

Best Practice Guidebook

Strategic and Economic Value Analysis of Innovative New Business Ideas

GUIDEBOOK SUMMARY

Firm: Hewlett-Packard Company

Industry: Information Technology: Computer Products and Services

Headquarters: Palo Alto, California, United States

Geographic Footprint: Global

Ownership: Public

Revenue (2009): \$114.6 billion USD



Problem:

HP needs a rigorous process for developing, evaluating, and launching new businesses based on strategic and economic value.

Solution:

HP establishes a strategic and economic value-based process to develop ideas for new businesses. The process employs a two-day workshop that involves:

- Identifying appropriate commercialization strategies
- Structuring the commercialization strategies to minimize risk
- Identifying uncertainties around the key economic factors that most influence estimates of the new business' commercial value

Business Results:

- More than 30 new businesses have been evaluated using the process
- 15 new businesses were launched; 70% involved disruptive innovation

Resources Required:

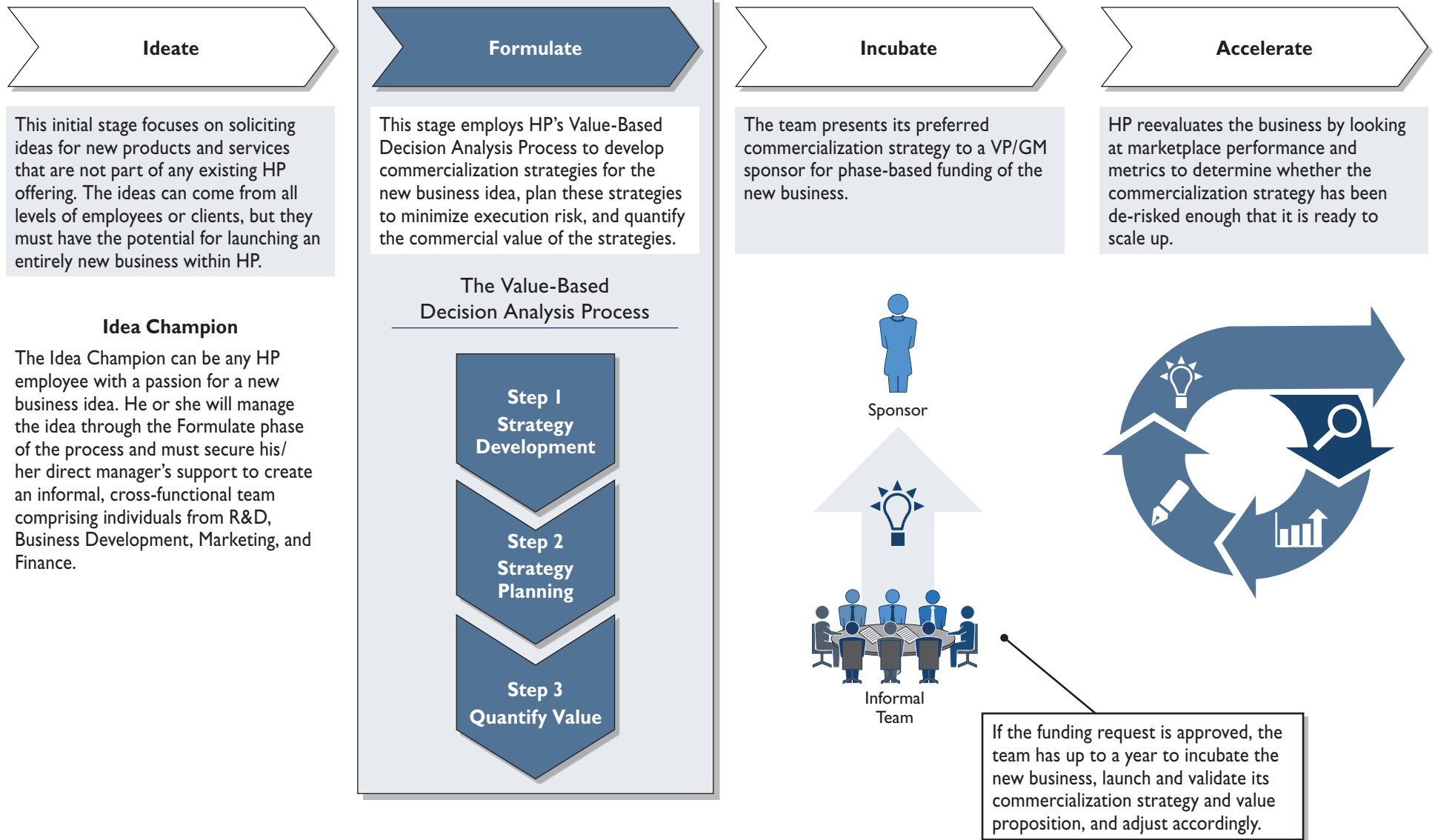
- A cross-functional team prepared to support the new business idea and participate in the workshop
- A trained process facilitator to prepare and run a two-day workshop

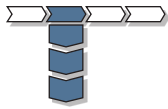
Applicability of Best Practice to Executive Functions:

Function	Applicability
R&D/Innovation	●
Corporate Development	◐
Corporate Strategy	◐

HP employs a multi-step process to identify, evaluate, and launch businesses that are outside of HP's current offerings

HP's New Business Development Process





HP's Value-Based Decision Analysis Process involves a two-day workshop that formulates and evaluates commercialization strategies for new businesses

A process facilitator ensures the team is prepared for the workshop, which tests the strategic and economic value of the commercialization strategies

