

How to Bring a New Product to Market

RESNA Presentation

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Presentation Focus

- The Basics for an Inventor
 - Steps from Idea Conception to Prototype Development
- Importance of Consumer Involvement in Product Design
- Five Key Elements of a Successful Commercialization Package
- Approaching Potential Licensing Corporations - Do's and Don'ts of Interactions
- Differing Perspectives of Universities & Corporations

The Basics for an Inventor

- “The Day the Light Bulb Went On”
 - Procure a Notebook (your logbook) and Document
 - Draft an ‘NDA’ and have your logbook reviewers sign it
 - Have logbook’s initial entries read, signed and dated by 2 individuals (not relatives or co-inventors)
 - Perform a Competing Product Search
 - Perform a Preliminary Patent Search at www.uspto.gov
 - Build a Proof of Concept Prototype

Importance of Consumer Involvement in Product Design

- Many mfg. made product design decisions
 - Minimal consumer input to design.
 - Absence of needed consumer features and functions leading to product dissatisfaction and abandonment.
 - New product introduction failure rates vary by industry – range 30% to 90%.

Importance of Consumer Involvement in Product Design

- Primary cause of failure traced to a point early in product design process.
- Significant consumer information failed to be collected and analyzed prior to initial fabrication of device.
- T²RERC experience confirms many companies perform limited primary market research.

Importance of Consumer Involvement in Product Design

- Current Mfg. research (i.e. surveys) identifies
 - Consumer problems.
 - Verifies need for device.
 - Obtains price point & purchase intent information.
- Research does not identify
 - Key design & functional features from consumer perspective (Supply Push example of Lids Off).
 - Did not truly ask what the consumer wanted (design features and functions) – Can opener.

Importance of Consumer Involvement in Product Design

- Alpha groups involve consumers in identifying product requirements and setting priorities for product design.
- Groups use mixed rather than uniform samples exposing all participants to various relevant perspectives.
- Using 3 groups and a minimum of 50 participants meets minimum industry standards for validity and reliability.

Importance of Consumer Involvement in Product Design

- Alpha focus groups provide primary market research.
- Participants participate in an open forum discussion led by an experienced moderator.
- Topic Areas include:
 - Current status of technology area being discussed from participants perspective.

Importance of Consumer Involvement in Product Design

- Topic Areas (cont'd):
 - Description of the ‘Ideal’ product.
 - An evaluation of product concept designs.
An evaluation of your prototype if you have one.
 - Lastly, purchase intent and price point questions are asked for both the conceptualized ‘Ideal’ product and for the concept models shown.

Importance of Consumer Involvement in Product Design

- Beta focus groups – allow the refinement of a product through a critique of key design features of the prototype.
- Provide an opportunity to rank the importance of a product's function and design features previously identified in the Alpha or concept definition focus groups.

Importance of Consumer Involvement in Product Design

- Participants are a representative sample from the Alpha groups.
- Two Beta groups of 12 participants each is normally sufficient.
- Beta groups provide the ability to obtain quantitative data on previously collected qualitative information and allow that data to be applied to the prototype being evaluated.

Importance of Consumer Involvement in Product Design

- Beta groups:
 - Provide ability to score how well a prototype meets consumer expectations.
 - Gauges consumer interest in the product along with their intent to purchase.
 - Ranks in order of importance, previously identified function and design features.
 - Performs an evaluation of the viewed prototype

