

Marketing Strategy for Protei

By

Elika and Phang



Overall Marketing Objectives

1. Develop a sustainable **educational platform**
2. Spread **awareness** for ocean conservation and Protei's value proposition as an environmental tool
3. Generate **revenue** to sustain Protei's efforts
4. Build a **community** to **expand** efforts

What Are We Proposing?

1. Protei is a **for-profit** company first
 - Environmental advocacy are second
2. Protei must target the **educational market**
3. Need to redesign the product for **commercialization**

DIAGNOSIS

UNDERSTANDING THE TOY MARKET

Toy market

Categories	Market size, 2011 (in Billions)	Market size, 2011 %
Plush	22.0	28.2
Infant/ Pre-school	12.1	15.5
Activity Toys	11.5	14.8
Dolls	10.0	12.8
Games and Puzzles	9.4	12.0
Ride-ons	5.0	6.4
Other	8.1	10.4

Source: Marketline

Toy market

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Other	8.1	10.4

Source: Marketline

Geography Segmentation

Geographic Region	Market size, 2011 (in Billions)	Market size, 2011 %
Americas	32.0	41.0
Europe	21.7	27.8
Asia-Pac	21.3	27.3
Middle East	3.0	3.9

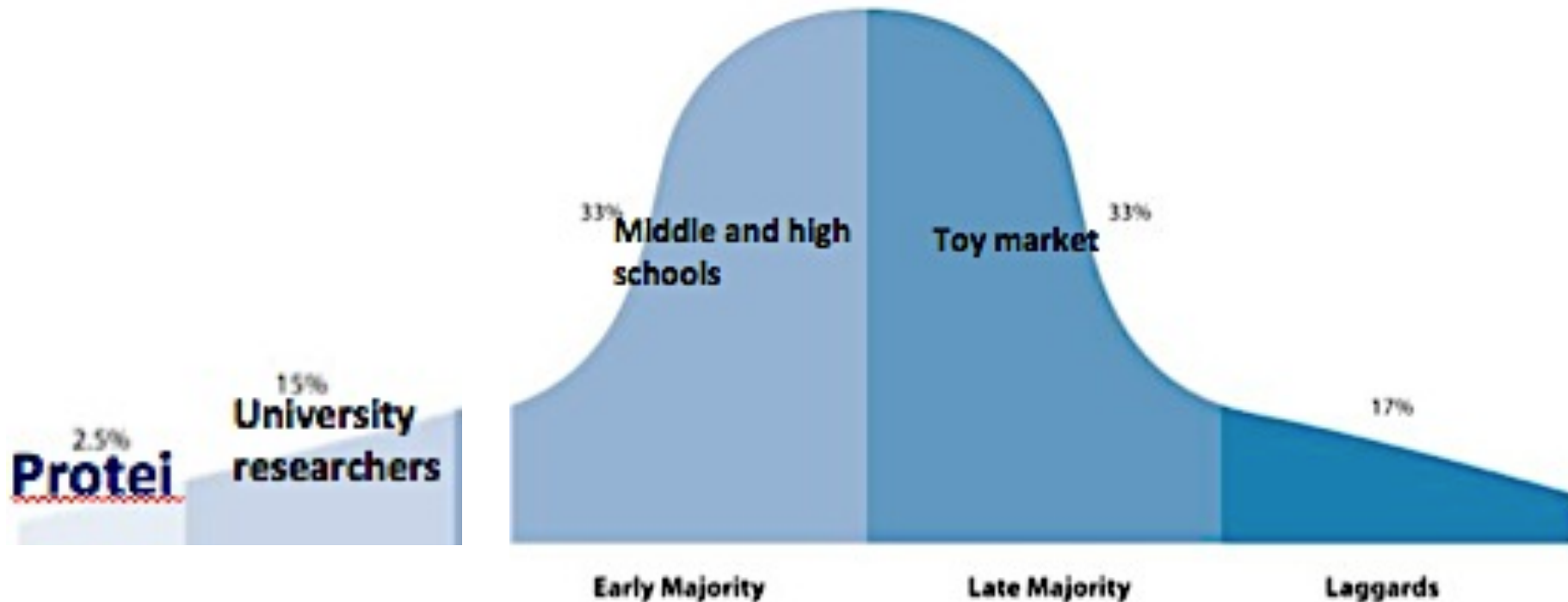
Source: Marketline

Geography Segmentation (Asia-Pac)

Geographic Region	Market size, 2011 (in Billions)	Market size, 2011 %
Japan	7.4	34.8
China	7.0	32.9
India	2.4	11.3
South Korea	1.0	4.7
Rest of Asia-Pacific	3.5	16.2

Source: Marketline

Technology Adoption Life Cycle



Sources: Moore (1991, 2002), *Crossing the Chasm*,
Moore (1995, 2002), *Inside the Tornado*.

Diagnosis

University Researchers

- Using it as a nuclear sensor
- Developing it as a tool for researching oceanic life

Grade 6-12

- Educational tool to educate about environmental crises in the world
- Science project material

Toy market

- RC Sailboat
- Hobbyist collection

Non-Profit Positioning



\$

For-Profit Positioning

Protei

Educational Tools

Google in Education



Microsoft in Education

SHOEBOTASKS®



Science Toolkits



Commercial Robotic Toys



Educational Toys



SWOT

Strength

- Wide variety of RC models to choose from, appeals to consumers' need for variety
- Educational aspect of toy design
- A community is established for RC sailing and AR Drones

Weakness

- Different models of boat are only competing on speed and design
- Does not address the segment of market who wants to have toys that could help them explore and learn about nature
- The current R/C market for boats do not allow hobbyists to have more control over their design.

Opportunities

- Position Protei as an educational toy.
- Protei could enable the users to have different plug-ins such as nuclear sensing, oil spill sensing, underwater observation etc.
- Build a community for hobbyist.