Overview of the Value-Based Decision Analysis Process

Process Facilitator Role and Workshop Preparation

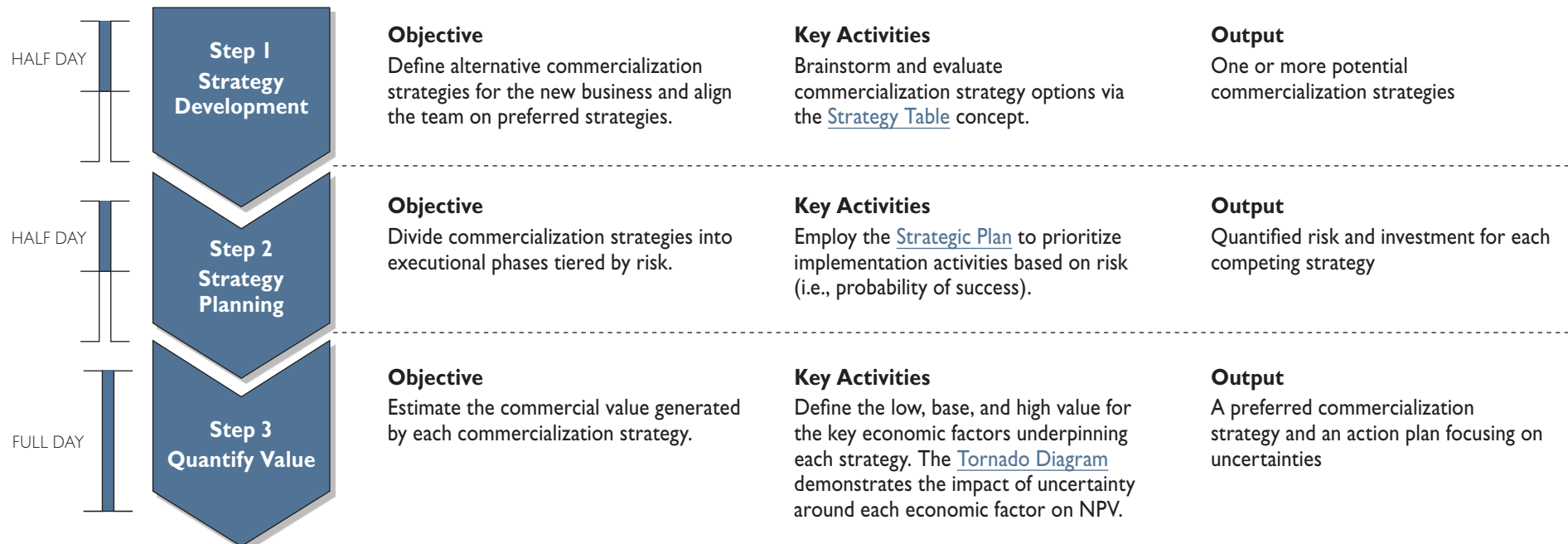
The process facilitator:

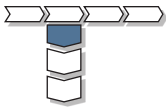
- Is an effective and proven meeting facilitator, has broad understanding and experience with business planning topics, and maintains expertise in process management and quantitative analysis
- Manages the meeting process and quantitative analysis during the workshop
- Guides the dialogue sessions between team members to insights that achieve consensus on the most promising commercialization strategy
- Captures the key learnings and decisions generated by the team and ensures the team develops action plans

For six weeks prior to the workshop, the facilitator prepares the team by:

1. Mandating that the Idea Champion has identified a “sponsor” for the new business: a VP/GM who commits to hearing a funding presentation following the workshop
2. Formalizing the team’s composition to ensure each key function is represented and there is one representative per function; teams usually comprise 8–12 individuals
3. Identifying a decision maker (e.g., a senior manager) who acts as “the CEO” in the workshop and breaks deadlocks
4. Requiring the team to create pre-reading materials encompassing competing technologies/ services, potential customers, market size, etc.

Two-Day Workshop





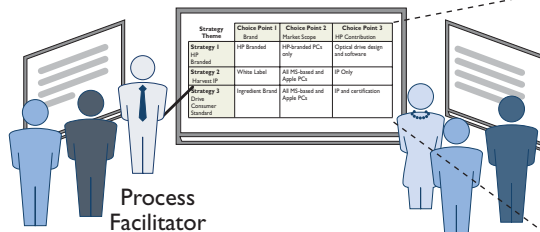
KEY TAKEAWAY: Use facilitated dialogue sessions to identify viable commercialization strategies

The workshop uses the Strategy Table to identify all possible commercialization paths and then compare and select the most appropriate options

Half-Day Workshop: Strategy Development (Strategy Table)

STRATEGY TABLE

The Strategy Table is a dialogue-based exercise that develops multiple commercialization paths for new businesses. The table allows the strategies to be compared easily and aligns the team on which path(s) to pursue.



The facilitator uses flipcharts to focus the discussion on each element of the Strategy Table. The facilitator may follow the 1-2-3 steps or may take a different route, 3-1-2. Initially the team is encouraged to think as broadly as possible, filling multiple flipcharts as they work through the exercise. Team debate, the facilitator's judgment, the designated decision-maker, and multi-voting help the team narrow down choices within each strategy.

1

Choice Points consist of the primary decision areas that shape a strategy, such as target customers, distribution channels, brands, and product features. The team identifies its Choice Points and places them in a Strategy Table. The teams narrow the list to approximately eight Choice Points.

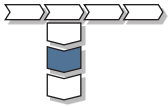
Strategy Theme	Choice Point 1 Brand	Choice Point 2 Market Scope	Choice Point 3 HP Contribution
Strategy A HP-Branded	HP-Branded	HP-branded PCs only	Optical drive design and software
Strategy B Harvest IP	White Label	All MS-based and Apple PCs	IP only
Strategy C Drive Consumer Standard	Ingredient-Branded	All MS-based and Apple PCs	IP and certification

3

The team brainstorms strategy themes that test the limits of possible business scenarios. The most appropriate choice is selected from each Choice Point column for that specific strategy theme. Subsequently, the team debates the relative merits of the strategies and selects the most promising two to three.

2

The different choices/paths available for each Choice Point are noted by filling out the Strategy Table. Initially, it is important to think broadly and identify as many choices as possible.



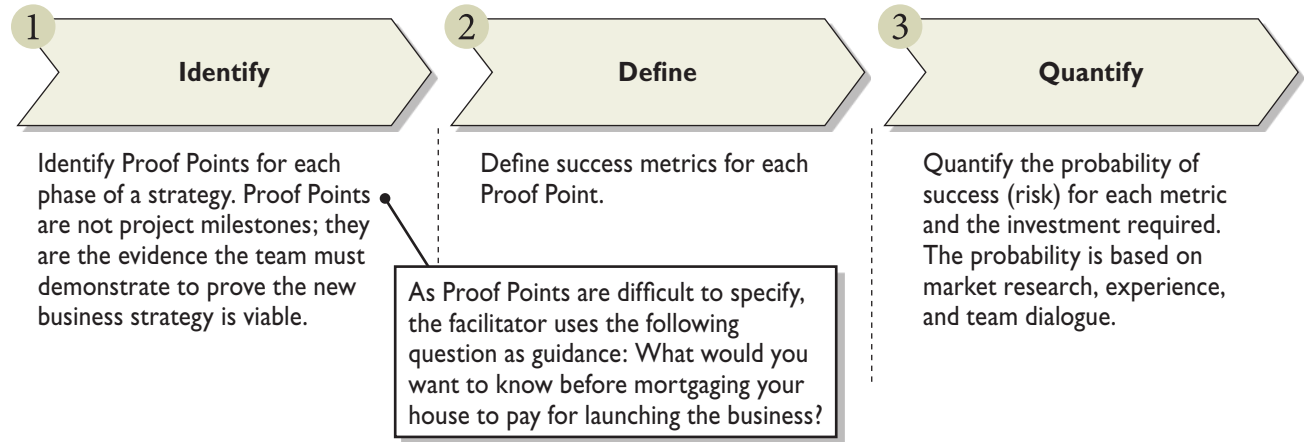
KEY TAKEAWAY: Prioritize commercialization strategies based on risk

The workshop uses the Strategic Plan tool to front-load selected strategies' most challenging tasks

Half-Day Workshop: Strategy Planning (Strategic Plan)

STRATEGIC PLAN

The Strategic Plan is a three-step process that structures a commercialization strategy into phases with key success measures, the probability of success, and required investment.



