Creating Strategy
For An Uncertain Future

January 31, 2013

Dave Button
Vice President
dbutton@sbi-i.com

www.strategicbusinessinsights.com
SBI’s Consulting Is at the Front End

(Typical Project Management Process)

SBI

Scope Assess Develop Execute Operate

Value Leverage
Our Philosophy

- The Future is Uncertain
- There’s Too Much Information
- Analysis, Strategy, and Plans Must Lead to Action
- Strategic Roadmaps Help Navigate the Future
- Look for Synergies
- Action Roadmaps
- Signposts
The Future is Uncertain
The Future Is Uncertain and the External Environment is Beyond our Control

• In the face of an uncertain future, the best one can do is
  — Consider a range of possible external developments (Scenarios)
  — Evaluate your options (Strategy Initiatives)
  — Decide on a course of action (Strategic Roadmaps)
  — Monitor what actually goes on (Signposts)
  — Adjust as appropriate

• Scenario Planning and Strategic Roadmaps cover the uncertainty surrounding the most important strategic issues governed by the external environment.
Scenarios are Designed to Address Future Uncertainty

- A few different scenarios provide a sound basis for addressing uncertainties in the external environment.
- Single point estimates, including most likely cases, don’t work.
Scenarios are Stories that Describe Different Futures

Scenarios are written descriptions of how the future will unfold with emphasis on the forces and dynamics that are relevant to the strategic issues.

... Supported by detailed tabulations and other supporting materials

<table>
<thead>
<tr>
<th>Drivers</th>
<th>Scenario A</th>
<th>Scenario B</th>
<th>Scenario C</th>
</tr>
</thead>
<tbody>
<tr>
<td>Economic Growth</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Trade Relations</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Market Structure</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Industry Structure</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Leading Competitors</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Technological Change</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Supply &amp; Demand</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
There’s Too Much Information
Typical Research Findings Concerning Information

- “Extracting Value from Chaos” finds that the world’s information is more than doubling every two years…growing faster than Moore’s Law (EMC)

- Information is accumulating faster than any material or artifact in the world…growing at 66% per year since 1900 (TECHNIUM)
Developing Useful Intelligence When There Is Too Much Information

Too Much Diverse Information

Framework

Identify the most important forces and drivers that impact the Decision Focus
Intelligence Systems Differ from Knowledge Systems

Knowledge systems promote efficiency (doing things well)
Intelligence systems promote effectiveness (doing the right things)
Ask the Right Question

Decision Focus
What products/services and supporting technologies should we develop and bring to market in order to be the leader in our industry by 2025?

This Focus helps to identify the most important information to evaluate and understand.
Based on the Decision Focus, Identify High-Impact/High-Uncertainty Forces

These become the building blocks for developing each scenario

<table>
<thead>
<tr>
<th>LEVEL OF IMPACT</th>
<th>DEGREE OF UNCERTAINTY</th>
</tr>
</thead>
<tbody>
<tr>
<td>High</td>
<td>Medium to High</td>
</tr>
<tr>
<td>Low</td>
<td>High</td>
</tr>
</tbody>
</table>

Typical High Impact High Uncertainty Forces

- GDP Growth
- Emerging market growth
- Government fiscal policy
- Trade openness
- Emission regulation
- Energy policies
- Life cycle and sustainability
- Wireless communication infrastructure
- Water availability
- Availability of critical materials
- Sensors
- Advanced manufacturing
- Man-machine interface
- Robotics and autonomous machines
- R&D funding and access
- Customer acceptance
- Industry collaboration
- Labor availability
- Greater productivity
- Customer operation and management
- Cost of operation/ownership
- Demographics
- Innovation strategy
- Capture and leveraging date
- Remote diagnosis and repair
- Service business
- IP considerations
Analysis, Strategy, and Plans Must Lead to Action
A Variety of Tools Can be Used to Create Scenario-Based Strategies

Issues:
• Growth
• Markets
• Resources

Evaluate
- Scenarios
- Outlooks
- Forces
- Influence Maps

Analysis
- Threats & Opportunities
- Critical Success Factors
- Strengths & Weakness
- Competitor Analysis

Strategy and Plans
- Strategy Alignment
- Tables
- Selection
- Roadmaps
- Action
Become Immersed in Each Scenario to Discover Strategy Alternatives

If I were in Scenario A, then ....