Threats

- Low adoption Rate.
- Price-sensitivity of students

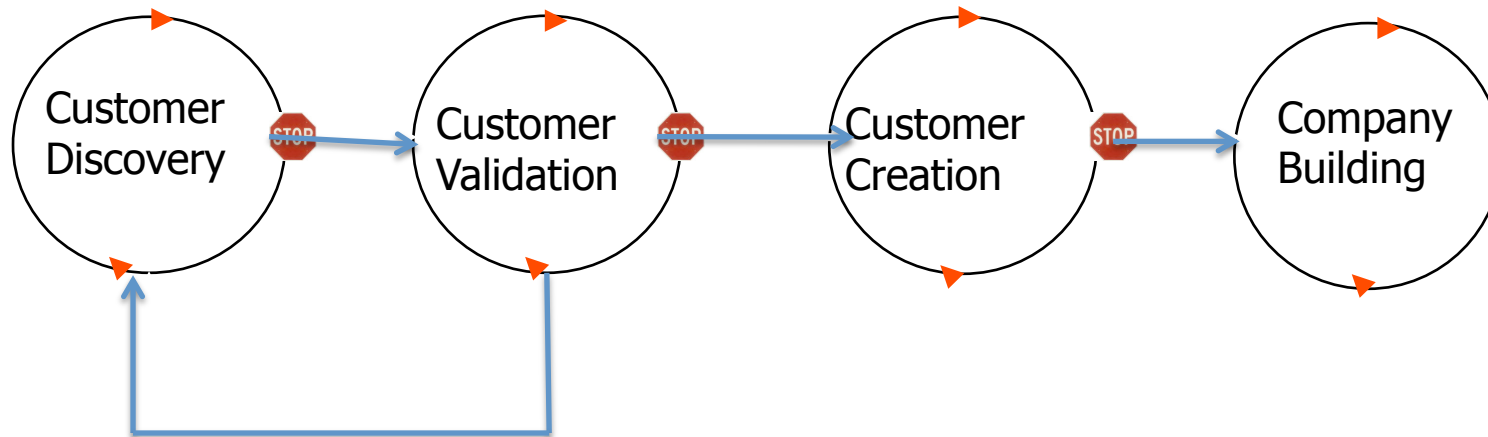
Novitsky, Donna, (2005) Adapted from: High-Tech Marketing © 2005, TCG Advisors LLC

EXPERIENCE

UNDERSTANDING THE CUSTOMERS

Customer Development Model

Protei



Model Source: Blank, Steven (2006) *Four Steps to the Epiphany*, Cafepress.com

Customers



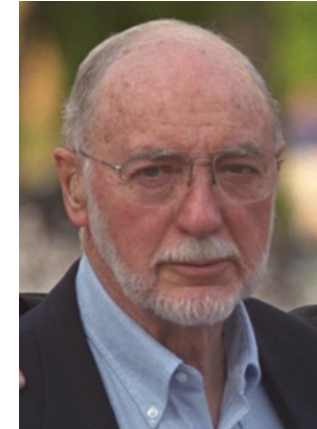
Students

- **Age:** 15-18
- Highly ambitious
- Aiming for top-tier Universities
- Interest in Science & Mathematics
- Self motivated
- Proactively working on college application
- **Reference their friends for comparison**



Teachers

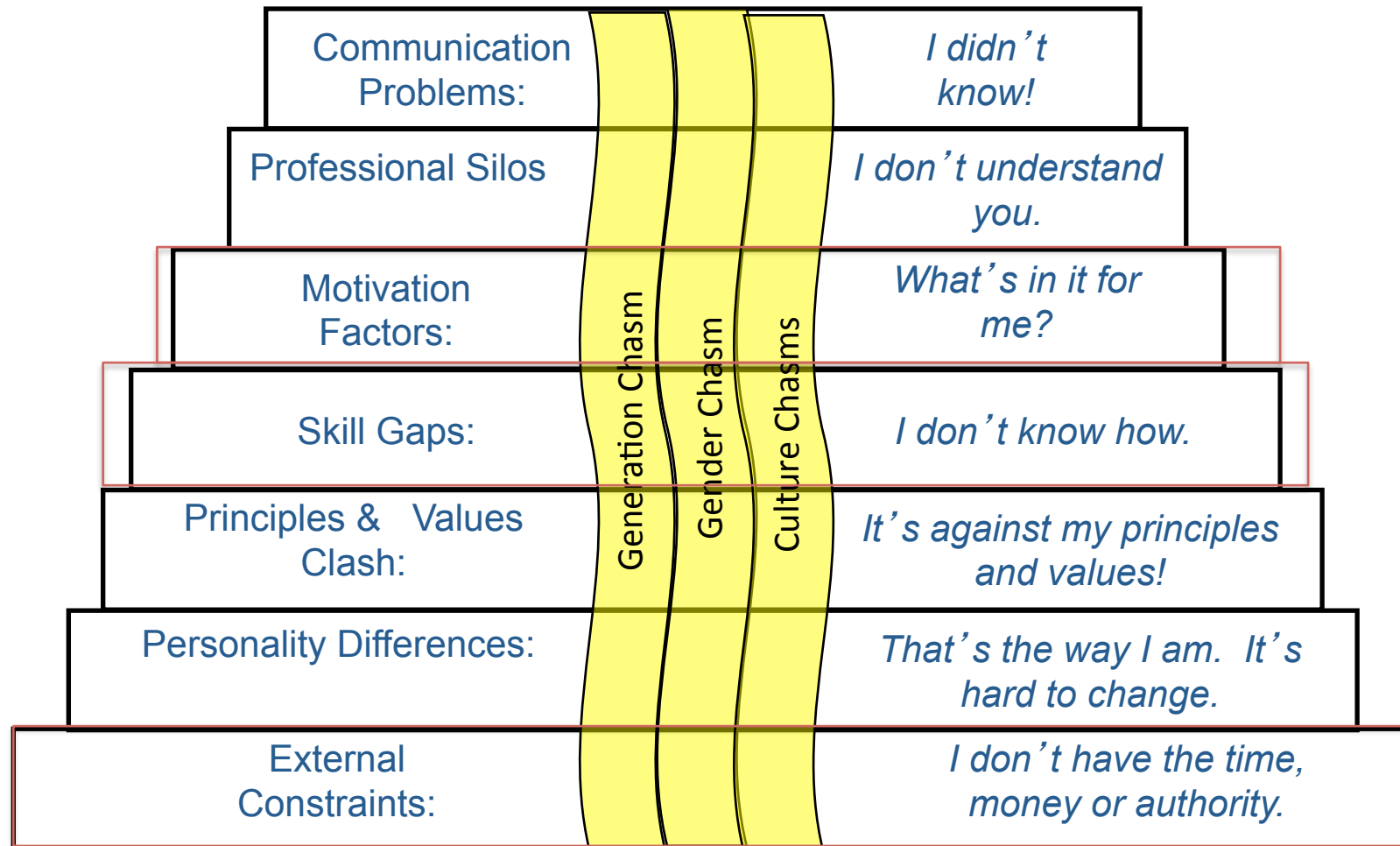
- **Age:** 25-60
- Focused on providing children with relevant and engaging education experience
- Have responsibility to school and parents
- Interested in empowering students
- Helping students to build on their natural strengths
- **Reference state guidelines and metrics for evaluation**



Parents

- **Age:** 40-65
- Provide the best opportunities to their children
- Are currently paying \$25-\$50K/year on tuition
- Limited on time-need to see direct return on their investment
- **Reference other parents for suggestions**

Why would these customers refuse to adopt Protei as an educational tool?