Conventional Strategy

Example for a Consumer Technology Device

Phase	Proof Points	Metric	Probability	Cumulative Success Rate
I	Develop technology proof of concept	Working prototype	70% (\$20 M)	
II	Sign up critical suppliers	Sign up 3 suppliers	10% (\$1 M)	7%
III	Drive market adoption	Retail presence	80% (\$10 M)	8%
Overall Probability of Success:			5.6%	

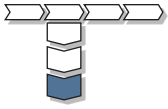
Typically, the team would try to garner a “quick win” by first developing a working prototype—70% probability of success—at a cost of \$20M. Only after securing this Proof Point would the team approach its first significant challenge (securing three critical suppliers). If the team fails at this more difficult activity (10% probability of success), the entire project will fail—at a cost of \$21M to HP.

Strategic Plan (“Strategy A”)

Example for a Consumer Technology Device

Phase	Proof Points	Metric	Probability	Cumulative Success Rate
I	Sign up critical suppliers	Sign up 3 suppliers	10% (\$1 M)	
II	Develop technology proof of concept	Working prototype	70% (\$20 M)	7%
III	Drive market adoption	Retail presence	80% (\$10 M)	56%
Overall Probability of Success:			5.6%	

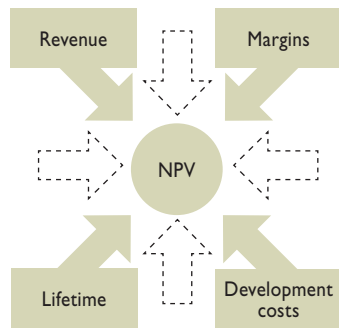
In contrast, if the team were first to secure three critical suppliers (the most difficult Proof Point) before investing any resources in prototyping or developing a retail presence, failure would cost HP \$1M (a potential \$20M savings). Additionally, the team would have plenty of time to pursue alternative strategies.



KEY TAKEAWAY: Estimate the value of the new business by calculating the uncertainty around the economic factors that drive NPV

While traditional approaches use NPV assumptions and sensitivity analysis...

Traditional Value Analysis



The value of a new business is calculated through NPV based on assumptions about key economic factors such as annual revenue, expected margins, project lifetime, development costs, market size, etc. The following drawbacks undermine the effectiveness of this approach:

- The impact of each factor on the overall NPV is unclear.
- It is unclear which factors present the greatest risk for the assumed value.

...HP calculates the uncertainty of each economic factor that influences NPV

Full-Day Workshop: Quantify Value (Tornado Diagram Analysis)

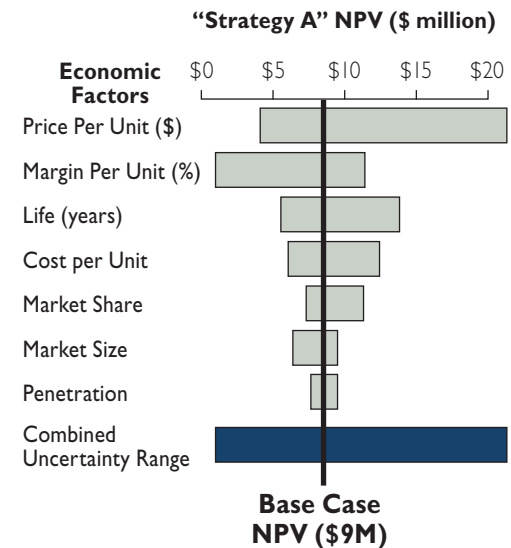
Through a facilitated dialogue session, the team debates and defines the low, base, and high values (uncertainty range) for each economic factor. The values are determined by the available evidence—research, data, and experience. The team then uses the Tornado Diagram to depict graphically the impact of uncertainty ranges for each economic factor on the NPV.

Calculations

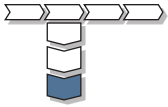
- 1 Define key economic factors and calculate their base case value.
- 2 For each factor, estimate a low and high value based on available evidence.
- 3 Calculate a base case NPV using the base input for all key economic factors.
- 4 Determine the impact of uncertainty ranges on NPV by calculating the NPV for each economic factor uncertainty range, keeping all other factors constant at the base case.
- 5 Plot the results in a Tornado Diagram to show the NPV range based on uncertainty.

To see the sample
CLICK HERE

Results



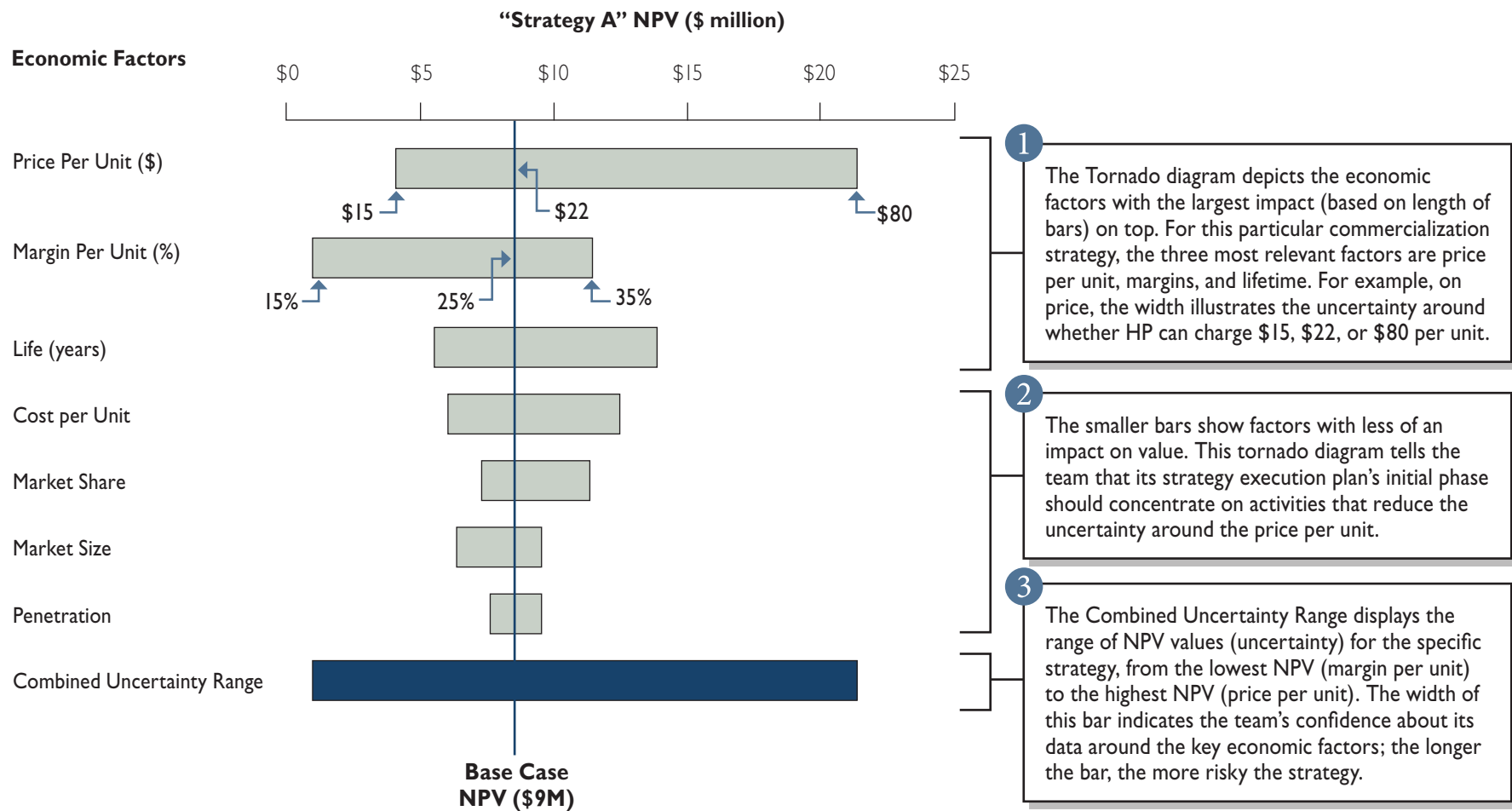
A "Combined Uncertainty Range" sums up the low and high estimate NPV range for the strategy.

