Articulating Market Dimensions and Key Financial Assumptions

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Samuel Zell & Robert H. Lurie Institute
For Entrepreneurial Studies
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Parts of a Coordinated Message

- Executive Summary
- Elevator Pitch
- Business Plan
- Power Point
- Core Idea

The Message of your Business Idea
Parts of a Coordinated Message

- Core Idea
  - 5 Breaths

- Executive Summary
  - 2 – 5 pages generally accepted

- PowerPoint
  - 8 – 15 minutes

- Elevator Pitch
  - 1 – 3 minutes
  - 3 minutes for MBC on 12/9

- Full Business Plan
  - 15 pages + Financials

S.S.D.D.
Same Stuff, Different Delivery
Market and Financials

• Step away from “the coordinated message”
• Focus on basic market ideas and underlying financial assumptions
• Focuses on issues that are central to an effective feasibility analysis

What is the market need or pain?
How big is the market?
What assumptions will drive financial evaluation and planning?
Market and Financials

• Concept: what you are going to do

• Feasibility Study: is it worth doing it?

• Business Plan: how you are going to do it

• This is where many student businesses falter

• Answer the key questions before you build the business
Next MBC Deliverable

- Market need or pain – one page
- Market dimensions – three pages
- Financial assumptions – three pages

- Due by 8:00 a.m. on Wednesday, January 4, 2006

- Judges in Round Two base evaluation on presentation AND deliverable
Market Need or Pain

- Market need or pain drives idea
  - the technology and/or product fills the need
- What is the pain in the market?
- Why is your solution THE solution?
- What are potential customers doing now?
- Creative opportunity to lock audience in
- Connect the listener to the problem
Need for Accurate Market Sizing

• All firms need to do market sizing before they invest time, money and resources

• Market segmentation is critical before you tackle market sizing

• The sharper your focus, the better
Critical Issues to Explore

• Which product, products segments are in the initial focus and planning horizon?
  – Three to five years is acceptable

• Describe your customers, segments:
  – Geographic
  – Demographic
  – Psychographic
  – Business, economics, SIC codes
Critical Issues to Explore

• For enterprise markets – horizontal or vertical solution?
  – Which vertical industries have the greatest need?
  – Which verticals are early adopters? early majority? late majority?

University Research Labs
- Demand low volumes
- Tolerate variability
- Allow for high margins
- Embrace risk

Big Pharmaceuticals
- Has variable volumes
- Require minimal variability
- Accepts moderate margins
- Embrace manageable risk

Automotive Industry
- Demand high volumes
- Require uniformity
- Forces low margins
- Avoid risk

– Market size and timing for each vertical

• How big and when will revenues ramp up?
“Crossing the Chasm”

The graph illustrates the concept of crossing the chasm, which is a critical phase in the adoption of a new technology or product. The graph shows the relative percentage of customers across different groups over time, divided into five segments:

1. Innovators, technology enthusiasts
2. Early adopters, visionaries
3. Early majority pragmatists
4. Late majority conservatives
5. Laggards, skeptics

The x-axis represents time, while the y-axis shows the relative percentage of customers. The graph also highlights the change in customer needs over time:

- Customers want technology and performance initially.
- Customers want solutions and convenience as they cross the chasm.

This diagram is crucial for understanding the market adoption process and strategic planning for technology or product launches.
Value Chain Implications

• Creating and Capturing Value
  - Number and power of players
  - Amount and type of “value” to be shared
Market Sizing Tips

• Gather as many data “factoids” as possible while researching your industry and competitors
  – Look for market-specific & vertical-specific data that can be used to estimate your market size
  – Don’t assume all of these “factoids” are right, but the more reference points the better
  – Find out who are the best analysts/forecasters for your market
Market Sizing Tips

• Even if you obtain detailed industry research reports, you need to take a closer look at the market and the forecast assumptions that apply to your firm
• Don’t just use analysts’ numbers
• Your firm’s Total Addressable Market is a subset of an overall market, based on your near-term & long-term targeting strategy
  – Few global firms sell to all market segments
Market Sizing Tips

• Developing Total Addressable Market models for emerging markets takes a combination of
  • research skills
  • luck in finding free "factoids"
  • creativity
  • basic algebra
  • financial analysis
  • Excel skills
  • comfortable with educated guesses