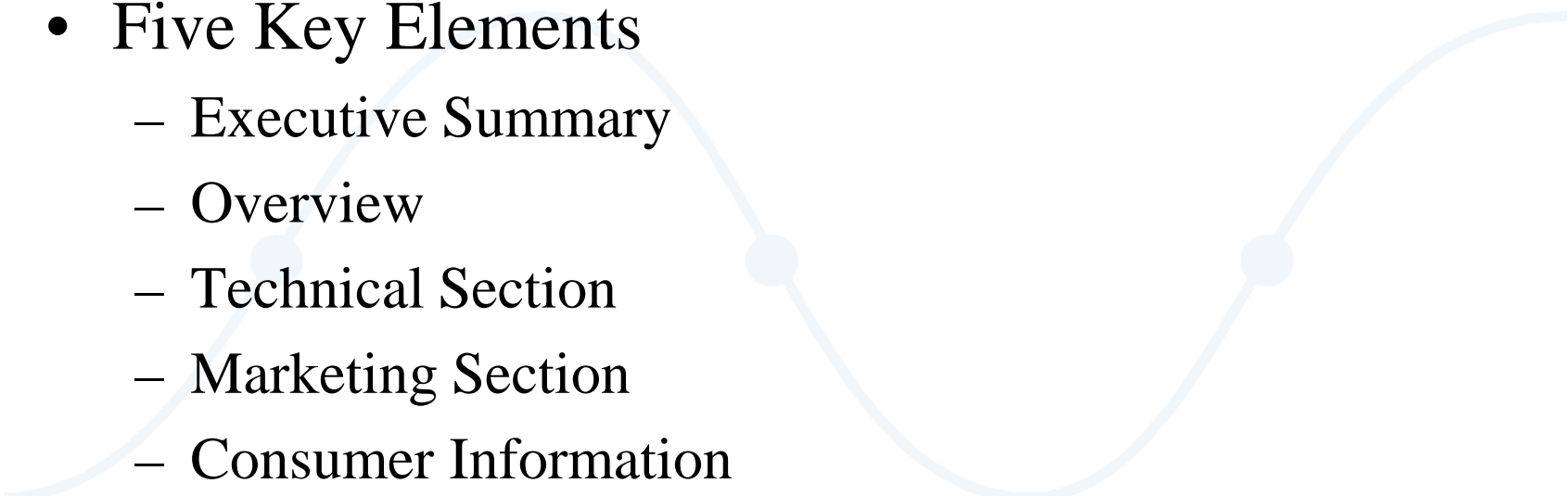
Importance of Consumer Involvement in Product Design

- Provides a ranking of consumer preference on any additional product models shown.
- Provides a ranking of consumer preference on specific design features.
- Provides comments regarding consumer usage of the Beta prototype.

Importance of Consumer Involvement in Product Design

- Key Points
 - From an inventor cost standpoint, you need only to run Alpha groups. Present to potential licensing companies the findings on your prototype evaluation, the ideal product and the purchase intent price point information. Let the company bear the costs of the Beta groups.
 - If you are starting your own company, you need to run the BETA focus groups to verify your pre production prototype addresses the major concerns of the consumer.