Source: Kosnik, Blair, Ramfelt, and Pfeifer (1986, 2000, 2005, 2009) "1 to 1 Diagnosis."

Learning points from Interviews

- Need to position this toy as “educational first” for high school students
 - College acceptance the most important factor for students
- Need to re-design and structure company organization:
 - Dedicate a single person to **marketing objectives**
 - Dedicate a single person to “**morale**”
 - Dedicate a single person for **relationship liaison**

DECISION

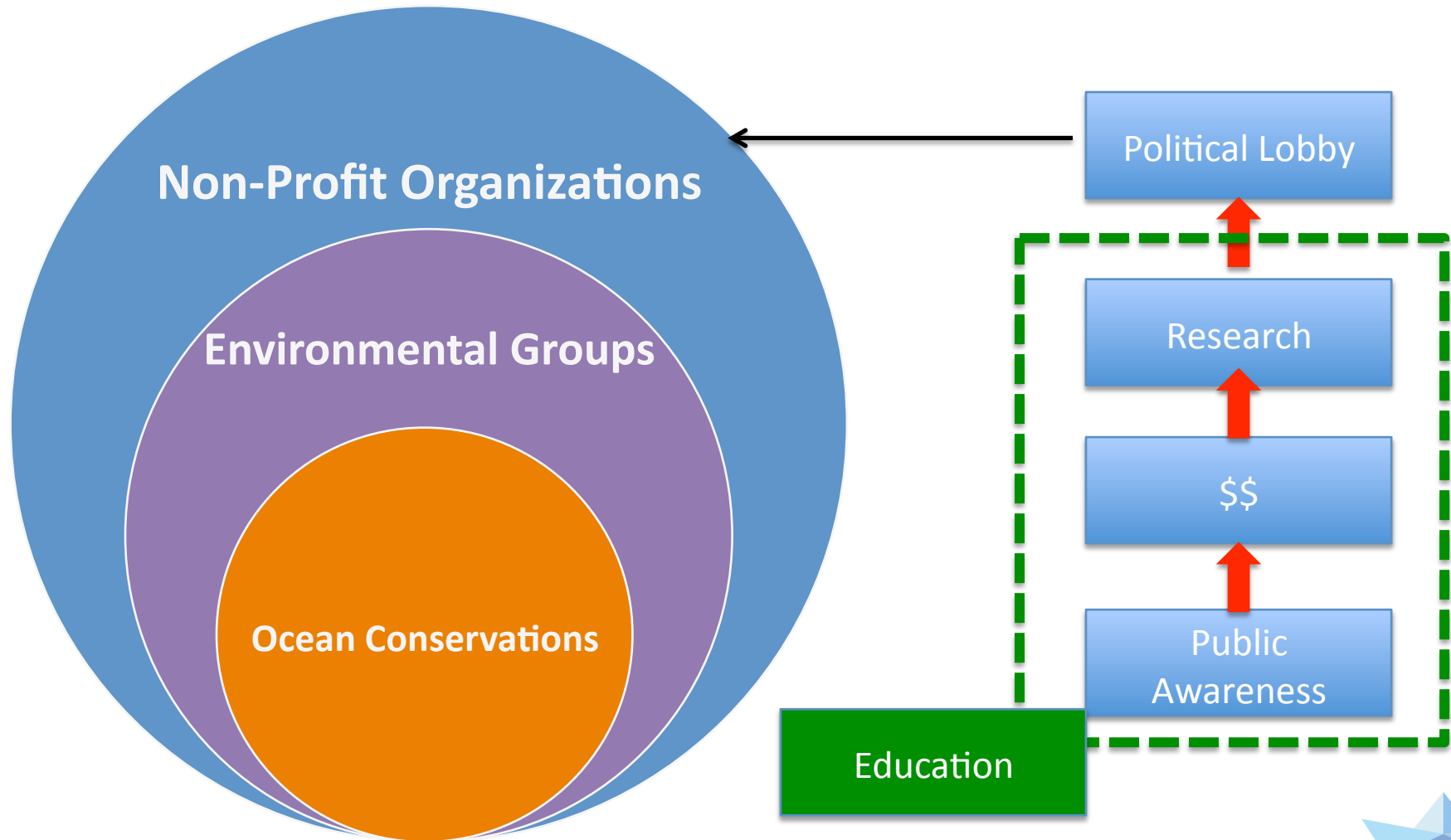
Positioning Statement

For	Students and Teachers in High Schools
Who	would like to have an educational tool
The	Protei 1m RC
Is an	Educational toy
That	is a scientific tool that combines robotics and scientific principles
Unlike	Other educational toys in the markets
Our product	Is designed by scientist and engineers and will be built by you