– Make sure you document your sources and assumptions as much as possible
– Err on the conservative side especially if your model has to be built on only a few reliable "factoids"
Market Sizing Tips

• Don't worry about getting it right on the first try
  – You can refine your approach & assumptions

• Market sizing forecasts don't need to be precise
  – short- & long-term “ballpark" estimates are usually fine

• The team approach keeps guesses from being too optimistic or too conservative

• Review your models with seasoned executives and industry experts
Top-Down & Bottoms-Up Forecasts

• Top down and bottom up forecasts are complementary
• One is a reality checks for the other
• Top-down forecasts:
  – Usually industry analysts’ worldwide estimates for a large market, which are then split into segments by major product group, region or vertical industry
• Bottoms-up forecasts:
  – Build up revenue forecasts by defining the key underlying variables and estimating how they will change over the next 3-5 years.
## Software for Pharmaceutical Chemists -- XYZ’s Total Available Market (TAM) in the U.S.

<table>
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<tr>
<th></th>
<th>2002</th>
<th>2003</th>
<th>2004</th>
<th>2005</th>
<th>CAGR</th>
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<tbody>
<tr>
<td>U.S. Software Revenues</td>
<td>33.0</td>
<td>44.0</td>
<td>90.0</td>
<td>115.0</td>
<td>52%</td>
</tr>
<tr>
<td>U.S. Maintenance Revenue</td>
<td>10.0</td>
<td>23.0</td>
<td>50.0</td>
<td>85.0</td>
<td>104%</td>
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<tr>
<td>U.S. Total Available Market (in $Millions)</td>
<td>$43.0</td>
<td>$67.0</td>
<td>$140.0</td>
<td>$200.0</td>
<td>67%</td>
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</table>

### Overall Key Assumptions:

<table>
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<tr>
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<tbody>
<tr>
<td>Synthesis &amp; Extraction</td>
<td>9,177</td>
<td>9,452</td>
<td>9,736</td>
<td>10,028</td>
<td>10,329</td>
<td>10,629</td>
<td>10,930</td>
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<tr>
<td>Formulation &amp; Stability Testing</td>
<td>6,188</td>
<td>6,374</td>
<td>6,565</td>
<td>6,762</td>
<td>6,965</td>
<td>7,167</td>
<td>7,370</td>
</tr>
<tr>
<td>Process Development for Mfg. &amp; Quality Control</td>
<td>5,701</td>
<td>5,872</td>
<td>6,048</td>
<td>6,229</td>
<td>6,416</td>
<td>6,602</td>
<td>6,790</td>
</tr>
<tr>
<td># of Professionals in Target Pharmaceutical Depts.</td>
<td>21,066</td>
<td>21,698</td>
<td>22,349</td>
<td>23,019</td>
<td>23,710</td>
<td>24,398</td>
<td>25,090</td>
</tr>
<tr>
<td>Target Market as a % of Total Pharma. R&amp;D Professionals</td>
<td><strong>30%</strong></td>
<td></td>
<td></td>
<td></td>
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</tr>
</tbody>
</table>

### Professional Headcount Growth in Target Markets (Year-to-Year)

|                          | 3%  | 3%  | 3%  | 3%  | 3%  | 3%  |

### Change in Software Pricing (Year-to-Year)

|                          | 0%  | -5% | -5% |

### Maintenance as a % of Software Revenue (mtce. % * current plus previous years S/W revs.)

|                          | 30%  | 30%  | 30%  | 30%  |

### Software Revenue Key Assumptions:

#### Penetration Rate as a % of Professionals in Each Group

<table>
<thead>
<tr>
<th>Synthesis &amp; Extraction</th>
<th>10%</th>
<th>20%</th>
<th>45%</th>
<th>70%</th>
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<tbody>
<tr>
<td>Formulation &amp; Stability Testing</td>
<td>0%</td>
<td>5%</td>
<td>10%</td>
<td>20%</td>
</tr>
<tr>
<td>Process Development for Mfg. &amp; Quality Control</td>
<td>5%</td>
<td>10%</td>
<td>20%</td>
<td>40%</td>
</tr>
</tbody>
</table>

