Startup Know-How: Putting Together Your First Commercialization Plan

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Karen Utgoff
IALS Venture Development and I-Corps @ UMass Amherst
Our Speaker

Karen Utgoff has worked with startups, small businesses, and non-profit research organizations on market-related challenges and research commercialization opportunities for over 20 years. Her expertise includes market-oriented business strategy, business planning, entrepreneurial/start-up marketing, strategic marketing, startup funding plans, and new venture development. She has deep experience with customer discovery and business model development for startups and established businesses.

In addition to her work at UMass Amherst, Karen serves as an adjunct instructor in the New England Regional Innovation Node Spark Program @ MIT and the NSF National I-Corps Teams Program. As well she is a long-time volunteer for MassChallenge and the Cleantech Open Northeast. She earned her MBA from The Wharton School at The University of Pennsylvania.
To go from concept to commercialization...
...It is essential to cross “the valley of death”
Grant programs targeting the valley of death ask for:

- Estimate of commercial potential
- Evidence of market need
- Differentiated product concept
- Potential/actual industry partner
- And/or a commercialization plan
When should you develop your first commercialization plan?

No later than when you start to aim for these opportunities.
What is in a commercialization plan?

First Plan

Key elements:
- Intellectual Property
- Product concept(s)
- Unmet need (s)
- Differentiation

Road map and source document:
- Milestones and expected outcomes

Beyond the First Plan

Key elements:
- Product candidates
- Unmet need
- Differentiation plan
- Intellectual Property
- Startup/spinout team,
- Resources to support development into a self-sufficient enterprise or to result in a license

Road map and source document:
- Time-based milestones and expected outcomes
- Grant applications and investor pitches
- Synchronizing R&D and non-R&D efforts

A living document to be improved based on experience and learning.
# Hypothetical Therapeutic: Molecule to Increase Weight Loss

## Intellectual Property
- Provisional patent applications
- Non-provisional applications
- Granted patents
- Future IP?

## Unmet Need
- People with BMI > X or People with BMI > X who have condition Y?
- How significant is the need?
  - ---
- **Market Size**
  - Population with the unmet need based on health statistics?

## Product Concept
- Dosage
- Mode of delivery
- Regulatory approval
- Insurance reimbursement

## Differentiators
- Mechanism of Action
- Efficacy
- Safety
- Ease of use
- Cost

## Milestones & timeline
- E.g., Pre-clinical and clinical development • Fund raising • IP • Regulatory filings • Insurance reimbursement • Other
## Hypothetical Algorithm: AI ML Business Connector

### Intellectual Property
- Copyright or patent?
- Provisional patent applications?
- Non-provisional application(s)?
- Granted patent(s)?
- Future IP?

### Unmet Need
- Trade organizations want more connections between attendees at their conferences
  - How significant a need?
  - **Market Size**
    - How many organizations?
    - How many meetings and attendees?

### Product Concept
- User interface for organization?
- User interface for individuals at a meeting?
- Subscription?
- Tech support?

### Differentiators
- Ease of use?
- Better matches?
- Integrates with Outlook
- Integrates with Salesforce
- Integrates with LinkedIn

### Milestones & timeline
- E.g., Minimum viable product for Beta customers • Secure Beta customer • Fund raising • IP • Other
One approach to presenting differentiation

<table>
<thead>
<tr>
<th>Factors important to potential customers</th>
<th>Competitor</th>
<th>Competitor</th>
<th>Us</th>
</tr>
</thead>
<tbody>
<tr>
<td>Efficacy &gt; 80%</td>
<td>No</td>
<td>No</td>
<td>Yes</td>
</tr>
<tr>
<td>Non-toxic</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>Shelf stable</td>
<td>No</td>
<td>No</td>
<td>Yes</td>
</tr>
<tr>
<td>Tastes good</td>
<td>No</td>
<td>No</td>
<td>Yes</td>
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</table>
One format for milestone planning and presentation

<table>
<thead>
<tr>
<th>Milestone</th>
<th>Period 1</th>
<th>Period 2</th>
<th>Period 3</th>
<th>Period 4</th>
<th>$$</th>
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<tbody>
<tr>
<td>MVP: Complete matching algorithm</td>
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<td></td>
<td></td>
<td>-25K</td>
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<tr>
<td>MVP: Complete user interface</td>
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<td></td>
<td>-25K</td>
</tr>
<tr>
<td>MVP: Complete light documentation</td>
<td></td>
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<td>X</td>
<td></td>
<td>-5K</td>
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<tr>
<td>Secure Beta customer</td>
<td>X</td>
<td></td>
<td></td>
<td></td>
<td>?</td>
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<tr>
<td>Beta test</td>
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<td></td>
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<td>-15K</td>
<td></td>
</tr>
<tr>
<td>Secure SBIR Phase I</td>
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<td>+250K</td>
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<tr>
<td>Secure seed funding</td>
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<td></td>
<td></td>
<td>++100K</td>
<td></td>
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<tr>
<td>Complete first “full” product</td>
<td></td>
<td></td>
<td>X</td>
<td>- 50K</td>
<td></td>
</tr>
<tr>
<td>Complete website with accounts</td>
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<td>X</td>
<td></td>
<td>-20K</td>
<td></td>
</tr>
<tr>
<td>Secure first “real” customer</td>
<td></td>
<td></td>
<td></td>
<td>X</td>
<td>?</td>
</tr>
<tr>
<td>Receive first revenue</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>+5K</td>
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</table>
Not all milestones are equal

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<thead>
<tr>
<th>Milestone</th>
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<th>Period 4</th>
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Red = Impactful achievements that de-risks and/or adds value
Resources to help you build your first commercialization plan

IALS Venture Development and Business Innovation Fellows [https://www.umass.edu/ials/innovation-services](https://www.umass.edu/ials/innovation-services)

I-Corps @ UMass Amherst [https://www.umass.edu/icorps/](https://www.umass.edu/icorps/)


SBA SBIR Course 6, Tutorial 6 “Phase 1 Commercialization Plans” (overview across agencies) [https://www.sbir.gov/tutorials/preparing-proposal/tutorial-6#](https://www.sbir.gov/tutorials/preparing-proposal/tutorial-6#)

UMass Libraries Business Reference [https://guides.library.umass.edu/business](https://guides.library.umass.edu/business)

UMass Amherst Technology Transfer Office [https://www.umass.edu/tto/](https://www.umass.edu/tto/)

“Writing a Good Commercialization Plan” (for NIH Phase II and Fast Track applications) [https://sbir.nih.gov/sites/default/files/ic_nida/Commercialization-Plan_clean.docx](https://sbir.nih.gov/sites/default/files/ic_nida/Commercialization-Plan_clean.docx)
Discussion

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Life Science Laboratories - S485