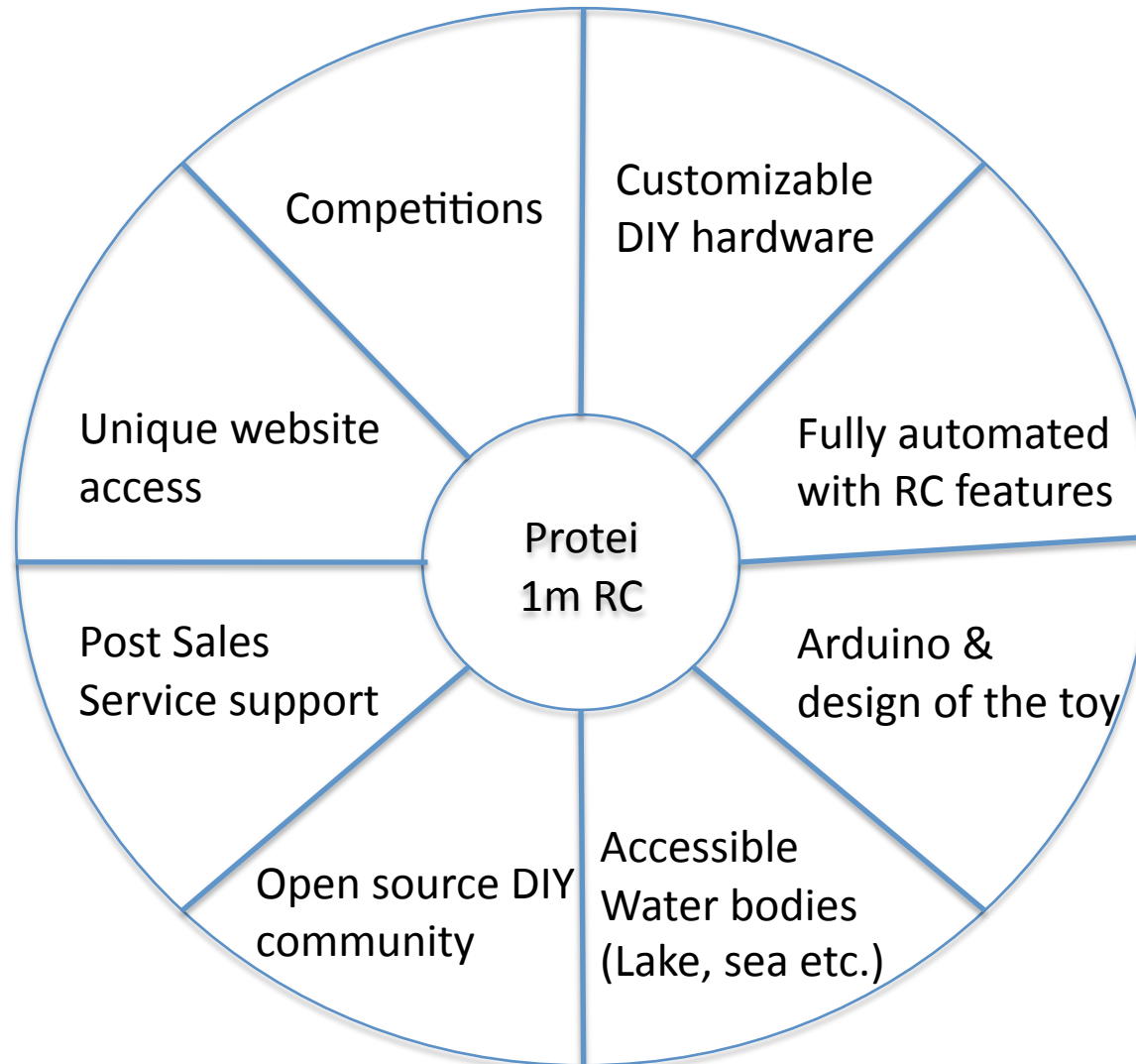
Why Education?

- Helps build awareness in children
 - Foundation for next generation of scientists
- Platform to generate meaningful revenue
- Regular toy market is saturated
 - Educational toys less common, more in demand

Macro Perspective: Non-Profit Influencing Forces










Whole product



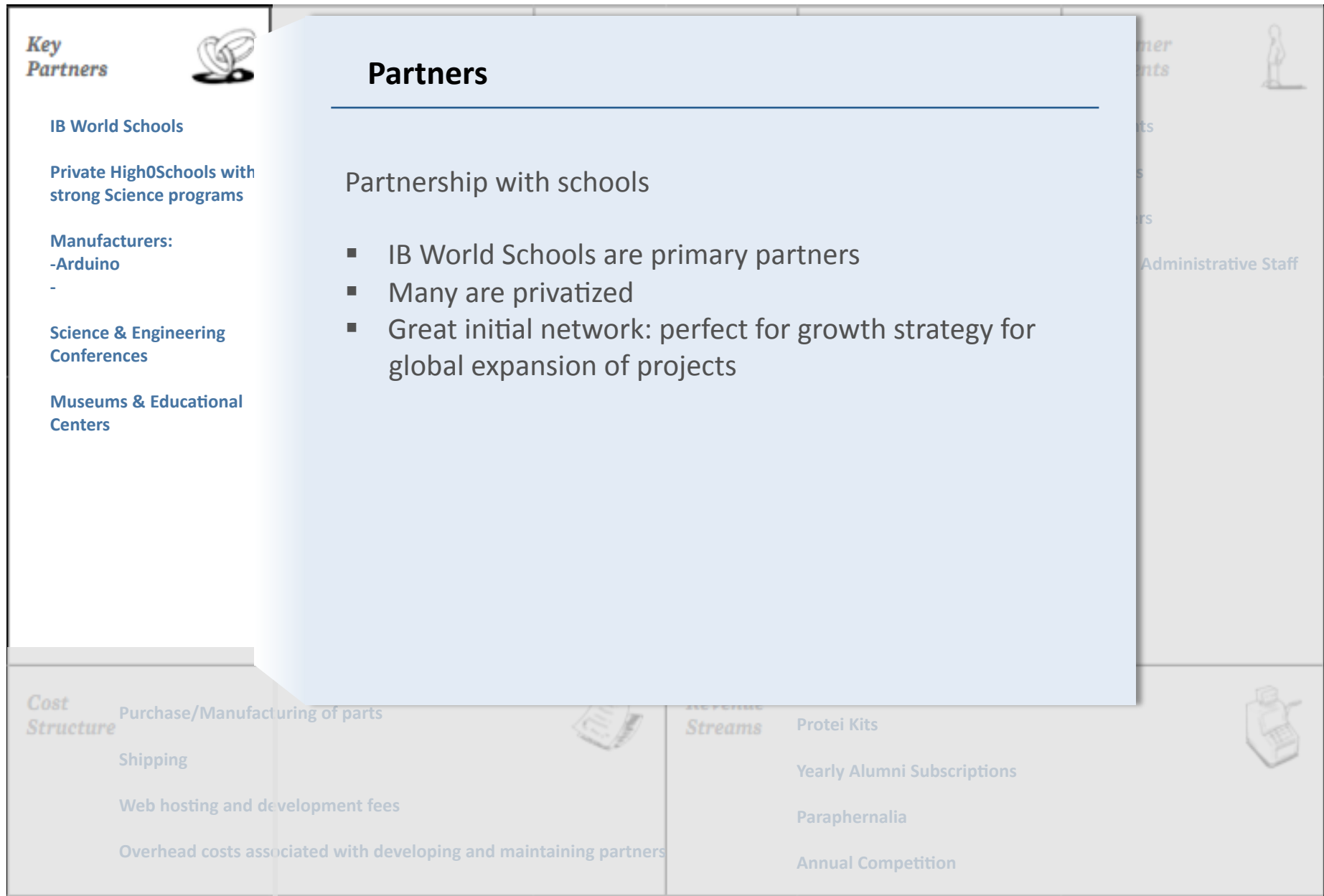
Source: High-Tech Marketing © 2005, TCG Advisors LLC

