

INVENTING FOR MARKETS

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PRODUCT DEVELOPMENT IN

THE 90's

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Outline

INTRODUCTIONS

OVERVIEW OF THE MARKETING FUNCTION

- The different faces of market research
- Marketing communications
- The selling process

EARLY STAGE MARKET TESTING

- Determining the needs and wants of customers
- Concept Testing vs. Quantitative Assessments
- Impact on Design

DEVELOPING MARKET PROJECTIONS

- Use of secondary sources
- Choosing between different products - corporate criteria, financial metrics, etc.

CASHING IN ON MAJOR MARKET TRENDS

- Green products
- Shifts in demographics and economics

Outline - 2

PROTECTING YOUR POSITION

- New developments in the patent system
- Keeping ahead of the competition

PRODUCT DEVELOPMENT PROCESSES

- Where to find new products
- Inventing resources and technologies
- Other resources

OVERVIEW OF THE MARKETING FUNCTION

The different faces of market research

- Designing/refining product design
- Doing competitive analysis
- Doing prospect identification
- Determining needs & wants

Marketing communications

- Presenting the message most effectively
- Creating credibility

The selling process

- Knowing the customer's mind and situation
- Getting mind-space
- Providing solutions/benefits

DETAILS OF MARKETING FUNCTIONS

Part 1

STRATEGIC MARKETING

- Five to Ten Year Analysis
- Competitive Forecasting
- Economic and Demographic Forecasting
- Technological Forecasting

MARKET RESEARCH

- Customer Profile Determination
- Find Needs and Wants and Buying Motives
- Establish Market Potential and Share
- Five Year Sales Growth Projections
- New Product/Services Identification/Evaluation

DETAILS OF MARKETING FUNCTIONS

Part 2

MARKET PLANNING

- * Sales Strategy and Tactics
- * Distribution Channels
- * Customer Needs and Wants Identification
- * Customer Profile
- * Implementation Plan

MARKETING COMMUNICATIONS

- Advertising to End-User
- Advertising/Promotions to the Trade
- Promotional Materials for Sales Force & Trade
 - ☞ Support Materials as Sales Literature, Samples, etc.
 - ☞ Trade Show Exhibits
- General Public Relations

DETAILS OF MARKETING FUNCTIONS

Part 3

SALES SUPPORT

- Sales Recruitment and Training
- Sales Meetings, Product Introduction Sessions
- Sales Literature and other kits
- Lead Generation via Telemarketing, etc.

EARLY STAGE MARKET TESTING

Part 1

Determine the Needs and Wants of Customers

- Develop a matrix
- Pay heed to results

Concept Testing vs. Quantitative Assessments

- Select representative people
- Open-ended questions vs. close-ended
- Follow-up with quantitative analysis

Mail or Trade Show Intercept Styles vs. Interviews & Questionnaires

EARLY STAGE MARKET TESTING

Part 2

Impact on Design

- Develop & test design specifications
- Assess implications with respect to customer feedback

NEEDS & WANTS MATRIX



	DOESN'T NEED	ALTERNATIVES OK	NEEDS
DOESN'T WANT	No Sale	Unlikely Sale	Slow Sales
DOESN'T CARE	Unlikely Sale	Hard Sale	Good
WANTS	May be Good	Good	Best

DEVELOPING MARKET PROJECTIONS

Part 1

Use of Secondary Sources

- Finding SIC codes - D&B Million Dollar Directory
- Use of analogy for revolutionary products
 - ◆ Case study: Slide rules & calculators
 - ◆ Case study: Carbon paper & xerography

Market Share, Product Share & Life Cycle

Sales Projections - should be consistent with available capital

DEVELOPING MARKET PROJECTIONS

Part 2

Choosing between Different Products

- Margins vs. Investment costs
- Compatibility with company resources
 - ◆ Technical
 - ◆ Marketing
 - ◆ Financial
 - ◆ Manufacturing

CASHING IN ON MAJOR MARKET TRENDS

Part 1

Green products: What makes it green?