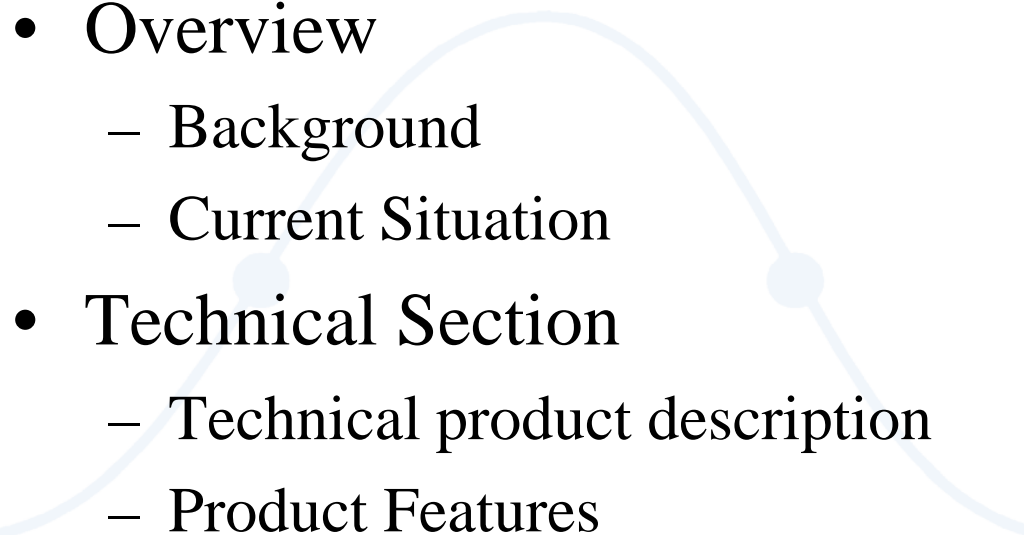
Commercialization Package Elements

- Five Key Elements
 - Executive Summary
 - Overview
 - Technical Section
 - Marketing Section
 - Consumer Information
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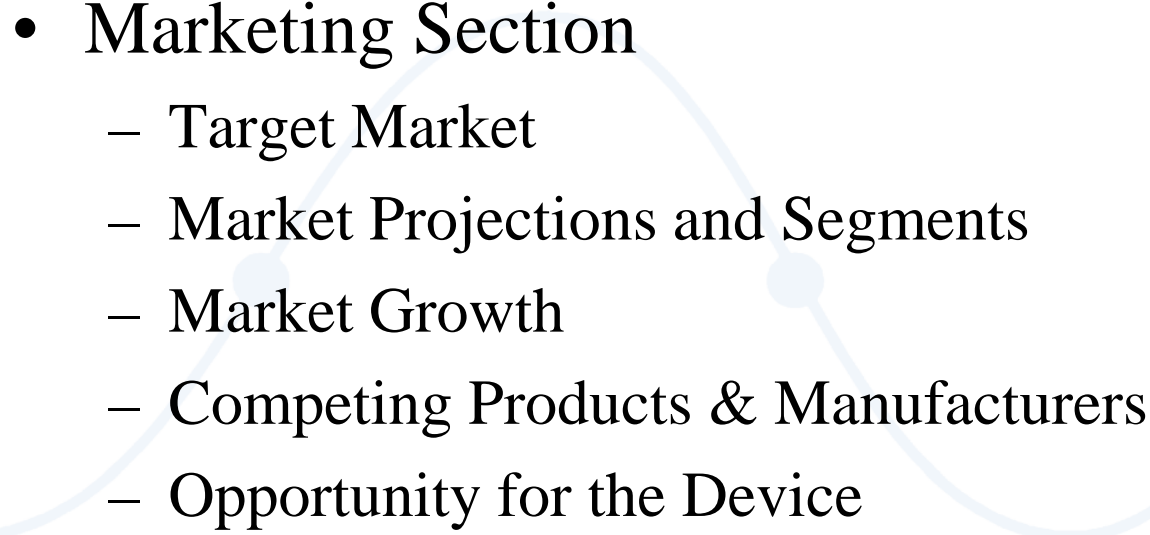
Commercialization Package Elements

- Executive Summary Section Content
 - Cover page has a picture of the device on it
 - Table of contents
 - Executive Summary
 - Precise product description
 - Key features of your product (your selling points)
 - Target market
 - Market projections
 - Consumer purchase intent and price point
 - Intellectual property status

Commercialization Package Elements

- Overview
 - Background
 - Current Situation
 - Technical Section
 - Technical product description
 - Product Features
 - Ergonomics
 - Human & Environmental Factors
- 

