this problem? What is the size of the market and what percentage do you expect to capture? Has the team developed a prototype or minimum viable product? How far along are you on the product cycle? Does the team have significant evidence that the solution is validated (includes letters of intent, successful contracts, sales, and partners)? How will the prize money help your venture? Is addressing the social/environmental problem the primary purpose for the creation of the enterprise? If so, why? Does it have an innovative, systemic approach to addressing the social/environmental problem? If so, how? Does the organization have a sustainable approach to achieving its mission and implementing its innovative approach to addressing the social/environmental problem? If so, explain. If your venture does not address a social/environmental problem as its primary purpose, does it positively impact society in some other manner? If so, how?
assumptions
• building effective teams and precisely defining the assumptions of a new venture, **testing those assumptions** in the field, and then pivoting (changing) based on the lessons learned.
• getting outside the building and **testing assumptions** with customers
• learning to pivot (change) until arrival at a **customer-validated** business model
• Has the team developed a **prototype or minimum viable product**?
• Does the team have significant evidence that the **solution is validated**

Prototyping for InNOLEvation Challenge
Prototyping Strategies
Getting ideas and explorations out of your head and into the physical world.

• Empathy gaining
• Exploring and testing ideas
• Revealing new perspectives
• Solve disagreements
• Start a conversation
• Fail quickly and cheaply
• Manage the development process
Personas
Story telling
Storyboarding
Visualize & Communicate

http://www.designkit.org/methods/35
Prototyping @ Ideo

http://www.designkit.org/methods
Prototyping Tools
Types of Products

Manufactured

Apps

Services/Systems
Prototyping
Manufactured Products
The Value of Engineering

• Materials Research
• Tolerances
• Electronics
• Manufacturing Processes

https://www.kickstarter.com/projects/ostrich-pillow/batband?ref=user_menu
Makerspaces Support Prototyping

- 3D Printing
- Laser Cutting
- CNC Routers
- Arduino & Raspberry Pi
- Low-resolution Prototypes (Minimum Viable Product)

- Computer Aided Design (CAD) Software

https://www.tinkercad.com
https://www.youtube.com/watch?v=ZqbG7BmmlWw
http://www.shapeways.com
Prototyping Apps
The Value of Computer Programming

• Full Stack Development
  • Server, network, and hosting environment
  • Relational and nonrelational databases
  • How to interact with APIs and the external world
  • User interface and user experience
  • Quality assurance
  • Security concerns throughout the program
The Value of Design

• Branding
• UX
App Prototyping Software

- https://proto.io
- https://www.fluidui.com/
- https://marvelapp.com/
- https://www.invisionapp.com/
Prototyping Services and Systems
Questions?

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