#### Estimated # of New S/W Units Sold

| Synthesis & Extraction | 1,003 | 1,063 | 2,717 | 2,868 | **7,651** |
| Formulation & Stability Testing | 0 | 348 | 369 | 757 | **1,474** |
| Process Development for Mfg. & Quality Control | 311 | 331 | 678 | 1,396 | **2,716** |
| **# of Units Shipped in US. Target Market** | **1,314** | **1,742** | **3,764** | **5,021** | **11,841** |

#### Software Price (in $000s)

|                          | $25.0 | $25.0 | $24.0 | $23.0 |

#### U.S. Software Total Available Market (in $ Millions)

|                          | $33.0 | $44.0 | $90.0 | $115.0 |

* Source: Pharmaceutical Research & Manufacturing of America, PhRMA Annual Survey, 2001, Table 21, p. 135.
Top-Down & Bottoms-Up Forecasts

• Are the assumptions realistic & believable

• Market timing & adoption rate assumptions are critical

• Does the methodology reflect deep understanding of the target market segments?

• How “close” are the to bottom-up and top-down perspectives?
No Existing Market

- You may have to use a proxy

- Have you studied historical adoption rates of related technologies to develop conservative estimates?
  - e.g., for predicting penetration rates of wireless LAN usage in the residential market, try applying DSL & cable Internet access adoption rates.
Size and Share Implications

• From an investor’s perspective, it’s better to be a smaller fish in a big pond, than a big fish in a small pond
  – Being the #3 player in a $1B market is better than 50% share in a niche, $100M market

• From a sustainability perspective, the 50% share in a niche market, may be a more sound strategy

• The market needs to be large enough support a few $100M firms
Size and Share Implications

• If your market will be <$500M in 4 years, you still have a shot at building a successful, profitable firm, but you may need to seek funding from angel investors vs. VCs

• VCs are obligated to invest their time & their Limited Partners’ capital on startups that have strong potential to grow to $100M companies
Mullins’ Assessment Framework

Market Domain

Macro-level

Micro-level

Team Domain

Domain

Connectedness up, down, and across value chain

Missions, aspirations, and propensity for risk

Ability to execute CSFs

Sustainable advantage

Target segments benefits and attractiveness

Industry Attractiveness

Market Attractiveness

Business Model

- Business Model (Chapter 4 of “Open Innovation”)
  - Value Proposition (value created for the users)
  - Market Segment (users and the purpose of the product to those users)
  - Value chain (determine the complementary assets)
  - Value network (linking suppliers to customers)
  - Competitive strategy
  - Specify the revenue generation mechanisms (cost structure, margins)

Revenue Estimating Assumptions

- Selling prices, license fees, upgrades, consulting fees
- Per unit revenue
- Multiple revenue streams for different product lines, services, consulting, upgrades
- % of sales in cash versus credit; bad debt %
- % of sales made directly and through partners
Cost Estimating Assumptions

• Average per-unit variable cost for each product line
• Commissions, discounts and returns to be included in direct cost of sales
• Personnel plan with positions, salaries, benefits, payroll burden, turnover
• Mortgage and/or lease financing terms for buildings, vehicles, equipment, etc, interest rates, points, and down payments
General Assumptions

- Sales cycle: number of days from initiating a sales effort and receiving payment
- Interest rates, short and long term
- Number of days to make payments, make collections
- Inventory turnover
- Tax rate; where is business incorporated, when will it be profitable
Estimating Startup Sales Curve

Sales vs. Time

Development → Transition → Modest Growth
Estimating Startup Costs

Working it backwards from the Steady-state numbers:
- Obtain steady state costs (GS&A, etc, as % of sales from industry data)
- Make costs constant over transition
- Add development costs
- Ramp down develop costs while ramping up operating costs
Determining the Key Success Factors

- Which assumptions are critical to the success of your business?
- What are the “big levers”?
  - Sensitivity analysis
  - Typically time (to develop and through the transition)
  - Market size (total sales)
Sensitivity Analysis

Value
Base Value: $41.67

- Time to max sales: 14%
- Projected Sales max: 25%
- Development Costs: 3%
- COGS: -1%
- SG&A as % of sales: 36%
- Sales acquisition timing: 14%
- Research Income Growth: -2%
- DSO: 58
- Inventory Days: 40
- DPO: 40

Base Value: $41.67

- Low
- High
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