Over The Transom

An R&D Executive's
Perspective
on Outside Submissions

The Conundrum

- New products are essential to survival
- Internal development is ONE approach
- External ideas DO succeed

Despite that,

- Getting an audience is VERY difficult for the independent inventor

Improving Your Chances

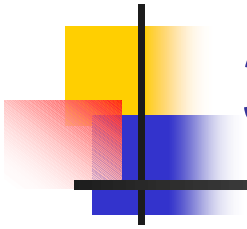
- Understand the CORPORATE New Product Process
  - how it works
  - what it does
  - how to get into it
- Assess your invention from the CORPORATE perspective

Some Thoughts about Inventions

Ideas are like hair styles...

- Everybody has at least one
- It's never quite right
- The same one occurs over and over
- They're high maintenance
- They're expensive
- Nobody likes yours

Inventions are ideas reduced to practice



3000 Ideas = ONE Success

- 3000 raw ideas (from everywhere)
- 300 written submissions
- 125 small projects
- 9 significant projects
- 4 major developments
- 1.7 launches
- 1 commercial success

The New Product Development Process

- Most companies have a NPD Process
- Most NPD processes have a gatekeeper

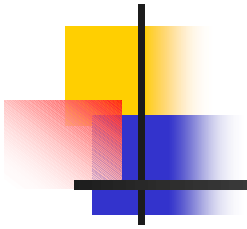
- Limited ways to join
  - protects the corporation
  - avoids distracting the business

A Formal NPD Process

- A Phase Gate Process
- Ideation: one on-ramp
- Evaluation and Exploration
  - multiple phases, serial gates
- Successively higher, harder hurdles
- Incrementally higher investment
- Eventual launch of one idea out of many

Many Hurdles

- Core beliefs and principals
- Business
- Channels
- Technical
- Manufacturing

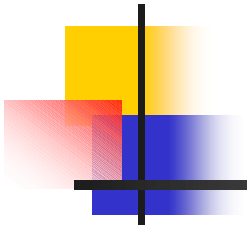


Business Goals

- Minimum sales requirement
- Profitability goals
- ROI, ROCE goals
- Geography
- Existing business fit
- Strategic new business opportunity

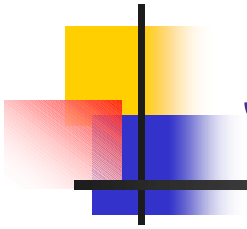
Raw Ideas

- Technology or Market Driven
- Unscreened
- No market research
- No segment research
- Effort: <1 month
- Cost: <$20,000



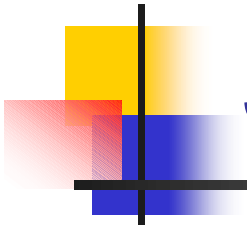
Focused Ideas

- Screened, need defined
- Some market research (size, $, profitability)
- Patent disclosure to Law/provisional
- Effort: 0.1-1 workyear
- Cost: $20-$200K
- Surviving from previous stage: 10%



Small Project

- Market opportunity evaluated
- Consumer need validated
- Technical feasibility evaluated
- Manufacturing fit evaluated
- Effort: 1-3 workyears
- Cost: $100-$500K
- Survival rate from Focused Idea: 45%

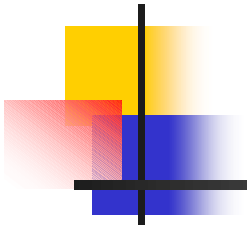


Significant Project

- Quantitative business hurdles met
  - market size, profit hurdles, channel/business fit
- Technical feasibility validated
- Product performance established
- Effort: 1-10 workyears
- Cost: $500K-2MM
- Survival from Small Project: 8%

Major Development

- BASES I & II Testing
- Pilot production
- Test Market/regional launch
- Scale up to full manufacturing
- Effort: >20 workyears
- Cost: >2MM
- Surviving from Significant Project: 50%



Full Launch

- Marketing/sales plan complete
- Full manufacturing capability in place
- Proprietary position established
- Effort: 20-50 workyears
- Cost: 20-100MM
- Surviving from Test Market: 50%

WHEN to Join the Process

Focused Idea Stage

(loss from previous stage: 90%)

Major Project Stage

(loss from previous stage: 92%)

Entering the Process

- Early: low value, heavy screening
- Focused Idea stage
  - bring value
  - validation
  - earn buy-in & champion
- Significant Project Stage
  - resources committed already
  - corporate antibodies well developed

How Well Does Your Invention Fit?

