IPRO 358
Product Development and Business Planning for a Fishing Innovation

Presented by
Robert Boyer, Rachel Choitz, and Jimmy Ton
Outline

Sponsor

Problem and solution

Team organization

Project goals and progress

Challenges

Recommendations
Sponsor

Augy Park, CEO
Solution

Delta Hook Technology

- Hooks pointed inward
- Interlocking design
- Flexible
- Barbless
Hook mechanism
Team Organization

The Team

Overall Team Leader - Robert Boyer

Business Team Leader - Bogdan Bistriceanu

Development Team Leader - Patrick Zhu
Goals

Development Team Goals
- Research materials
- Improve design
- Create mock-ups
- Test mock-ups

Business Team Goals
- Research fishing industry
- Research consumers
- Research competitors
- Develop business plan
Goals

Development Team Goals
- Research materials
- Improve design
- Create mock-ups
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Business Team Goals
- Research fishing industry
- Research consumers
- Research competitors
- Develop business plan
Development Team Progress

Formulated design concepts

Acquired materials

Created test series

Researched materials

Created mock-ups

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Design Concept

- **Base**
- **Eye**
- **Shank**
- **Bend**
- **Tip**
Material Selection

Thin and rigid
Supports weight of fish
Flexibility
Easily manipulated
Mock-ups

<table>
<thead>
<tr>
<th>Mock-up</th>
<th>Mock-up</th>
<th>Actual hook size</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>2</td>
<td></td>
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</table>
Test Series

Tensile
Bending
Fatigue
Hook setting
Snag
Customer satisfaction
Corrosion
Business Team Progress

- Analyzed industry reports
- Researched competitors
- Researched consumers
- Identified target markets
Industry Reports

ASA Fishing Report
Sportfishing in America

U.S Fish and Wildlife Service
National Survey of Fishing
Competitors

Pricing
Features
Materials
Consumer Research
Target Markets

Professional anglers

Young anglers
Challenges
Fishing Trip
Ethics
Results and Achievements

Conducted extensive research
Compiled list of potential materials
Created mock-ups
Created comparative tests
Conducted & analyzed survey
Recommendations

Create & test new mock-ups
Implement testing methods
Develop manufacturing process
Continue surveys
Continue development of business plan
Acknowledgements

Augy Park, CEO Sparrowhawk LLC

Faculty advisors:

  Prof. David Gatchell & Prof. John Stoner

Dr. Ronald Kirschner, President, Heartland Angels

Prof. Mostovoy

Bass Pro Shop, Cabela’s, Henry’s Sport Shop
Questions?
Market Breakdown

- Terminal Tackle (hooks, sinkers, swivels)
  - $399 Million
- Fishing Lures & Artificial Bait
  - $905 Million
Material Selection

Thin and rigid
Fish hook can be secured in the fish without the hook deforming

Supports weight of fish
24lbs – Largest Largemouth bass caught

Flexible/ linear flexibility
elastic modulus, hendrix.com

Easily manipulated
Can be formed easily and then hardened.

Hi-Carbon steel nor-tempered
Competitors

- Owner
- Gamakatsu
- Mustad
- Daiichi
- Eagle Claw

World's Sharpest Hooks
Testing
Ethics

Patent pending
Public v. private meeting/testing location
Market survey
Material selection
Sponsor’s requests
Team Dynamics

• Fishing trip = bonding time & learning fishing terms
• Typical Agenda
  – Discuss team goals and progress
  – Separate into sub-groups
  – Brief members of other sub-group
• Cross-pollination of sub-groups encouraged
• Sub-team reports
• Voting system
Research

[Diagrams and logos related to research institutions and services]
Patent & Investment

Utility patent pending

Application published 18 months after filing (June 18th, 2009)

Prosecution by Brinks, Hofer, Gilson & Lione of Chicago
Business Plan

- Market Research
- Competitive Analysis
- Management Team
- Business Model
- Financial Projections
- Innovation Assessment
Survey Results

64 % of anglers spend less than 75 cents per hook
78% would be willing to pay an average of $2.00 per hook if it was safe, barb less, weed less and hold fish after catch
55% prefer big outdoor retailers that offer a big variety and latest fishing gear over discount retailers (30%) or local bait shops (15%)
Most important hook feature is catch and hold (68%), followed by barb less (48%), weed less (38%) and safety (36%)
64% of the anglers are accompanied by children when fishing
78% had over 10 years experience fishing
47% go fishing more than 20 times a year and more than 2/3 of them (69%) buy more than 20 fishing hooks per year