**Scenario A**
- What would be the threats and opportunities?
- What are the business needs?
- What strategies might help our business be successful?
- What would be the signs to watch for?

**Scenario C**

**Scenario B**
Strategy Alternatives are Rated Selected Based on Agreed Criteria

- Identify and prioritize key success factors by which to evaluate strategy initiatives.
- Evaluate each strategy initiative against the key success factors under each scenario.
Strategic Roadmaps Help Navigate the Future
Example: Go from SRI to Stanford

Driving directions to Stanford University

1. Head **southwest** toward Ravenswood Ave

2. Turn left onto Ravenswood Ave

3. Turn left onto El Camino Real

4. Turn right onto Quarry Rd

5. Turn right onto Campus Drive

6. Turn left onto Santa Teresa St

7. Turn right onto Lomita Dr

8. Take the 1st right onto Lane L

9. Take the 1st left to stay on Lane L
Example: Go from SRI to Stanford

Driving directions to Stanford University

SRI International
333 Ravenswood Avenue
Menlo Park, CA 94025-3493

1. Head southwest toward Ravenswood Ave

2. Turn left onto Ravenswood Ave

3. Turn left onto El Camino Real

4. Turn right onto Quarry Rd

5. Turn right onto Campus Drive

6. Turn left onto Santa Teresa St

7. Turn right onto Lomita Dr

8. Take the 1st right onto Lane L

9. Take the 1st left to stay on Lane L
Example: Go from SRI to Stanford (Alternate Routes)

- **SRI International**
- **Stanford University**

**Suggested routes**

- **El Camino Real** 3.8 mi, 12 mins
- **Sand Hill Rd** 3.6 mi, 12 mins
- **Santa Cruz Ave** 4.6 mi, 14 mins
Strategic Roadmaps Cover More Ground than Traditional Plans

“Industry-Level” roadmaps (the landscape)

- Display technology, products/services, and other business information that surrounds the strategy
- Are important for understanding competition and identifying other external developments

Company roadmaps (Pathway or strategy)

- Highlight the technologies, functionalities, products, services, and markets that the company intends to develop
- Lead to Action
- Identify which external developments are critical and need to be monitored (Signposts)
- “Pathways” along with the “Industry-level” provide a basis for the inevitable adjustments
The Strategic Roadmap Concept

“Industry-Level” roadmaps display the overall playing field and participants

Company “Pathway” roadmaps identify the specific technologies, functional requirements, and products/services

“Action” roadmaps display a set of prioritized activities
### Strategic Roadmap Category Descriptions

<table>
<thead>
<tr>
<th>Category</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Business Considerations</td>
<td>Business Considerations give an overview of the various external conditions and factors that will influence the success of a strategy initiative.</td>
</tr>
<tr>
<td>Final Market Applications</td>
<td>Final Market Applications are the integrated products and services that are sold to end customers.</td>
</tr>
<tr>
<td>Products and Services</td>
<td>The component Products and Services that form part of the Final Market/Applications ultimately sold to end customers.</td>
</tr>
<tr>
<td>Features and Functions</td>
<td>Features and Functions that Products and Services must embody or enable in order to be attractive in the marketplace or satisfy customer needs.</td>
</tr>
<tr>
<td>Required Technologies</td>
<td>The technologies that are necessary to enable the various Products and Services, including their Features and Functions. Each enabling technology must be in place before an individual product or service can launch be launched.</td>
</tr>
</tbody>
</table>
“Pathway” (The Company’s Chosen Strategy)

**Business Considerations**
- B1: 2015
- B10: 2020
- B12: 2025

**Final Market Applications**
- A1: Platforms (Basic)
- A4
- A9
- A15

**Products and Services**
- P14
- P15
- P16
- P22
- P29
- P30

**Features and Functions**
- F1: Customizable
- F5
- F7: Real-time Efficiency Feedback
- F8
- F15
- F17: Improved Efficiency
- F18
- F21

**Required Technologies**
- T1: Sensors
- T2
- T3
- T4
- T5: Advanced Displays
- T6
- T7
- T8
- T8A
- T9
- T10: Advanced Sensors
- T11
- T12
- T13
- T14
- T15
- T16
- T17
- T18
- T19
- T20
- T21
- T22
- T23
- T24
- T25
- T26
- T27
- T28
- T29
- T30
### Roadmap Element Descriptions—Examples of Products and Services