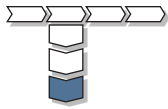


KEY TAKEAWAY: Focus on the economic factors that drive the greatest variability in commercial value

The team analyzes the tornado diagram for each strategy to pinpoint where uncertainty about key economic factors has the biggest impact on value

Full-Day Workshop: Quantify Value (Tornado Diagram Analysis)





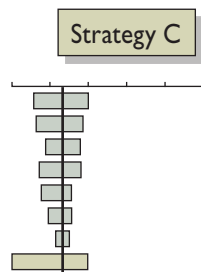
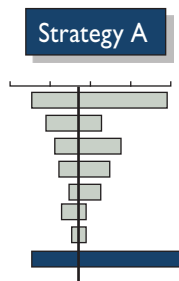
KEY TAKEAWAY: Compare competing strategies' commercial value and execution risk to select the optimal launch strategy

The team evaluates the Tornado Diagrams and Strategic Plans for each competing commercialization strategy...

...and contrasts them to select the strategy with the best risk-reward balance

Full-Day Workshop: Commercialization Strategy Selection

Commercial Value Impact



Execution Risk

Strategy A

Phase	Proof Points	Metric	Probability
I	Sign up critical suppliers	Sign up 3 suppliers	10% (\$1 M)
II	Technology proof of concept	Working prototype	70% (\$20 M)
III	Drive market adoption	Retail presence	80% (\$10 M)

Overall Probability of Success:

5.6%

Strategy B

Phase	Proof Points	Metric	Probability
I	Create a new HP brand	Find resources to support new business unit	7% (\$0.2 M)
II	Technology proof of concept	Working prototype	70% (\$20 M)
III	Drive market adoption	Retail presence	80% (\$10 M)

Overall Probability of Success:

15%

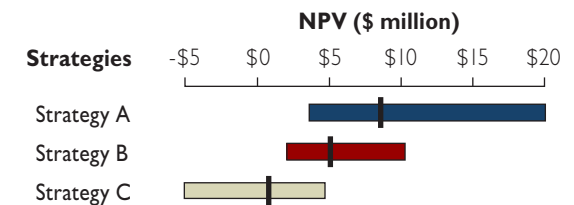
Strategy C

Phase	Proof Points	Metric	Probability
I	Find potential IP licenses	Identify 3 interested parties	16% (\$0.5 M)
II	Technology proof of concept	Working prototype	70% (\$20 M)
III	Drive market adoption	Retail presence	80% (\$10 M)

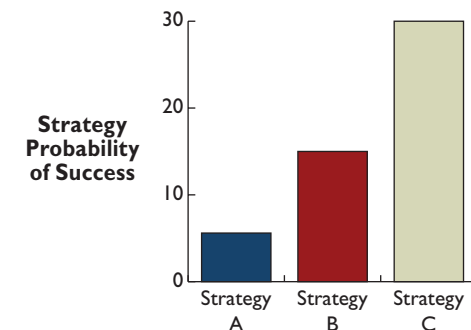
Overall Probability of Success:

30%

Commercial Value Impact (Cumulative)



Execution Risk (Cumulative)



STRATEGY SELECTION

When the team faces a risk-reward trade-off, it will usually choose the strategy with the highest NPV (even if it is the riskiest). This selection enables the team to learn quickly and potentially generate considerable value. Even if the riskiest strategy falls short, lessons learned help the team employ the highest-value alternative strategies.

KEY TAKEAWAY: Utilize the workshop results to bridge the credibility gaps in funding requests

The team uses the workshop outputs to tackle executive skepticism over viability of new business plans

Sponsor Funding Presentation

SPONSOR MEETING

Following the workshop, the team spends a month preparing for the funding meeting with the project's sponsor—the VP/ GM who committed to attending a funding presentation. The process facilitator trains the team on using the workshop models to refine their work and advises on the meeting preparation (and will attend but won't typically present).

Sponsor Funding Concerns

Business Model Ambiguity

- How do we segment this new market?
- Who are the target customers?
- What's the ideal distribution channel?

Risk

- How should we deal with all the unknowns?
- How should we work around our lack of experience in the new market?
- How should the commercialization strategy manage risk?

Uncertain Market Value

- What key economic factors should we consider?
- What is the NPV?
- How will the NPV be achieved?
- What are the upside and downside?