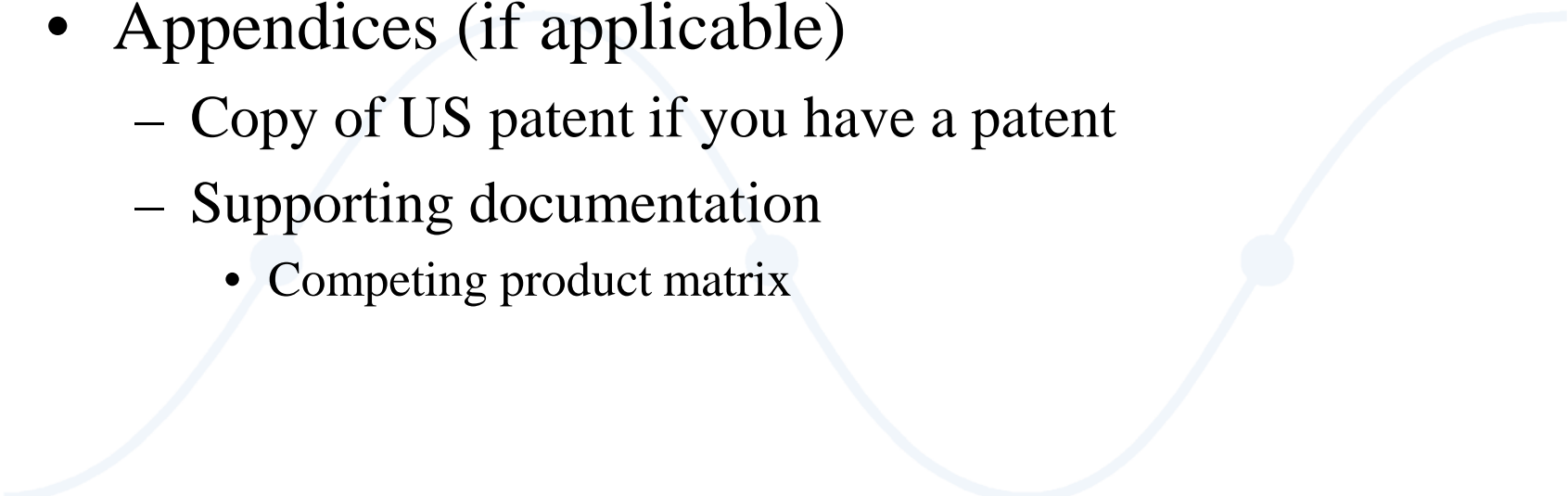
Commercialization Package Elements

- Marketing Section
 - Target Market
 - Market Projections and Segments
 - Market Growth
 - Competing Products & Manufacturers
 - Opportunity for the Device
 - Marketing Strategy
 - Sales Projections
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Commercialization Package Elements

- Consumer Information
 - Current status of each participant and their satisfaction level with current devices
 - An evaluation of your device
 - Description of the ideal product
 - Consumer purchase intent and price point
 - Suggested consumer refinements to the device

Commercialization Package Elements

- Appendices (if applicable)
 - Copy of US patent if you have a patent
 - Supporting documentation
 - Competing product matrix
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Commercialization Package Elements

- Key points to remember
 - 5 minutes of a key executive's time
 - Professional format
 - Be concise to the point
 - Provide pictures, a video or cd, cad drawings
- **THIS IS NOT A BUSINESS PLAN**

Approaching Licensing Companies

- What We Know About Companies
 - Money motivates. Specifically increased market share.
 - Baby boom generation – increased market
 - Companies want a piece of this action.
 - Market Broadening – show companies how it can be done
 - Product Differentiators
 - It's something your product offers that the competition doesn't.
 - Product parity doesn't garner sales from the competition.
 - Companies are seeking novel features.
 - Companies want their products to be different from their competitors

Approaching Licensing Companies

- What We Know About Companies
 - Very aware of the 80/20 Rule (Pareto Principle)
 - 80% of the features their product should have can be attained at a reasonable cost
 - Perceived last 20% can be very expensive
- What We Need to Know About Companies
 - Their industry and the players
 - Who are the companies, what are the trade shows, how do they introduce new products?

Approaching Licensing Companies

- What We Need to Know About Companies
 - Product Development Cycles
 - What are the mark-ups for products in this industry?
3:1, 4:1, 6:1, or higher (software)
 - Do they routinely license products?
 - Will they accept your NDA?
 - Will they only accept patented products?

Approaching Licensing Companies

- Do's & Don'ts of Company Interactions
 - Do know the industry and the players
 - Do know product development cycles
 - Don't completely design a products, present it, and expect it to be well received
 - Company designers will feel threatened
 - Do understand that company designers may have internal constraints
 - Don't criticize previous designs or products.

Approaching Licensing Companies

- Do's & Don'ts of Company Interactions
 - Do learn what new features or technology costs today.
 - Do be a resource to the company.
 - Don't attempt to have all the answers.
 - No one knows competing products, the market for those products better than the company that has been operating in the market for years.