<table>
<thead>
<tr>
<th>#</th>
<th>Product/Service</th>
<th>Product/Service Description</th>
<th>Features/Functions and Benefits</th>
<th>Final Market/Applications</th>
<th>Key Technologies/Capabilities</th>
</tr>
</thead>
<tbody>
<tr>
<td>P6</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>P7</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>P9</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>P10</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>P11</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
P8: Real-Time Efficiency Feedback—Related Markets, Features, and Technologies

2015 | 2020 | 2025

- **Features and Functions**
  - F1: Customizable
  - F5: Improved Efficiency
  - F7: Real-Time Efficiency Feedback
  - F8: Real-Time Efficiency Feedback

- **Required Technologies**
  - T1: Sensors
  - T2: Advanced Displays
  - T3: Advanced Displays

- **Final Market Applications**
  - A2: Platforms (Basic)
  - A4: Improved Efficiency
Look for Synergies
A Technology Concept Matrix Helps Identify Priorities and Hedge Technology Bets

<table>
<thead>
<tr>
<th>TECHNOLOGY CONCEPTS</th>
<th>PRODUCTS/SERVICES (1 of 2)</th>
</tr>
</thead>
<tbody>
<tr>
<td>TC1</td>
<td>PS1 PS2 PS3 PS4 PS5 PS6 PS7 PS8 PS9 PS10 PS11 PS12 PS13 PS14 PS15 PS16 PS17 PS18 PS19</td>
</tr>
<tr>
<td>TC2</td>
<td>PS1 PS2 PS3 PS4 PS5 PS6 PS7 PS8 PS9 PS10 PS11 PS12 PS13 PS14 PS15 PS16 PS17 PS18 PS19</td>
</tr>
<tr>
<td>TC3</td>
<td>PS1 PS2 PS3 PS4 PS5 PS6 PS7 PS8 PS9 PS10 PS11 PS12 PS13 PS14 PS15 PS16 PS17 PS18 PS19</td>
</tr>
<tr>
<td><strong>TC4</strong></td>
<td>PS1 PS2 PS3 PS4 PS5 PS6 PS7 PS8 PS9 PS10 PS11 PS12 PS13 PS14 PS15 PS16 PS17 PS18 PS19</td>
</tr>
<tr>
<td>TC5</td>
<td>PS1 PS2 PS3 PS4 PS5 PS6 PS7 PS8 PS9 PS10 PS11 PS12 PS13 PS14 PS15 PS16 PS17 PS18 PS19</td>
</tr>
<tr>
<td>TC6</td>
<td>PS1 PS2 PS3 PS4 PS5 PS6 PS7 PS8 PS9 PS10 PS11 PS12 PS13 PS14 PS15 PS16 PS17 PS18 PS19</td>
</tr>
<tr>
<td>TC7</td>
<td>PS1 PS2 PS3 PS4 PS5 PS6 PS7 PS8 PS9 PS10 PS11 PS12 PS13 PS14 PS15 PS16 PS17 PS18 PS19</td>
</tr>
<tr>
<td>TC8</td>
<td>PS1 PS2 PS3 PS4 PS5 PS6 PS7 PS8 PS9 PS10 PS11 PS12 PS13 PS14 PS15 PS16 PS17 PS18 PS19</td>
</tr>
<tr>
<td>TC9</td>
<td>PS1 PS2 PS3 PS4 PS5 PS6 PS7 PS8 PS9 PS10 PS11 PS12 PS13 PS14 PS15 PS16 PS17 PS18 PS19</td>
</tr>
<tr>
<td>TC10</td>
<td>PS1 PS2 PS3 PS4 PS5 PS6 PS7 PS8 PS9 PS10 PS11 PS12 PS13 PS14 PS15 PS16 PS17 PS18 PS19</td>
</tr>
<tr>
<td><strong>TC11</strong></td>
<td>PS1 PS2 PS3 PS4 PS5 PS6 PS7 PS8 PS9 PS10 PS11 PS12 PS13 PS14 PS15 PS16 PS17 PS18 PS19</td>
</tr>
<tr>
<td>TC12</td>
<td>PS1 PS2 PS3 PS4 PS5 PS6 PS7 PS8 PS9 PS10 PS11 PS12 PS13 PS14 PS15 PS16 PS17 PS18 PS19</td>