ANALYSIS

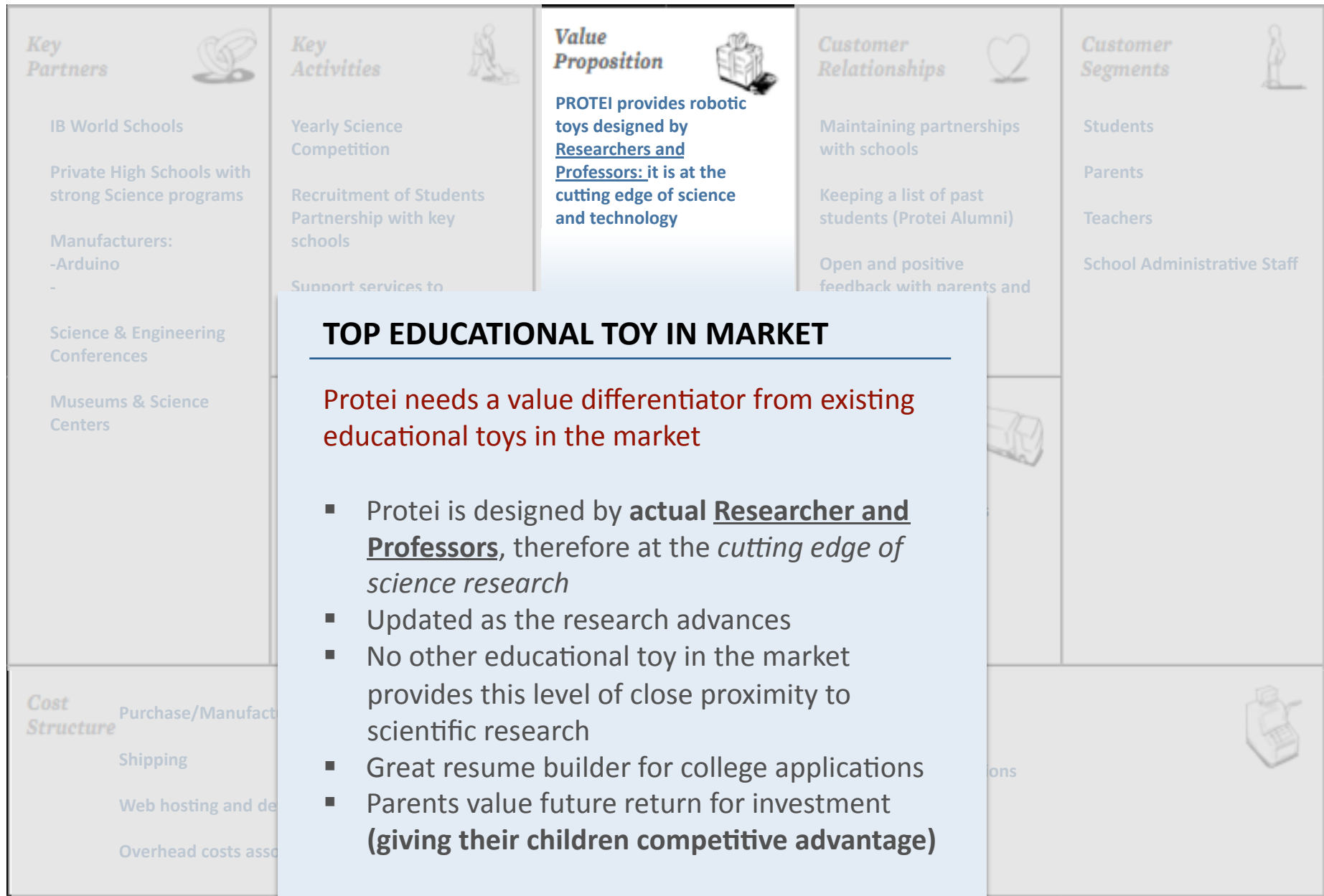
Business Model Canvas

<p>Key Partners </p> <p>IB World Schools</p> <p>Private High Schools with strong Science programs</p> <p>Manufacturers: -Arduino -</p> <p>Science & Engineering Conferences</p> <p>Museums & Science Centers</p>	<p>Key Activities </p> <p>Yearly Science Competition</p> <p>Recruitment of Students</p> <p>Partnership with key schools</p> <p>Support services to customers (students)</p>	<p>Value Proposition </p> <p>PROTEI provides robotic toys designed by <u>Researchers and Professors</u>: it is at the cutting edge of science and technology</p> <p>Toys designed with the environment in mind</p> <p>Toys designed to give children educational edge</p> <p>Assembly and operation build robotic skill-set</p> <p>International community of researchers, environmentalist and students</p>	<p>Customer Relationships </p> <p>Maintaining partnerships with schools</p> <p>Keeping a list of past students (Protei Alumni)</p> <p>Open and positive feedback with parents and teachers</p>	<p>Customer Segments </p> <p>Students</p> <p>Parents</p> <p>Teachers</p> <p>School Administrative Staff</p>
<p>Cost Structure </p> <p>Purchase/Manufacturing of parts</p> <p>Shipping</p> <p>Web hosting and development fees</p> <p>Overhead costs associated with developing and maintaining partners</p>		<p>Revenue Streams </p> <p>Protei Kits</p> <p>Yearly Alumni Subscriptions</p> <p>Paraphernalia</p> <p>Annual Competition</p>		