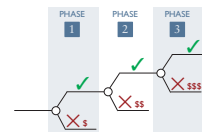
Team Solutions

Strategy Table—Build credibility out of ambiguity

	Choice Point 1	Choice Point 2	Choice Point 3
Strategy 1			
Strategy 2			
Strategy 3			
Strategy 4			

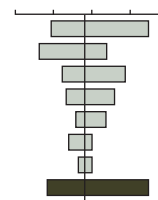
- Identified the key Choice Points
- Designed the optimal business strategy
- Created strategic options—begin with Strategy A and continue or shift to Strategy B or C based on market learning

Strategic Plan—Treat risk as a partner in decision-making



- Defined the Proof Points that reflect the largest risks
- Prioritized the highest-risk and lowest-cost elements. Investors were asked to fund one Proof Point at a time
- Developed fall-back strategies with discrete Strategic Plans and Proof Points to mitigate risk

Tornado Diagram—Focus on key economic factors that drive value variability

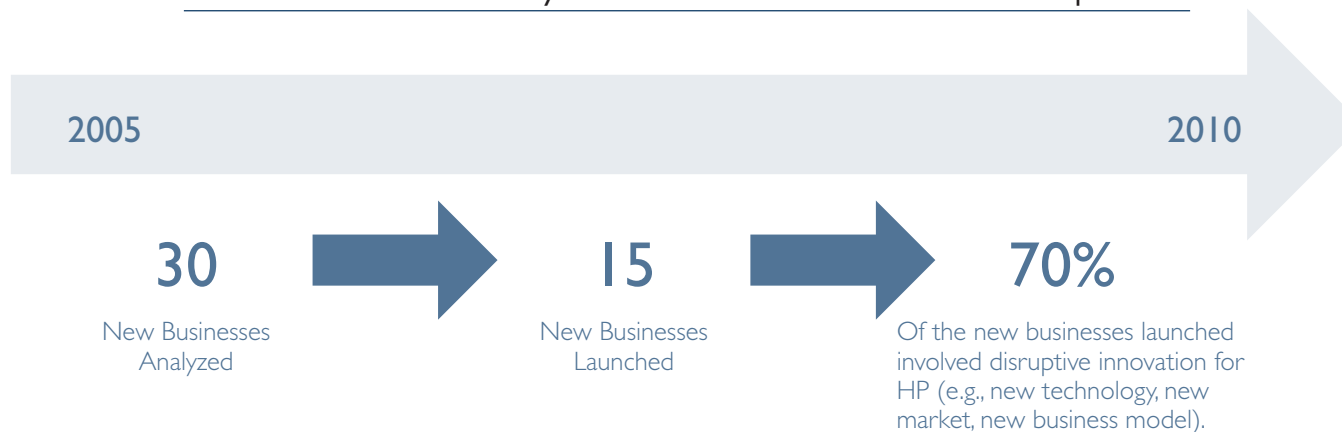


- Identified key economic factors influencing value and whether the base NPV meets HP hurdle rate
- Planned market research on value (NPV) drivers early in the business life cycle
- Limited investment and exposure until upside was clear to ensure a smaller business can still meet profit objectives

Business Results

HP has used Value-Based Decision Analysis to evaluate and launch numerous new businesses delivering disruptive innovation

Value-Based Decision Analysis: Contributions to New Business Development



NEW BUSINESSES

The new businesses analyzed or launched via Value-Based Decision Analysis include:

- Retail Photo Solutions (RPS) business: the methodology was used to develop and implement a major strategy change including an acquisition to accelerate the RPS business
- HP Sensing Solutions
- LightScribe Direct Disc Labeling
- HP Indigo Digital Presses
- HP Labs' Misto Collaboration Display

"The Value-Based Decision Analysis workshops save valuable money and time; my new business teams were able to think broadly, select a path, and execute it more rapidly because everyone on the team understood the selected strategy, why it was selected and what we needed to prove to be successful. My sponsors understand the risks and how I am spending their money wisely to buy down the key risks to creating a viable, growing business."

—Innovation Catalyst, The Hewlett-Packard Company

Key Lessons Learned

Profiled Company Perspective

- The ideal time to use the Value-Based Decision Analysis (VBDA) is after the core team has formed and thoroughly investigated the opportunity space but before the Incubate and Accelerate strategies have been selected. It is at this point that the VBDA methodology can integrate the knowledge from the individual team members and help develop new insights and conclusions.
- At the heart of VBDA is a set of dialogues between the participants. The dialogues are forceful expressions of the issues around launching an entirely new business. The goal is to get the team thinking together as widely as possible about these issues and then get aligned (creating a shared vision that doesn't, by default, submit to the loudest voice) on the most viable solutions to these issues.
- Successful and repeated application of the Value-Based Decision Analysis methodology requires four ingredients:
 1. Transparent discussions within the project team and with the sponsors
 2. Broad cross-functional leadership on the project team so that holistic business assessments can be completed
 3. Skilled facilitation and process leadership
 4. Easy-to-use and easy-to-update analytical tools
- Selection and training of process facilitators are critical to successful VBDA implementation. Critical facilitator skills include:
 - Ability to lead complex decision-making processes
 - Facilitation of controversial debates and decisions
 - Experience with market sizing, business models, business P&L, product development, and value chain analysis
 - Expertise in process management and quantitative analysis
- After the workshop, each participant should be able to:
 1. Describe the selected strategy
 2. Explain why the team selected the strategy
 3. Discuss what other strategies were considered
 4. Articulate how the team will assess the strategy's progress and success

Frequently Asked Questions

These FAQ's summarize the Q&A session with Rich Duncombe, HP Strategist, Hewlett-Packard, and David Matheson, CEO of SmartOrg Inc., during the Ask the Thought Leader Webcast on this guidebook conducted on July 13, 2010. To view the archived version of the webcast, please [click here](#)

How does Hewlett Packard encourage employees to generate ideas in the first place? Are they all aware of this process?

The ideas come from individual contributors, executives, clients, and partners. HP fields ideas from formal ideation approaches and employees taking the initiative, often connecting with peers to develop ideas. The most important success factor is that the idea is focused on a fundamental customer need and that, over time, an attractive business strategy can be constructed.

At what point of technology development does the Value-Based Decision Analysis process occur?

HP uses this methodology on new business concepts that are well researched, gaining momentum, and ready for a significant step-up in investment. The technology scenario is typically clear at this point and is supported by research results. For the Value-Based Decision Analysis (VBDA) process, HP would not have commercialized the technology in a new market, so VBDA ensures the business strategy considers all the key choice points, as opposed to just pushing forward on proving out the technology. The methodology has been used for earlier stage projects, more in the research phase. Here the main workshop deliverables typically get spread out over time. For example, the team might do a Strategy Table session, which often reveals major information gaps. During a two or three week break, the team does focused research in these areas. At the following workshop, the team might refine the strategy table and then develop a Strategic Plan for one strategy. In this way, the information gathering process is done more strategically (and efficiently) because the strategic discussions are interleaved with the work of the project.

How does HP filter ideas to bring the “best” forward beyond the ideation stage?

HP has used a number of different methods, from using the core business management structure to identify a new opportunity and apply resources, to a formalized funnel and stage-gate processes with an internal venture fund. In all cases, the Value-Based Decision Analysis process has helped the team responsible for the idea and sponsors become clearer about the launch strategy, the sources of risk, and ways to create and adjust their plans. Another key benefit is using this process to kill ideas that have gotten stuck in limbo.