</tr>
<tr>
<td>TC13</td>
<td>PS1 PS2 PS3 PS4 PS5 PS6 PS7 PS8 PS9 PS10 PS11 PS12 PS13 PS14 PS15 PS16 PS17 PS18 PS19</td>
</tr>
<tr>
<td>TC14</td>
<td>PS1 PS2 PS3 PS4 PS5 PS6 PS7 PS8 PS9 PS10 PS11 PS12 PS13 PS14 PS15 PS16 PS17 PS18 PS19</td>
</tr>
<tr>
<td>TC15</td>
<td>PS1 PS2 PS3 PS4 PS5 PS6 PS7 PS8 PS9 PS10 PS11 PS12 PS13 PS14 PS15 PS16 PS17 PS18 PS19</td>
</tr>
<tr>
<td>TC16</td>
<td>PS1 PS2 PS3 PS4 PS5 PS6 PS7 PS8 PS9 PS10 PS11 PS12 PS13 PS14 PS15 PS16 PS17 PS18 PS19</td>
</tr>
<tr>
<td>TC17</td>
<td>PS1 PS2 PS3 PS4 PS5 PS6 PS7 PS8 PS9 PS10 PS11 PS12 PS13 PS14 PS15 PS16 PS17 PS18 PS19</td>
</tr>
<tr>
<td>TC18</td>
<td>PS1 PS2 PS3 PS4 PS5 PS6 PS7 PS8 PS9 PS10 PS11 PS12 PS13 PS14 PS15 PS16 PS17 PS18 PS19</td>
</tr>
<tr>
<td>TC19</td>
<td>PS1 PS2 PS3 PS4 PS5 PS6 PS7 PS8 PS9 PS10 PS11 PS12 PS13 PS14 PS15 PS16 PS17 PS18 PS19</td>
</tr>
<tr>
<td><strong>TC20</strong></td>
<td>PS1 PS2 PS3 PS4 PS5 PS6 PS7 PS8 PS9 PS10 PS11 PS12 PS13 PS14 PS15 PS16 PS17 PS18 PS19</td>
</tr>
<tr>
<td>TC21</td>
<td>PS1 PS2 PS3 PS4 PS5 PS6 PS7 PS8 PS9 PS10 PS11 PS12 PS13 PS14 PS15 PS16 PS17 PS18 PS19</td>
</tr>
<tr>
<td>TC22</td>
<td>PS1 PS2 PS3 PS4 PS5 PS6 PS7 PS8 PS9 PS10 PS11 PS12 PS13 PS14 PS15 PS16 PS17 PS18 PS19</td>
</tr>
<tr>
<td>TC23</td>
<td>PS1 PS2 PS3 PS4 PS5 PS6 PS7 PS8 PS9 PS10 PS11 PS12 PS13 PS14 PS15 PS16 PS17 PS18 PS19</td>
</tr>
<tr>
<td>TC24</td>
<td>PS1 PS2 PS3 PS4 PS5 PS6 PS7 PS8 PS9 PS10 PS11 PS12 PS13 PS14 PS15 PS16 PS17 PS18 PS19</td>
</tr>
<tr>
<td>TC25</td>
<td>PS1 PS2 PS3 PS4 PS5 PS6 PS7 PS8 PS9 PS10 PS11 PS12 PS13 PS14 PS15 PS16 PS17 PS18 PS19</td>
</tr>
<tr>
<td>TC26</td>
<td>PS1 PS2 PS3 PS4 PS5 PS6 PS7 PS8 PS9 PS10 PS11 PS12 PS13 PS14 PS15 PS16 PS17 PS18 PS19</td>
</tr>
<tr>
<td>TC27</td>
<td>PS1 PS2 PS3 PS4 PS5 PS6 PS7 PS8 PS9 PS10 PS11 PS12 PS13 PS14 PS15 PS16 PS17 PS18 PS19</td>
</tr>
<tr>
<td>TC28</td>
<td>PS1 PS2 PS3 PS4 PS5 PS6 PS7 PS8 PS9 PS10 PS11 PS12 PS13 PS14 PS15 PS16 PS17 PS18 PS19</td>
</tr>
<tr>
<td>TC29</td>
<td>PS1 PS2 PS3 PS4 PS5 PS6 PS7 PS8 PS9 PS10 PS11 PS12 PS13 PS14 PS15 PS16 PS17 PS18 PS19</td>
</tr>
<tr>
<td>TC30</td>
<td>PS1 PS2 PS3 PS4 PS5 PS6 PS7 PS8 PS9 PS10 PS11 PS12 PS13 PS14 PS15 PS16 PS17 PS18 PS19</td>
</tr>
<tr>
<td>TC31</td>
<td>PS1 PS2 PS3 PS4 PS5 PS6 PS7 PS8 PS9 PS10 PS11 PS12 PS13 PS14 PS15 PS16 PS17 PS18 PS19</td>
</tr>
<tr>
<td><strong>TC32</strong></td>
<td>PS1 PS2 PS3 PS4 PS5 PS6 PS7 PS8 PS9 PS10 PS11 PS12 PS13 PS14 PS15 PS16 PS17 PS18 PS19</td>
</tr>
<tr>
<td>TC33</td>
<td>PS1 PS2 PS3 PS4 PS5 PS6 PS7 PS8 PS9 PS10 PS11 PS12 PS13 PS14 PS15 PS16 PS17 PS18 PS19</td>
</tr>
</tbody>
</table>