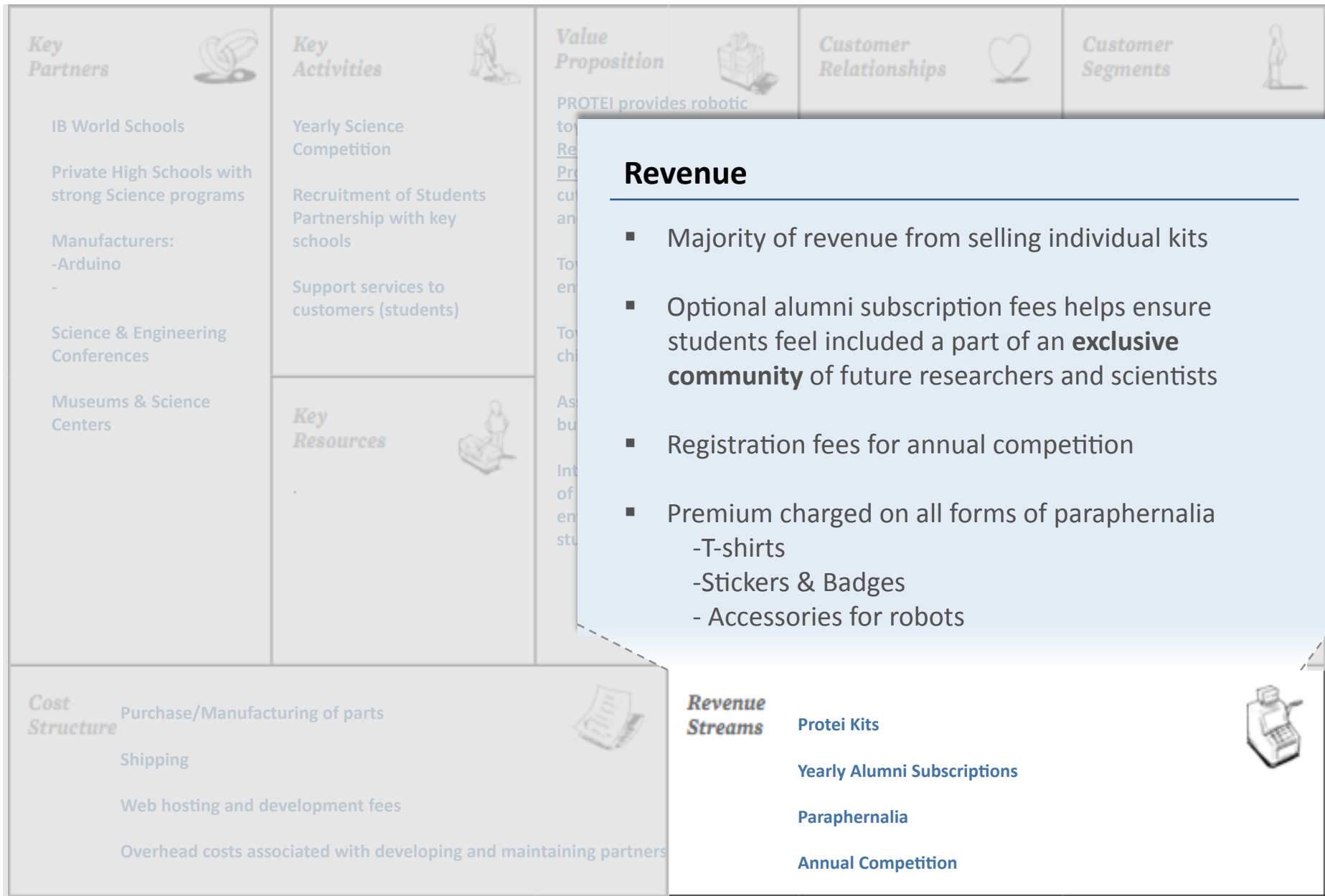
Business Model Canvas



Business Model Canvas



Business Model Canvas



Revenue

- Majority of revenue from selling individual kits
- Optional alumni subscription fees helps ensure students feel included a part of an **exclusive community** of future researchers and scientists
- Registration fees for annual competition
- Premium charged on all forms of paraphernalia
 - T-shirts
 - Stickers & Badges
 - Accessories for robots

Partner Give/Get for Schools

Potential stakes to bet on partnership	Partner can give	Partner can get
What assets will be put at risk in the partnership?	Customer Base	An innovative way to introduce students to real world problem
Technology (<i>product, platform, and process technologies</i>)	Venue for training	Instructors to train students to build the toys
Resources (<i>money, time, talent, and knowledge</i>)	Market access	New educational tool
Relationships (<i>with customers, channels, investors, government</i>)	Customers and distribution channels	Content and educational tool. Be associated with a TED fellow and MIT research fellow
Reputation (<i>visibility, credibility, brand equity</i>)	Brand Protei as an educational tool	Branding as a school that is innovative in its teaching approach
Core Competencies (<i>critical capabilities for execution</i>)	Brand awareness and distribution	Instructors for training
Chemistry of Key People (<i>culture, character, personalities, values</i>)	N/A	A team that is truly passionate about solving real world problems
Company Vision (<i>purpose, mission, values</i>) and strategy	Growth	An innovative way to engage more students in science and engineering

Adapted from: Kosnik (2000), "Managing a Portfolio of Polygamous Partnerships?"
Talk for Stanford Center for Professional Education, January 26, 2000

Partner Give/Get for FIRST

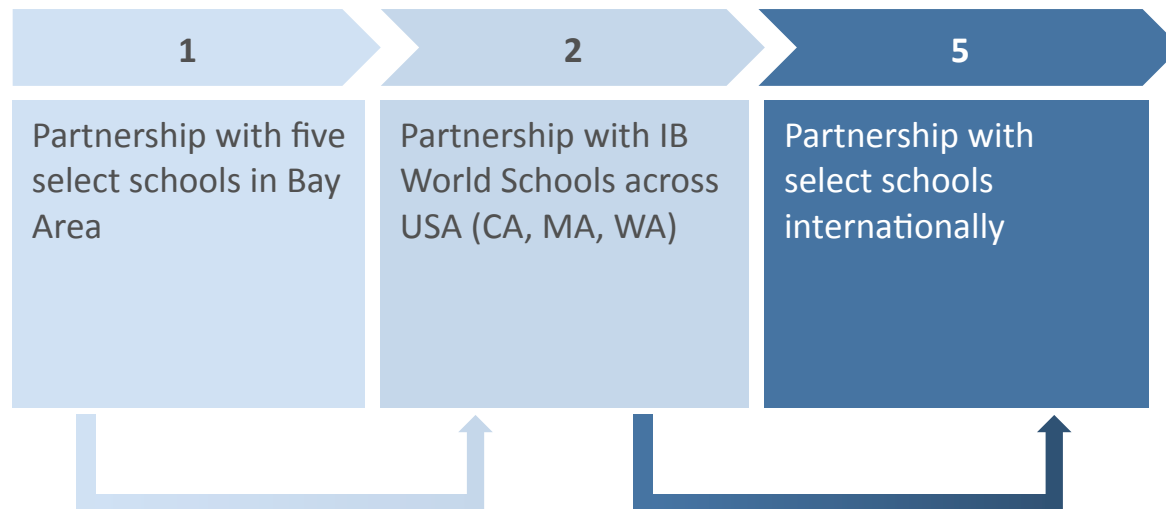
Potential stakes to bet on partnership	Partner can give	Partner can get
What assets will be put at risk in the partnership?	Customer Base, Network, Expertise in program planning	An innovative way to introduce students to real world problem
Technology (<i>product, platform, and process technologies</i>)	Network	Instructors to demonstrate use of product
Resources (<i>money, time, talent, and knowledge</i>)	Market access	New educational tool
Relationships (<i>with customers, channels, investors, government</i>)	Customers and distribution channels	Expansion in the variation of educational tools FIRST provides
Reputation (<i>visibility, credibility, brand equity</i>)	Brand Protei as a fun educational tool	Branding itself as open to new teaching ideas
Core Competencies (<i>critical capabilities for execution</i>)	Brand awareness and distribution	Instructors for training
Chemistry of Key People (<i>culture, character, personalities, values</i>)	N/A	A team that is truly passionate about solving real world problems
Company Vision (<i>purpose, mission, values</i>) and strategy	Growth	An innovative way to engage students' with other technology aspirations