Is the ideation process limited to HP employees, or do you have a mechanism for receiving ideas from outside HP?

There are a number of ways to receive ideas, and many times they have come from clients and business partners. Ultimately, all ideas require an internal Idea Champion who will be responsible for building momentum around the idea and a core team to bring the idea through the process. In some cases, HP has invited the external client or partner to participate in the workshop and has found that it is a powerful way to co-develop an idea.

How many ideas would HP take through this process in a typical year?

It depends on the amount of seed funding available for new businesses, since HP does not use this process unless there is a clear path to funding for a viable new business idea. The typical number is between 4 and 10 per year for a given business unit.

Frequently Asked Questions (Continued)

What is the composition of a typical team in the two-day workshops? What's the optimal mix?

Eight people are ideal, but 6–12 is a good range. It is important to have personnel from all key functional areas represented (sales, marketing, operations, R&D, general management, finance, etc). The team should represent a mini startup company, with all individuals contributing to the issues and concerns from multiple vantage points. It is also important that principals and key decision makers attend, instead of sending substitutes to the workshop.

How much preparation is required for the team prior to the workshop? Would the same team work together after the workshop to bring the idea to market?

HP normally plans for 6 weeks from the date an Idea Champion and sponsor approach the facilitator to schedule a workshop. During this time, workshop attendees receive research and background reports on the market and innovation. HP's Research Alliance group helps with the background research by gathering what is known about the market thus far.

The facilitator asks the team to prepare by studying the background materials and watch a recorded webinar to familiarize the team with the steps of the workshop.

After the workshop, the team begins the implementation and execution of the strategies. The team gathers new data that is quickly incorporated into the working plans. At that point, the facilitator may hold new, shorter meetings (2–4 hours) to integrate the new insights into the commercialization strategy.

Does HP have a team of process facilitators?

Initially, David Matheson from SmartOrg facilitated many of the workshops, and continues to do so. Since the program's inception, HP has also created an internal team of facilitators responsible for leading these workshops. In contrast to a centralized innovation hub or business group, internal facilitators are hosted by different businesses within the company. The facilitators can be called upon to support other businesses as well.

It is important to note that facilitation is an active process and requires an individual that:

- Has experience in complex decision-making processes
- Has experience leading lively dialogue and active meetings
- Has a broad understanding of business architecture, business models, development channels, supply chain, etc.
- Actively challenges ideas in the workshop, not just passively accepts them

What if the Proof Points have dependencies, so that risk is higher with a Proof Point because another one has not been completed. In this case are we not only accelerating risk, but unnecessarily magnifying it as well?

Risks are assessed in the Strategic Plan starting from the present time and moving out in time. The risks associated with the first Proof Points are determined, and those Proof Points are assumed achieved when assessing the probability of success for the subsequent Proof Points in phase 2 and so on. Using the example strategic plan from the webinar, workshop participants would be asked, "Now that we have successfully addressed the critical supplier risk by signing up three suppliers, what is the risk of achieving a technology proof of concept with a working prototype?"

Frequently Asked Questions (Continued)

When using Proof Point methodology some steps are dependent on others. For instance, how could HP sign up critical suppliers without a technological proof of concept?

The material presented in this Guidebook is based on a live example—HP's LightScribe laser-etched disc labeling technology. Originally, the LightScribe team wanted to build a prototype before bringing partners on board. However, HP concluded that there was a high probability of failure in attracting critical partners, even if a prototype was built. Therefore, the decision was made to seek partners first. This decision was risky, especially without a prototype, but from an investment perspective, it made a lot of sense. The team used its vision and preliminary work on the technology to attract key partners. Once the partners were in place, the rest of the Proof Points became more attractive.

Another benefit of this approach is that the team had a more credible position in pitching the innovation to senior management. Instead of requesting a large investment to build a prototype, the team was able to present a better business case with a lower initial investment requirement. Finally, bringing partners on board early helped shape the end product since their input ultimately helped HP bring the product to market.

Would you recommend holding the workshop offsite to eliminate distractions?

HP uses on-site conference rooms that have lots of wall space, since teams typically create 30–50 full-size flip charts during the workshop. It is very helpful to reference a previous dialogue, and these visual artifacts help keep the conversation moving forward. This is a full-engagement meeting, so the leader does need to pay attention to the physical environment and setting expectations with participants.

Is it reasonable to think that three suppliers can be enrolled without a technical proof of concept? Do you count on HP's reputation to get that agreement?

This is an actual case study, and the suppliers did sign on based on HP's reputation and the power of the LightScribe concept. It was a major departure for all to use the non-data side of the disk for marking by the same laser system. It required collaboration on development and creation of a shared patent-pool by all of the core developers. This is why this step was considered so risky, but the commercial plan to create an industry standard ingredient brand, LightScribe, depended on a different business model. It was high risk, but HP did get the supplier agreements in place prior to creating a working prototype.

What do you do if the riskiest Proof Point is also the most costly?

Breakdown that Proof Point into lower-level steps to see if the risk drivers and the cost drivers are in fact linked. In most cases, breaking it down to the next level does reveal Proof Points that don't require the full cost.

How do teams calculate the probabilities of success for the Strategic Plans?

The workshop methodology uses dialogue structures to determine the probabilities and pinpoint any wide variations in opinion. The first cut at risk allows the leader to focus subsequent diligence efforts on the risk factors that actually affect the launch success or commercial value. The analysis can be updated whenever more information becomes available.

Frequently Asked Questions (Continued)

In the Strategic Plan, are Phases 1 and 2 independent?

No, these steps are dependent but are at different levels of granularity. For example, the Proof Point might be to sign an agreement with a lead customer. The definition of success would be what kind of agreement, with what kind of customer, with what financial arrangement, and by what time.

Regarding the Tornado Diagram, I was more used to discussing the uncertainty based on the discount rate in the Discounted Cash Flow approach. Is the same discount rate used in all value estimates?

The simple answer is that a single discount rate is used in these models, and it represents the weighted average cost of capital for the firm. Common practice that raises the discount rate on a business case due to risk will usually devastate the innovation evaluation. However, innovation models are never static. Therefore, the Tornado Diagram model helps identify the risks and then brings them forward in time, maximizing learning. The environment this model creates is one in which higher risk can actually increase value because of options and flexibility. For example, a Tornado Diagram can be used to run a small experiment to prove something will or will not work, learn from the experiment, and redefine the experiment if necessary. In contrast, the discount rate adjusted method tends to be static and decreases value to the inherent risks involved.

The approach of raising the discount rate to account for risk in these highly uncertain environments will systematically penalize the most exciting and interesting opportunities, so HP stays away from that.