**LEGEND:**

Gray boxes show the intersections of technology concepts and the products/services they support.

Yellow highlighting indicates tech concept with high leverage across products/services.
Action Roadmaps
“Action” Roadmaps Follow from “Industry-Level” and “Pathway” Roadmaps

“Industry-Level” roadmaps display the overall playing field and strategy possibilities.

“Pathway” roadmaps display the specific technologies, functional requirements, and products/services for a company to develop.

“Action” roadmaps display a set of prioritized activities to implement the pathway…

…keeping in mind general project management practices.
### General Project Management Considerations Covered in Initial Strategic Roadmaps

#### Key Processes:

- **Scope**
  - Enlist owner and team
  - Define concept
  - Agree on strategic and business fit
  - Document drivers and assumptions
  - Describe basic costs and benefits
  - Outline overall approach
  - Secure approval

- **Screen**
  - Enlist owner and team
  - Identify critical success factors
  - Identify potential approaches
  - Identify required capabilities
  - Select best approach
  - Prepare initial business plan
  - Develop project plan

- **Design**
  - Enlist owner and team
  - Prepare preliminary design
  - Identify resource requirements
  - Confirm critical success factors
  - Finalize business and project plans
  - Develop implementation plan

- **Implement**
  - Enlist owner and team
  - Finalize detailed plans
  - Create procedure guidelines
  - Finalize budgets and secure funds
  - Execute implementation plan
  - Track implementation progress

- **Operate**
  - Assign full-time management and operating responsibility
  - Operate
  - Benchmark performance
  - Perform post-project review
  - Perform periodic strategic reviews

#### Core Phases:

1. **Monitor Strategic Developments in the External Environment**

---

<table>
<thead>
<tr>
<th>Scope</th>
<th>Screen</th>
<th>Design</th>
<th>Implement</th>
<th>Operate Follow-up</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Enlist owner and team</td>
<td>• Enlist owner and team</td>
<td>• Enlist owner and team</td>
<td>• Enlist owner and team</td>
<td>• Assign full-time management and operating responsibility</td>
</tr>
<tr>
<td>• Define concept</td>
<td>• Identify critical success factors</td>
<td>• Prepare preliminary design</td>
<td>• Finalize detailed plans</td>
<td>• Operate</td>
</tr>
<tr>
<td>• Agree on strategic and business fit</td>
<td>• Identify potential approaches</td>
<td>• Identify resource requirements</td>
<td>• Create procedure guidelines</td>
<td>• Benchmark performance</td>
</tr>
<tr>
<td>• Document drivers and assumptions</td>
<td>• Identify required capabilities</td>
<td>• Confirm critical success factors</td>
<td>• Finalize budgets and secure funds</td>
<td>• Perform post-project review</td>
</tr>
<tr>
<td>• Describe basic costs and benefits</td>
<td>• Select best approach</td>
<td>• Finalize business and project plans</td>
<td>• Execute implementation plan</td>
<td>• Perform periodic strategic reviews</td>
</tr>
<tr>
<td>• Outline overall approach</td>
<td>• Prepare initial business plan</td>
<td>• Develop implementation plan</td>
<td>• Track implementation progress</td>
<td></td>
</tr>
<tr>
<td>• Secure approval</td>
<td>• Develop project plan</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
“Action Roadmap”