Adapted from: Kosnik (2000), "Managing a Portfolio of Polygamous Partnerships?"
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DETAILED MARKETING PLAN

1 YEAR, 2 YEAR and 5 YEAR PROJECTIONS



1 Year Success Metrics:

- 1) Purchase of >50 Kits
- 2) 80% Purchase of annual subscription
- 3) 50% Retention amongst schools
- 4) Sponsorship from Science departments for following year
- 5) Interest for annual competition

2-5 year Success Metrics:

- 1) Purchase of >200 Kits/ year
- 2) 80% Purchase of annual subscription
- 3) 60% retention rate amongst schools
- 4) Successful implementation of Annual Competition
- 5) 25% Participation rate for Annual Competition

GEOGRAPHIC TARGET

- West Sound Academy
- Seattle Academy of Arts and Sciences



- British School of Boston
- International School of Boston
- The Newman School

- Menlo School
- Sacred Heart Prep
- Castilleja School
- Drew College Prep
- French American International School

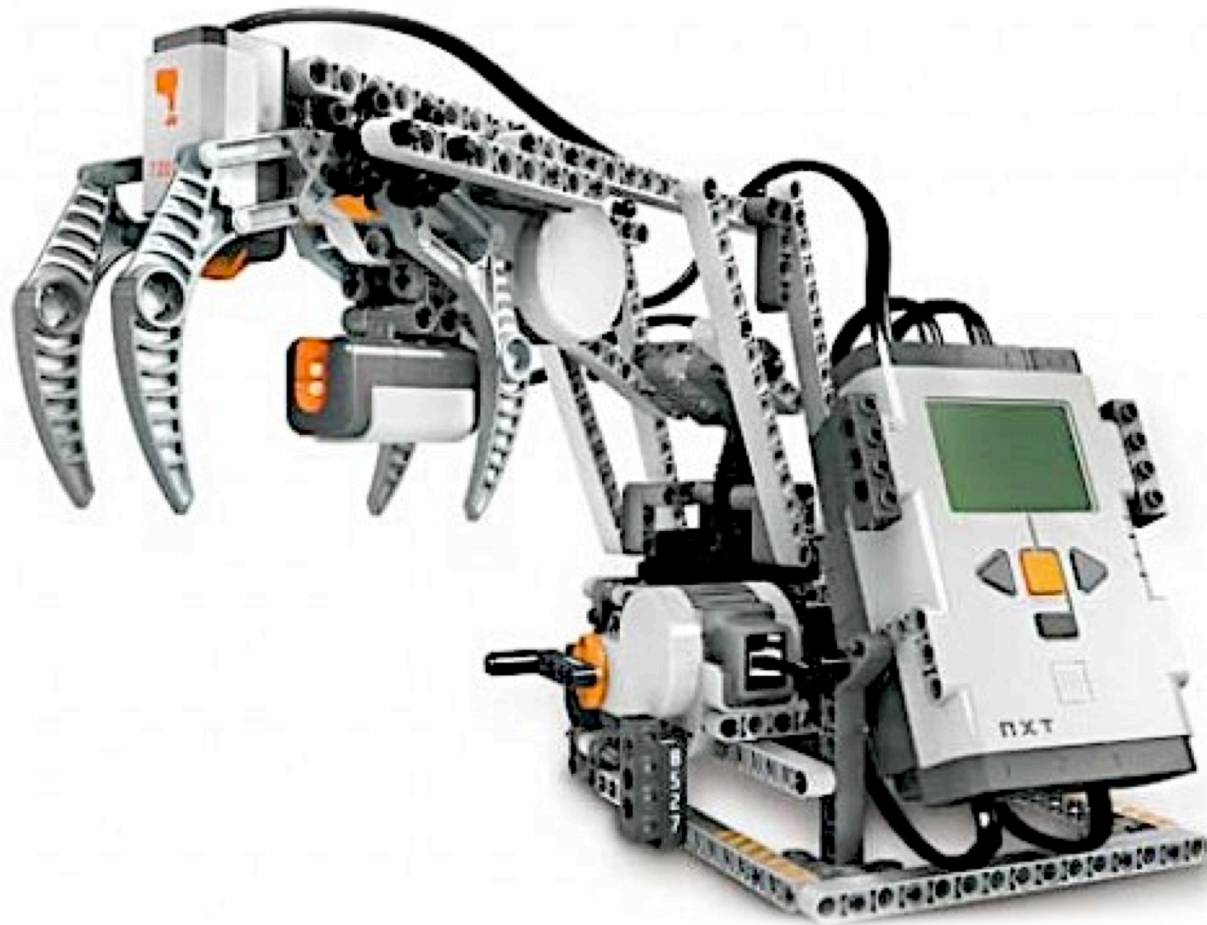
Teaching Robotics

- US
 - NSF-supported FOCUS (**F**aculty **O**utreach **C**ollaborations **U**niting **S**cientists, **S**tudents and **S**chools) program
 - Achievement Institute of Scientific studies (AISS)
 - UC Irvine Math and Science Regional Master Teacher Leader (RMTL) Leadership Institute
 - For Inspiration and Recognition of Science and Technology (FIRST)
- Chile
 - Universidad de Chile (UCH) outreach activities

Source: Robotics-Centered Outreach Activities: An Integrated Approach Javier Ruiz-del-Solar, *Senior Member, IEEE*



LEGO Mindstorm



Course Structure

- First day:
 - Intro to materials and essentials
- Second day:
 - In depth teaching of the building blocks of Protei
- Third day:
 - Teaching mechanics, design and concept of Protei
- Fourth day:
 - Development of project

Source: Robotics-Centered Outreach Activities: An Integrated Approach Javier Ruiz-del-Solar, *Senior Member, IEEE*



Elements of good program

- Continuous presence of monitors
- Inclusion of robot competitions
- Organize games during lunchtime
- Open house for family and friends



Source: Robotics-Centered Outreach Activities: An Integrated Approach Javier Ruiz-del-Solar, *Senior Member, IEEE*

FIRST Tech Challenge



Marketing Metrics

Company

Market

Number of units sold

Customer

Net Promoter Score

Retention Rate

Marketing

% of new users acquired through marketing effort

Marketing return on investment (ROI)