How does the Tornado Diagram deal with relationships between factors—for example, the higher the price per unit, the higher the margin per unit is likely to be?

The Tornado Diagram shows the impact of a particular factor when varied along its expected range on the NPV, if all other factors were held constant. The way HP determines range for “margin, as an example, is through dialogue. So the team would discuss base case margin, define the highest believable case for margin, and the lowest believable case. This is brought out during the workshop via dialogue sessions. These ranges may well be influenced by other factors (for example, higher volume may lead to higher margin assuming certain fixed costs). Therefore, the linkages of factors are done through these dialogue sessions. Unlike sensitivity analysis, this process is more dynamic and more accurate than a simple +/- percentage sensitivity.

The most important point here is to come up with a believable range. If the range translates into a high impact NPV range on the Tornado Diagram, then the team can specifically design in the strategic plan ways to shrink the width of that bar (through pilots, market studies, benchmarking, etc).

Technically speaking, the Tornado Diagram does look at a single element at a time, making it more obvious and simple for interpretation. People look at it and understand it quickly, and do not get confused by it. If too many interactions exist, then the model has not been set up correctly and a new model with less interacting variable should be set up.

Frequently Asked Questions (Continued)

There is a danger in directly comparing NPVs for projects having different risk profiles. Do you risk weight the cash flows in your discount models?

A common metric derived from the analysis is risk adjusted value. HP certainly uses this one metric to compare alternative strategies for the same business opportunity. When you move to comparing entirely different businesses, then this is really a portfolio process and there are certainly other steps that need to be taken into account.

One weakness of the Tornado Diagram Analysis is assigning probability distribution. From an HP perspective, was a standard distribution used as the default as that can significantly change the results?

Given that HP uses the Tornado diagram to compare alternative strategies for a given business, the impact of the distribution is not considered significant. A committed NPV is calculated later by Finance using a standardized process for the selected strategy.

Does HP do any simple Monte-Carlo type NPV analysis instead of a Tornado Diagram (or do you think that the simplicity of the latter makes it easier to use)?

The software tools that HP utilizes in the workshops are very simple to use. Thus, the analytical process is not the key driver of the workshop, but remains a tool.

The simplicity of the Tornado Diagram is essential here—it is transparent, it is very obvious, and its limitations are clear. It allows people to learn. This process is not about computing the optimal answer in a mathematical sense; it's about bringing out ideas and having the right conversations about strategy. In contrast, the Monte Carlo analysis is a general and powerful tool, but does not direct discussion about issues that should be addressed.

Does HP use real options analysis to include understanding of time value of new information in the decisions?

HP has done “side calculations” on the value of better information with respect to reducing the risk on a Proof Point or in the commercial value assessment. Calculating the time value of new information is more sophisticated than necessary in most cases, but it is a powerful concept to use when prioritizing Proof Points.

How frequently does HP revisit the analyses (e.g., after each critical hurdle, quarterly, annually)?

In the case of an individual project, the analysis should be revisited based on activity and calendar timing. As soon as a major Proof Point has failed, it is time to pull the project leadership back together and determine options. If it was a high-risk Proof Point, the team may have already designed a path to shift to another strategy. The analysis should also be reviewed at the successful completion of major phases. As a side benefit, a team that keeps its plan current is always ready for a management review.

Frequently Asked Questions (Continued)

How does HP ensure that the new business strategy adopted would benefit the organization in future?

At HP, this process is used to explore opportunities outside the current strategic paradigm. Therefore, it is positioned outside the gravitational pull of existing businesses. What we have found is that while this exercise is being carried out, the workshop brainstorming sessions (the Strategy Table discussions, for example) provide new ideas that can influence the overall company strategy. A good example is HP's Photo Solutions Business, launched through a series of these VBDA workshops. HP was not in the retail photo solutions area at the time, but a decision was made to enter this market, and that affected the overall company strategy. Now HP has a successful business in place. Sometimes the new business becomes a catalyst for strategy change.

Has HP used/shared this process with other business partners for specific business opportunities? If yes, has it been easy to align/streamline different companies' teams on the same targets?

Yes, HP has used this process collaboratively with clients and partners in the workshop. The more "outside-in" insight that can be brought to bear, the better the strategy and plan reflect what the team will face on the ground. Of course, the scope of the workshop needs to be appropriate for what HP and the client or partner are collectively trying to achieve; this can constrain the objectives of each entity, but the power of being together is designing the larger business system. This is also effective with different operating groups within HP; we have had as many as six businesses in the same workshop.

Discontinuous change often means questioning a company's core assumptions; where is that feedback loop and double-loop learning opportunity in this process?

New business concepts often stretch existing corporate strategy or in some cases create entirely new strategies. Robert Burgelman, Graduate School of Business, Stanford University, provides an excellent model describing this process: *Designs for Corporate Entrepreneurship in Established Firms* (California Management Review, Volume 26, Number 3, Spring 1984). Burgelman states that corporate strategy is, in fact, significantly affected by "Autonomous Strategic Behavior," or in our language, new business development. Those who have distinguished themselves in developing businesses inside their corporations appreciate that one of their key roles is in fact shaping corporate strategy, as opposed to just launching a new business.

QUESTIONS?

If you have any questions regarding this best practice guidebook or the Growth Team Membership™, please contact us at GTMResearch@frost.com.

Supporting Tools & Resources

The Mechanics of the Tornado Diagram Analysis

Step 1: Define key economic factors and calculate their base case value.

Example economic factors with base case values:

- A. Annual revenue (\$4 million)
- B. Margin (25%)
- C. Expected lifetime (10 years)
- D. Development cost (\$1 million, 1 year)

Step 2: Vary the input for each factor through its range, low to high.

	Low	Base	High
A. Revenue (\$ million):	3	4	7
B. Margin (%):	10	25	30
C. Expected Lifetime (years):	9	10	13