Approaching Licensing Companies

- How to Succeed
 - Engage the company – say the right things
 - Be perceived as a resource. Bring something of value to the party.
 - Make sure you aren't perceived as a threat to anyone in the organization. You are competing against internal champion products for corporate resources.
 - Mention consumer involvement in your design process.
 - Present design and functional features to be incorporated into the new product.

Approaching Licensing Companies

- How to Succeed
 - Follow up. Ask for specific date and time for next conversation.
 - Follow up. Make the call at that date and time. If progress made – that's great. Either way – ask for a specific date and time for next conversation.
 - Follow up – this is a contact sport. If you are asked for anything, deliver it on time.

Approaching Licensing Companies

- Alternative Plan – E Commerce
 - Some Assistive technology may be deemed orphan products
 - Orphan products are devices used by very small populations and have limited market appeal.
 - Prior to presentation to a company for licensing, E commerce allows you to have a ‘track record’ of sales

Approaching Licensing Companies

- Alternative Plan – E Commerce
 - Benefits of E Commerce
 - Orphan products are available for sale
 - Customers for orphan products are scattered. E Commerce covers national or global market.
 - Cost of distribution is reduced.
 - Ability to sell product at an attractive price to the consumer. No large product mark-ups.
 - Possibility of one having mass market appeal.

Differing Perspectives of Universities & Corporations

- Academic Model versus Business Model
 - University Approach/Corporate Approach
 - Contacts
 - Timelines
 - Licensing & Collaborations
 - Corporate Product Development
- Intellectual Property Issues
 - Royalty Issues on University Developed Technologies
 - Ownership Issues on Corporate Funded Joint Research projects

Differing Perspectives of Universities & Corporations

- Engaging a Corporation on a Joint Research and Development Project is *Definitely a Contact Sport*
 - Approach is as a business would approach another business
 - Know your goal – must be mutually beneficial
 - Have an agreement already drafted – identifying ownership of intellectual property developed through collaboration with reasonable terms

Differing Perspectives of Universities & Corporations

- Understand timelines and deliverables in the context of a business
- Be responsive, be persistent
- Positive approach – don't criticize previous design or products
- Want to be perceived as a partner; a resource for the company

Differing Perspectives of Universities & Corporations

- Be cognizant of the fact that you need them and they really don't need you.
 - US Global companies are using Europe, India, and China for research that used to be performed in US.
Why?

Differing Perspectives of Universities & Corporations

- Example

Whirlpool Project

- First Contact & Correspondence
 - Outline of proposal, time frames, intellectual property, deliverables
 - NDA agreement
 - Acquire multiple contact names
 - Assure long term success

Differing Perspectives of Universities & Corporations

Whirlpool Project

- Constant interaction
- Deliverables – meet deadlines
- Provide what is needed by the company

End Result

- Successful Completion of Project

US Disability Numbers

- Estimated 19.4% (48.9 million) of non institutionalized civilians in the US have a disability
- Half of these people (24.1 million) can be considered to have a severe disability
- Estimated 15% or 37.7 million non institutionalized US residents have an activity limitation
- 15 years from now – over 60 million Americans will have Arthritis

Most Common Causes of Disability

- Arthritis or rheumatism
- Back or spine problem
- Heart trouble or hardening of the arteries
- Lung or respiratory problem
- Deafness or hard of hearing
- Limb/extremity stiffness
- Mental or emotional problem
- Diabetes
- Blindness or low vision
- Stroke

What is a Functional Limitation?

- A limitation in the performance or completion of a fundamental activity; being able to stoop/bend, stand, walk, push, climb, carry, sit, reach, grasp
 - Loss of hearing makes it difficult to hear in noisy environments
 - Loss of vision makes it difficult to read fine or small print
 - Not able to walk up a flight of stairs, carrying or lifting 10 lbs.

Knowns

- People age into or acquire disabilities
- We all have or will develop functional limitations
 - Hearing loss
 - Vision Loss
 - Gait difficulties
- Clear link between activity limitation and family income
 - Income loss occurs as a result of disability
- People over the age of 15 with functional limitations tend to be members of lower income households