Programs

Social Media

Facebook follower growth/week

Twitter follower growth/week

Website Traffic Trend

TV advertising

Reach

Social Media/ SEM

Response rate

Conversion rate

Marketing communication mix

6 M's	Marketing Communication Matrix
Market	For students interested in Science who enjoy playing with RC sailing drones and DIY products
Motives	To promote the environmental awareness of oil spill in the world through education. To gain revenue for research effort in eventually developing the product that could help solve the oil spill crisis.
Message	Protei is a high tech robotic toy built by real scientists. It engages the creativity of students as this is an open-source product and students could also have the opportunity to solve this real world problem.
Media	Social Media (Facebook, Twitter) / Search engine marketing/ TV
Money*	€200k
Metrics	Next slide

Adapted from: Dolan, Robert J. (1999), *Integrated Marketing Communications*, HBS Note # 9-599-087



Company Metrics

Market	Metrics
Number of units sold	$S = \text{Total number of units sold (\#)}$
Quarterly sales growth	$G_s = R_i / R_L$ $G_s = \%$ Market growth $R_i = \text{Dollars/units increase this quarter}$ $R_L = \text{Dollars/units last quarter}$
Customer	Metrics
Net Promoter Score (NPS)	$\text{NPS} = \%$ of promoter - $\%$ of detractors
Retention Rate	$RR = C_a / C_{at}$ $RR = \text{Retention Rate}$ $C_a = \text{Number of active customers at end of time period } t$ $C_{at} = \text{Number of active customers at start of time period } t$

Marketing Metrics

Marketing	Metrics
Marketing ROI	$\text{ROI} = \frac{P_g - \text{MI}}{\text{MI}}$ <p>ROI = Return on Investment P_g = Gross Profit MI = Marketing Expense</p>
% of new customers acquired through marketing effort per campaign	Number of new customers / Reach per campaign

Program Metrics

Program	Metrics
Response Rate	$C_r = P_b / P_r$ C _r = Conversion rate P _b = Number of people who both respond and buy P _r = Number of people who respond
Conversion Rate	$C_r = P_b / P_r$ C _r = Conversion rate P _b = Number of people who both respond and buy P _r = Number of people who respond
Reach	Number of people exposed to message / campaign
Twitter (Owned)	No. of followers No. of retweets No. of followers your followers have Growth rate of followers Change in website activity
Social Networks (Owned)	No. of "fans" Growth rate of "fans" No. of Likes

REALITY TEST

Reality Test

Risks	Mitigation	Contingency Plan
The product is overpriced	Position product as an educational tool to middle and high schools for the students to learn about environmental crises in the oceans. Some schools have budget for innovation educational projects.	Innovate in ways to lower the manufacturing cost for each model.
Lack of manpower resource in school	Use social media as a tool for students to learn about Protei and offer resources such as a step-by-step manual via the Protei website for students in learning about building Protei from scratch.	Revamp the Protei website such that it is engaging and student-friendly.
Lack of interest in Protei	Position Protei as an educational product. Get the students that are science-oriented to be excited because Protei is highly configurable.	Establish key partnerships with school.

Conclusion and Action Plan

1. Target the educational toy market (specifically students)
2. Re-design production schedule to match market realities
3. Commercialize product packaging for easy understanding
4. Utilize Facebook page and Twitter account to reach students
5. Redesign website for ease of use
6. Access multiple revenue channels

APPENDICES

School Contact List

State	School	Address	Information	Contact Name	Contact Information
California	Menlo School	50 Valparaiso Avenue, Atherton, CA 94027	www.menloschool.org	Marc Allard: Science Department Chair	mallard@menloschool.org, (650) 330-2001, x2286
California	Sacred Heart Prep	150 Valparaiso Ave Atherton, CA 94027	www.shschools.org	Mr. Colin Quinton: Science Department Head, Science Teacher	cquinton@shschools.org, (650) 473-4084
California	Castilleja School	1310 Bryant Street, Palo Alto, CA 94301	www.castilleja.org	Jeanne Appelget: Department Head, Science	jappelget@castilleja.org, 650-470-7884
California	Drew College Preparatory School	2901 California St., San Francisco, CA 94115 tel.(415) 409-3739	www.drewschool.org	Warren Long: Science Department Chair	warrenlong@drewschool.org, 415-430-3754
California	French American International School	150 OAK STREET SAN FRANCISCO, CA 94102-5912	www.internationalsf.org	Christine Bois: Head of Science	christineb@frenchamericansf.org, 415.558.2000
Washington	Seattle Academy of Arts and Sciences	Seattle, Washington (206) 323-6600	www.seattleacademy.org	Peter Clark: Department Chair (Upper School Science)	pclark@seattleacademy.org, (206) 324-7227
Washington	West Sound Academy	16571 Creative Drive Northeast, Poulsbo, WA 98370	www.westsoundacademy.org	Barrie Hillman - Head of School	(360) 598-5954
Massachusetts	British School of Boston	416 Pond Street, Boston MA, United States 02130	www.britishschoolofboston.org	Miss Rebecca Wall: Director of Sciences	617.522.2261
Massachusetts	International School of Boston	45 Matignon Road - Cambridge, MA 02140 Tel: (617) 499-1451 -	www.isbos.org	Géraldine Guillermin: Upper School Head	617-583-9331 gguillermin@isbos.org
Massachusetts	The Newman School	247 Marlborough St. Boston MA, United States 02116	www.newmanboston.org	Sudhakaran Balakrishnan: Science Chair	617.267.4530

Company contact list

Company	Point of contact	Contact number	Email
FIRST	Dean Kamen	(603) 666-3906	contactDEKA@dekarsearch.com
Engineers4KidsUSA	N/A	1-949-857-1419	info@engineers4kidsUSA.org
AISS Foundation	Paul J. Riordan	(1-714) 544-1316	aissfoundation@pacificbell.net

Government grant

Grant	Website	Contact number	Email
NSF	http:// www.nsf.gov/ funding/	(703) 292-5111	info@nsf.gov

AR Drone



AR Drone

- 125 million euros turnover for Parrot AR Drone
- Approx : 500, 000 units sold each year at \$300/piece

AR Drone

The AR Drone, an iPhone-controlled [flying](#) machine from Parrot, is now available for pre-order from Brookstone. iSmashPhone [saw this at E3](#) and loved it.



The machine is very awesome. At \$300, its a bit pricey, but the features definitely add value. It has a built-in camera and two augmented reality games. According to the press release, the AR Drone creates its own wifi [network](#) to which your iDevice connects.

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