Actions Relating to:

- Business Considerations
  - AB1: Verify and establish Pathway
  - AB2
  - AB3
  - AB4
  - AB5
  - AB6
  - AB7
  - AB8
  - AB9: Agree on business model
  - AB10
  - AB11

- Final Market Applications
  - AA1: Platforms (Basic)
  - A4
  - A9
  - A15
  - AA51
  - AA52
  - AA53

- Products and Services
  - AP51
  - AP52
  - AP53

- Technologies
  - AT1: Sensors
  - T2
  - T3
  - T4
  - T8
  - T8A
  - T12
  - T14
  - T15
  - T20
  - T28
  - AT51
  - AT52
  - AT53
  - AT54

- Monitoring/Signpost Topics
  - AM1: Establish Strategic Monitoring Capabilities
  - AM6: Customer Acceptance
  - AM7
  - AM8
  - AM9
  - AM10
  - AM11

Fundamental Project Management Actions

Priority Actions

Near-term (~2012 to 2015)

Long-term (~2016 to 2025)
### Actions: Monitoring/Signpost Topics

<table>
<thead>
<tr>
<th>Action #</th>
<th>Action Name</th>
<th>Description of Key Action Items</th>
</tr>
</thead>
</table>
| AM1      | Establish strategic monitoring capabilities          | Product/Service teams establish a monitoring system that tracks developments in the external environment related to topics of strategic interest for the Pathway:  
  - Identify and enlist a monitoring team  
  - Develop support capabilities (staff, tools, etc.)  
  - Develop issues to be monitored --- **Signposts**  
    - External issues that have a significant impact on success or failure  
    - Signpost metrics and events specified as narrowly as possible  
  - Develop reporting system with alerts and feedback  
  - Revise monitoring system according to operational insights |
| AM2      |                                                     |                                                                                                                                                                                                                                  |
| AM3      |                                                     |                                                                                                                                                                                                                                  |
Signposts
What are Signposts?

● **Signposts** are the set of issues in the external environment that are important to monitor (because they can have a great influence on the success of the Pathway).

● **Signposts** delineate what to watch for, and then specify appropriate threshold metrics or specific events.

● **Signposts** are the counterpart of project milestones. They indicate progress relative to the external environment rather than internal developments. Ideally, signposts are reviewed along with project milestones.
Signposts are the set of issues in the external environment that are important to monitor. Signposts delineate what to watch for, and then specify appropriate threshold metrics or specific events.
Signpost Development for Customer Acceptance (Related to Advanced Displays)

- Signposts need to be as specific as possible in terms of what to watch for
- Ideally, they should refer to an inflection point critical to the Market/Application (Product or Technology) in question

<table>
<thead>
<tr>
<th>#</th>
<th>Signpost Topic</th>
<th>Description</th>
<th>Why is it important?</th>
<th>Signposts</th>
</tr>
</thead>
<tbody>
<tr>
<td>AM6:</td>
<td>Customer Acceptance: Advanced Displays</td>
<td>Customer acceptance of large-screen, high-resolution displays with advanced 3D graphics processing and industry-leading user interface design.</td>
<td>Impacts the commercial success and timing of operator controlled systems with advanced displays, as well as, the design and development of new interfaces and supporting systems that promote overall efficiency.</td>
<td></td>
</tr>
</tbody>
</table>
Signpost Development for Customer Acceptance (Related to Advanced Displays)

- Signposts need to be as specific as possible in terms of what to watch for
- Ideally, they should refer to an inflection point critical to the Market/Application (Product or Technology) in question