Two Tools for Evaluating Ideas

Odioso: The Product Profile
better for pitching a company

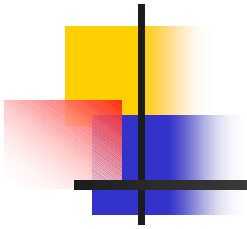
Hackbert: Opportunity Recognition Scorecard
better for building your own company

The Product Profile: Elements

- Product
- Consumer/Marketing
- Financial
- Technical/R&D
- Production

Product

- Consumer Need (marketability)
- Uniqueness (other products/competition)
- Proprietary position/sustainability
- Regulatory issues
- Social issues

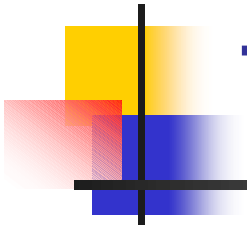


Market

- Market size
- Market stability
- Market development requirements
- Cyclicality
- Sales force fit
- Channel fit
- Promotional needs

Financial

- Established annual sales
- Gross profit margin
- ROI/ROCE
- New capital required ($) & payout (months)
- Time to reach ongoing sales volume (mo)



Technical/R&D

- Fit with core competencies
- Patent/trade secret status
- Research cost payback time (mo)
- Development cost payback time (mo)

Production

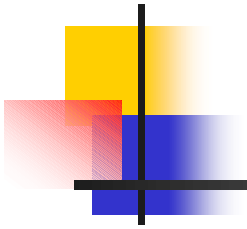
- Fit with current mfg capabilities
- Unique capabilities advantage
- Raw materials

Scoring the Product Profile

- Simple criteria produce scores from -2 to 2
- Graphic result

Opportunity Recognition Scorecard

- Better for assessing a start-up
- Similar elements to Product Profile
- Adds entrepreneurial elements
  - entrepreneur
  - exit strategy
- Assumes limited existing plant & production
- Weighted scoring

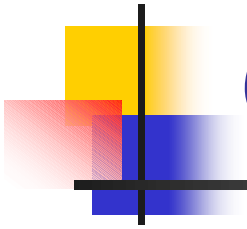


Demand

- Meets a need
- Perceivable performance advantage
- Proprietary
- Adequate business (size, profit, price)
- Reduced to practice

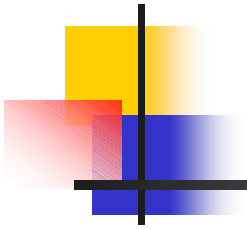
Principals

- Business background
- Entrepreneurial attitude
- Can work hard, long
- Commitment



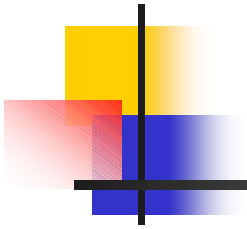
Operations

- Not really manufacturing questions!
- Management team dynamics
- Marketing
- Plan to make, distribute



Finance

- Capital required
- Breakeven analysis
- ROI/ROE
- Growth of valuation
- Exit plan



Negatives

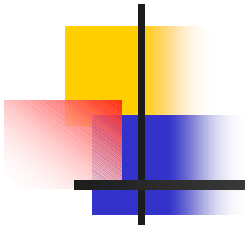
- Showstoppers
- Entrepreneurial overconfidence
- Lack of a story

Using ORS

- Outsiders views
  - especially experienced entrepreneurs
  - industry experts
- Snapshot diagnostic
  - improve scores by recognizing needs
- Use to evaluate business plan

Example: Edge Piston

- Independent inventor
- Focused Project stage
- Enabling technology
- Proprietary
- Better solution
- Cheaper solution
- Purchase, then licensed next generation

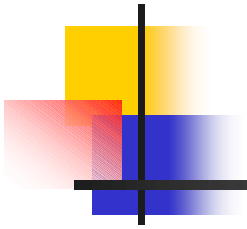


Example: Mosquito Magnet

- Significant project stage
- Well developed product, demo
- Successful test
- Failed on
  - channels
  - cost
  - manufacturing

Final Thoughts

Three Things to do with an Idea



- Build a business around it
- License it to someone (to build a business)
- Do nothing

- Doing nothing is usually the best choice

Sources of Product Ideas

- Internal (R&D, Marketing)
- Technology Partners (Suppliers)
- Marketing Partners
- Competitors
- Consumers
- Independent inventors

Inventors compete for resources

- Way more opportunities than time/money
- Limited resources
- No internal champion

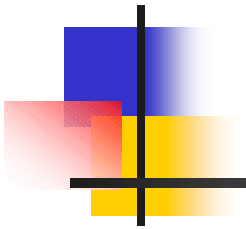
Non-disclosure? No, thanks.

- Most ideas are already in my files
- If you own it, you don’t need one
- If I sign one, I increase my risks
- NDAs must be managed-and that’s a pain

Licensing ideas: No, thanks

- It's too early (no proof of concept)
- It's probably already been evaluated
- It's way to expensive/risky

- Why should I spend MY risk capital on YOUR idea?



Your Turn

Questions?