- Being a good neighbor/employer
- In-plant chemical use
- On the way out - CFC ...
- Minimizing waste streams
- Source Reduction
- Biodegradable, Reuseable, Separable, Disposable, Recyclable
- Re-cycled materials, e.g. AT&T
- Disposable diapers, e.g. P&G
- Appliance disassembly
- Life Cycle Planning
- The Green Seal
- Energy efficiency
- No animal testing

CASHING IN ON MAJOR MARKET TRENDS

Part 2

Shifts in demographics and economics

- Aging Americans
- The move South
- Global dynamics
- Rise of the ethnics

PROTECTING YOUR POSITION

New developments in the patent system

- Potential consequences of First-to-File
- Extension of time
- Escalating fees

Keeping ahead of the competition

- Keep in contact with customers
- Develop follow-up & tracking system of field performance
- Expand trade publications repertoire

ADDENDUM ON NEW PRODUCT DEVELOPMENT

CHECKLIST

1. Technology: Research & Development

- a. What is the status of the technology?
- b. What is your patent and/or copyright position?
- c. Technology forecast for competition
- d. Technical development plan and milestones
- e. Design constraints
- f. Impact of regulatory agencies

2. Building the Prototype

ADDENDUM ON NEW PRODUCT DEVELOPMENT

CHECKLIST

- 1. Technology: Research & Development**
- 2. Building the Prototype**
 - a. Definitions: Models, Working Prototypes, Design Prototypes, vs. Manufactured Samples
 - b. Materials selection
 - c. Test & Evaluation
 - d. Specifications
 - e. Manufacturing processes and prototypes

ADDENDUM ON NEW PRODUCT DEVELOPMENT

CHECKLIST

3. Resources for You

- a. Job Shops - Limited run production
- b. Manufacturing Engineering consultation
- c. Shop options: machine, electronics, PCB, injection molders, vacuum formers, sheet metal, CAD/CAM, Packaging design, industrial designers (IDSA), etc.
- d. University resource centers
- e. Government laboratory resources
- f. Industrial liaisons

4. Manufacturing/Operations

- a. How will the product be produced: Plastics, metal, electronics, assembly, etc.?
- b. What production or operating advantages are available?

PRODUCT CONCEPTS BASED ON MARKET NEEDS

IDEA GENERATION TECHNIQUES

- ☞ **Brainstorming**
- ☞ **Trigger Session**
- ☞ **Storyboarding**
- ☞ **Keywords**
- ☞ **Analogizing**
- ☞ **TRIZ - Theory of Inventive
Problem Solving**
Catalog of Inventive Technical
Solutions Dealing with Contradictions

TRIZ - Theory of Inventive Problem Solving

Catalog of Inventive Technical Solutions

Four Stages of a Product:

- a. Selection of Parts of a System
- b. Improvement of the Parts
- c. Dynamisation
- d. Self-Development of Systems

TRIZ - Theory of Inventive Problem Solving

Part 1

Some Methods for Invention Problem Solving

- 1. Do it inversely
- 2. Change the state of physical property of the object
- 3. Do it in advance
- 4. Do it a little less
- 5. Matreshka - Nest elements inside one another
- 6. Conflicting requirements are separated in time or in space
- 7. All special terms must be replaced with simple words
- 8. Incorporation of similar or different objects into one system

TRIZ - Theory of Inventive Problem Solving Part 2

Some Methods for Invention Problem Solving (cont'd)

- 9. Fragmentation and/or Consolidation
- 10. Dynamisation
- 11. Add magnetic powder and apply magnetic field
- 13. Self service
- 15. Transition from macro-structure to micro-structure
- 18. Combination of different effects
- 21. Ideal Final Result (IFR)
- 22. Introduction of a second substance

SOURCES FOR NEW PRODUCTS

- EMPLOYEE SUBMISSIONS/INTERVIEWS
- INTERNAL BRAINSTORMING
- VENDORS
- CUSTOMERS
- SMALL BUSINESS INNOVATORS
- UNIVERSITIES
- UNIVERSITY/TECHNOLOGY CONFERENCES
- PATENT SEARCHES
- TECHNOLOGY DATABASES
- GOVERNMENT CONTRACTORS
- GOVERNMENT LABORATORIES
- GOVERNMENT LABORATORY LISTINGS
- INVENTOR ORGANIZATIONS
- INDEPENDENT INVENTORS
- INVENTOR EXPOS & BROKERS

WAYS TO SCREEN IDEAS

Part 1

- Market analysis
- Financial analysis
- Mega-trend analysis
- Technology forecasting
- Corporate matrix analysis

WAYS TO SCREEN IDEAS

Part 2

Insert one or more slides for each of the following topics:

- Market analysis
- Financial analysis
- Mega-trend analysis
- Technology forecasting
- Corporate matrix analysis

THE SECRET TO SUCCESS

BIB/BIC/BIF/BIS/ECE

Build it Better /

Build it Cheaper /

Build it Faster /

Build it Smarter /

Exceed Customer's

**Expectations - Build to their
needs and wants, it's the
marketing way!**