<table>
<thead>
<tr>
<th>#</th>
<th>Signpost Topic</th>
<th>Description</th>
<th>Why is it important?</th>
<th>Signposts</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Customer Acceptance: Advanced Displays</td>
<td>Customer acceptance of large-screen, high-resolution displays with advanced 3D graphics processing and industry-leading user interface design.</td>
<td>Impacts the commercial success and timing of operator controlled systems with advanced displays, as well as, the design and development of new interfaces and supporting systems that promote overall efficiency.</td>
<td>• Acceptance of advanced displays in automated manufacturing, aircraft, and various industrial applications</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>• Incorporation of 3D rendering graphics in displays</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>• General advances in display technology in terms of cost and performance</td>
</tr>
</tbody>
</table>
Signpost Development for Customer Acceptance (Related to Advanced Displays)

- Signposts need to be as specific as possible in terms of what to watch for
- Ideally, they should refer to an inflection point critical to the Market/Application (Product or Technology) in question

<table>
<thead>
<tr>
<th>#</th>
<th>Signpost Topic</th>
<th>Description</th>
<th>Why is it important?</th>
<th>Signposts</th>
<th>Specific Events</th>
</tr>
</thead>
<tbody>
<tr>
<td>AM6:</td>
<td>Customer Acceptance: Advanced Displays</td>
<td>Customer acceptance of large-screen, high-resolution displays with advanced 3D graphics processing and industry-leading user interface design.</td>
<td>Impacts the commercial success and timing of operator controlled systems with advanced displays, as well as, the design and development of new interfaces and supporting systems that promote overall efficiency.</td>
<td>• Acceptance of advanced displays in automated manufacturing, aircraft, and various industrial applications</td>
<td>• Accelerating rates of advanced display adoption in &quot;comparable&quot; circumstances</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>• Incorporation of 3D rendering graphics in displays</td>
<td>• Automakers introduce hardware-accelerated 3D rendering for telematics</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>• General advances in display technology in terms of cost and performance</td>
<td>• Significant breakthroughs in display cost and performance, e.g. 25% cost reduction from leading vendor</td>
</tr>
</tbody>
</table>
Appendix
Summary of a Scenario/Strategy/Roadmap Project

**Decision Focus:** What programs and innovations in medical education, research, and clinical practices should be catalyzed in order to enhance the overall growth, effectiveness, and impact of radiology on patient health over the next 5-10 years?

**Concerns:**
- Academic
- Research
- Clinical Practice

**Industry Roadmap**

**Pathway**

**Actions**

**Signpost Development**

**Strategy Initiatives Rating Across the 3 Scenarios**

**Strategic Initiatives from Strategy Master Table**

**3 Scenario Stories and Force Table**

**Economic Benefit to**

**Risk**

**Proposition**

**Rating service - radiologists, data quality, equipment**

**Calculation of costs and savings**

**Low, long-term outlay**

**Intermediate outlay for resources**

**Requires 10-20% of management time, or less than 2% revenue growth/yr**

**Requires more than 20% of management time, or more than 2-5% revenue growth/yr**

**Low-dose radiation exposure**

**Decreased radiation exposure**

**Program**

**Capabilities/Features**

**2011-2015**

**2012-2013**

**2014-2015**
SBI’s Recent Scenario Planning Engagements

For SCARD (Society of Chairman of Academic Radiology Departments)
- Three planning scenarios
  - Socialized Medicine
  - Entrepreneurialism
  - Freefall
- Strategy Initiatives
- Roadmaps being completed

For the National Intelligence Council (NIC)
- An “Energy Acceleration” scenario as a companion to ongoing scenario research related to U.S. Climate Change Mitigation Efforts

For the National Oceanic Atmospheric Administration (NOAA)
- Three scenarios
  - Too Little Too Late?
  - Green Chaos
  - Carbon Junkies
- Policy initiatives
- Corresponding roadmaps

SBI’s Recent Scenario Planning Engagements

For a North American Telecommunications Company
- Three scenarios
- Strategic initiatives

For a Chemical Company
- Three scenarios
  - Fractured World
  - Double Dip
  - Innovators

For several International Companies: Electronics, Autos, Heavy Equipment Manufacturer etc.
- Three scenarios
- Strategic initiatives
- Corresponding roadmaps

For two different departments in a major Consumer Products Company
- Three planning scenarios for each department (Topics and scenario names confidential)

For a few Companies
- Update of prior SBI scenario packages