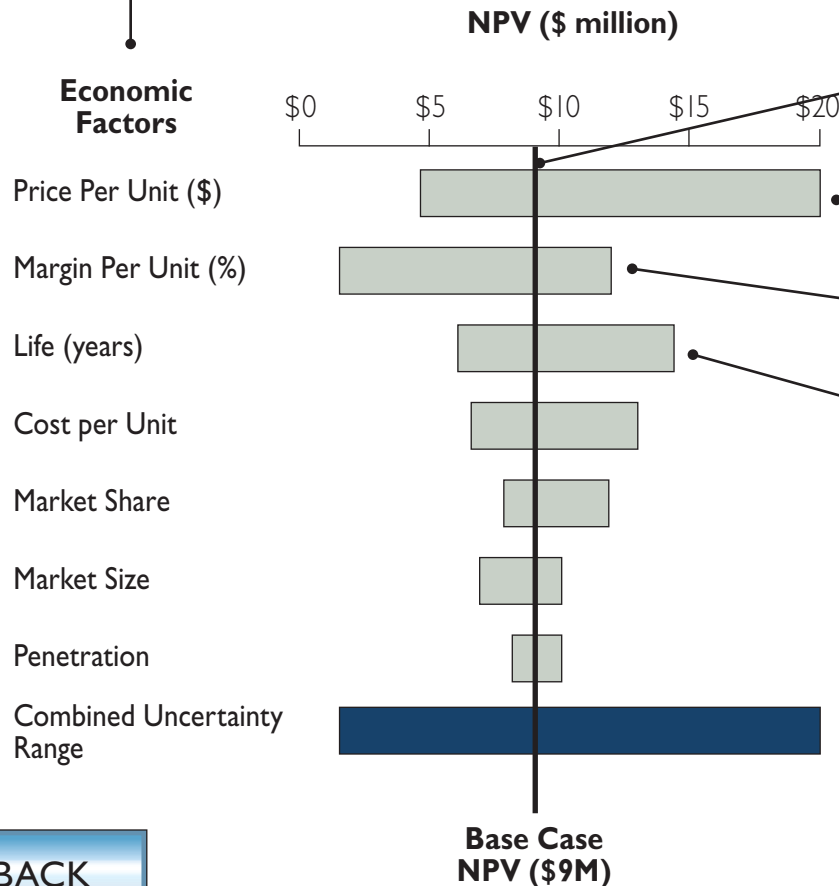
Note that these ranges figures are not base +/- 10% or a simple sensitivity. They reflect an assessment of uncertainty based on what current knowledge and evidence can support.

Step 3: Calculate a base case NPV using the base input for all the key economic factors.

The base NPV of the simple example in step 1 is:

$$\text{NPV} = (A \times B \times C) - D$$

$$= \$9 \text{ million}$$



Step 4: Determine the impact of inputs on the NPV output by calculating economic factor variations.

Example:	NPV in \$ million
A. Calculate Revenue variation: (Margin and Lifetime at Base values)	
• Net Profit if Revenue at Low value:	6.5
• Net Profit if Revenue at High value:	16.5
• Swing (Net Profit if at High—Net Profit if at Low):	10.0
B. Calculate Margin variation (Revenue and Lifetime at Base values)	
• Net Profit if Margin at Low value:	3.0
• Net Profit if Margin at High value:	11.0
• Swing (Net Profit if at High—Net Profit if at Low):	8.0
C. Calculate Lifetime variation (Revenue and Margin at Base values)	
• Net Profit if Life at Low value:	8.0
• Net Profit if Life at High value:	12.0
• Swing (Net Profit if at High – Net Profit if at Low):	4.0

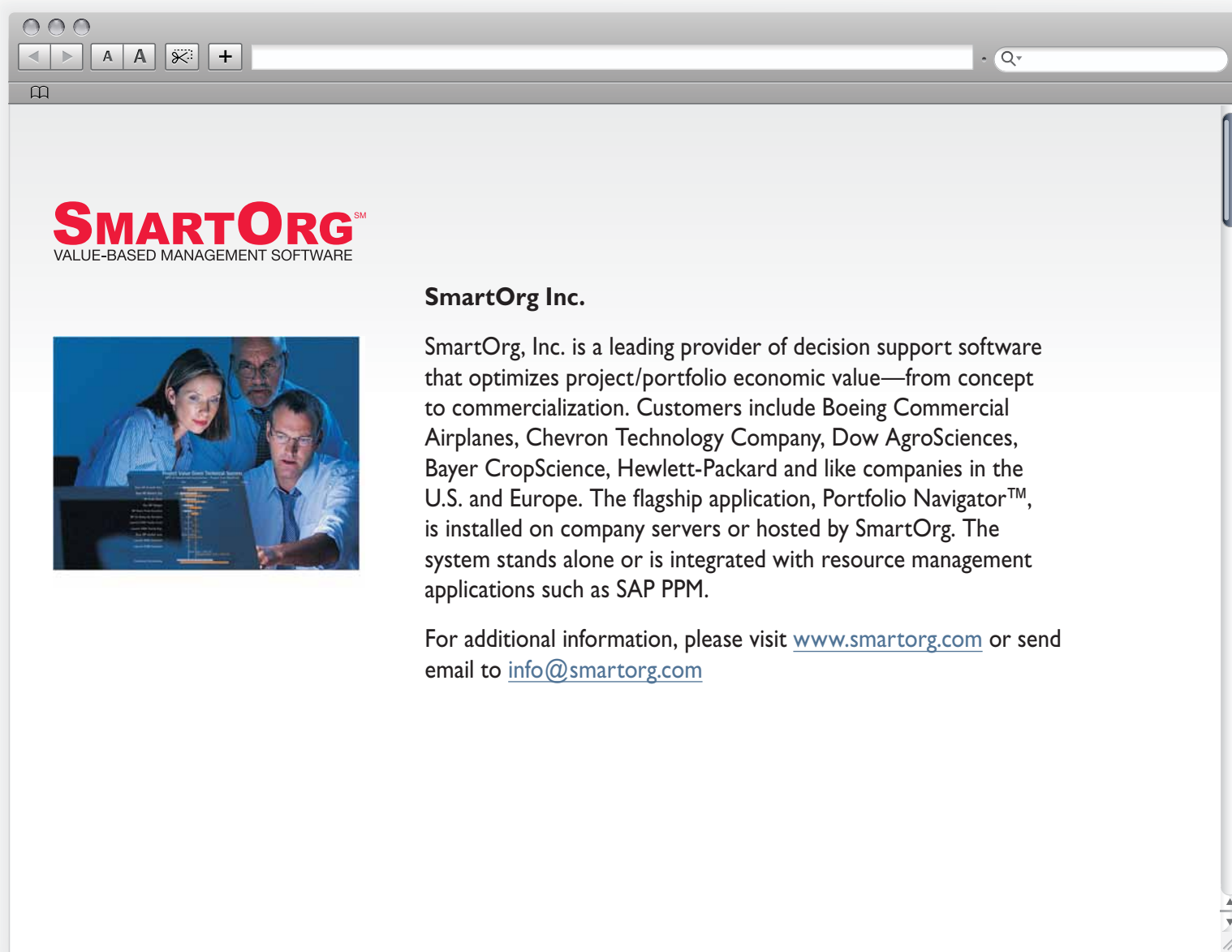
Step 5: Plot the results in a Tornado Diagram.

1. Draw a vertical line at the baseline.
2. Order the variables in decreasing magnitude of swing.
3. Draw bars for each variable between Net Profit if Low and Net Profit if High.
4. A Combined Uncertainty Range sums up the low and high estimate NPV range of the strategy.

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Supporting Tools & Resources

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