FROST & SULLIVAN

GROWTH TEAM MEMBERSHIP™

GROWTH PROCESS TOOLKIT

New Product Development

Accelerating Growth through Unbiased and Rigorous Early-Stage Product Evaluation

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SPECIAL THANKS

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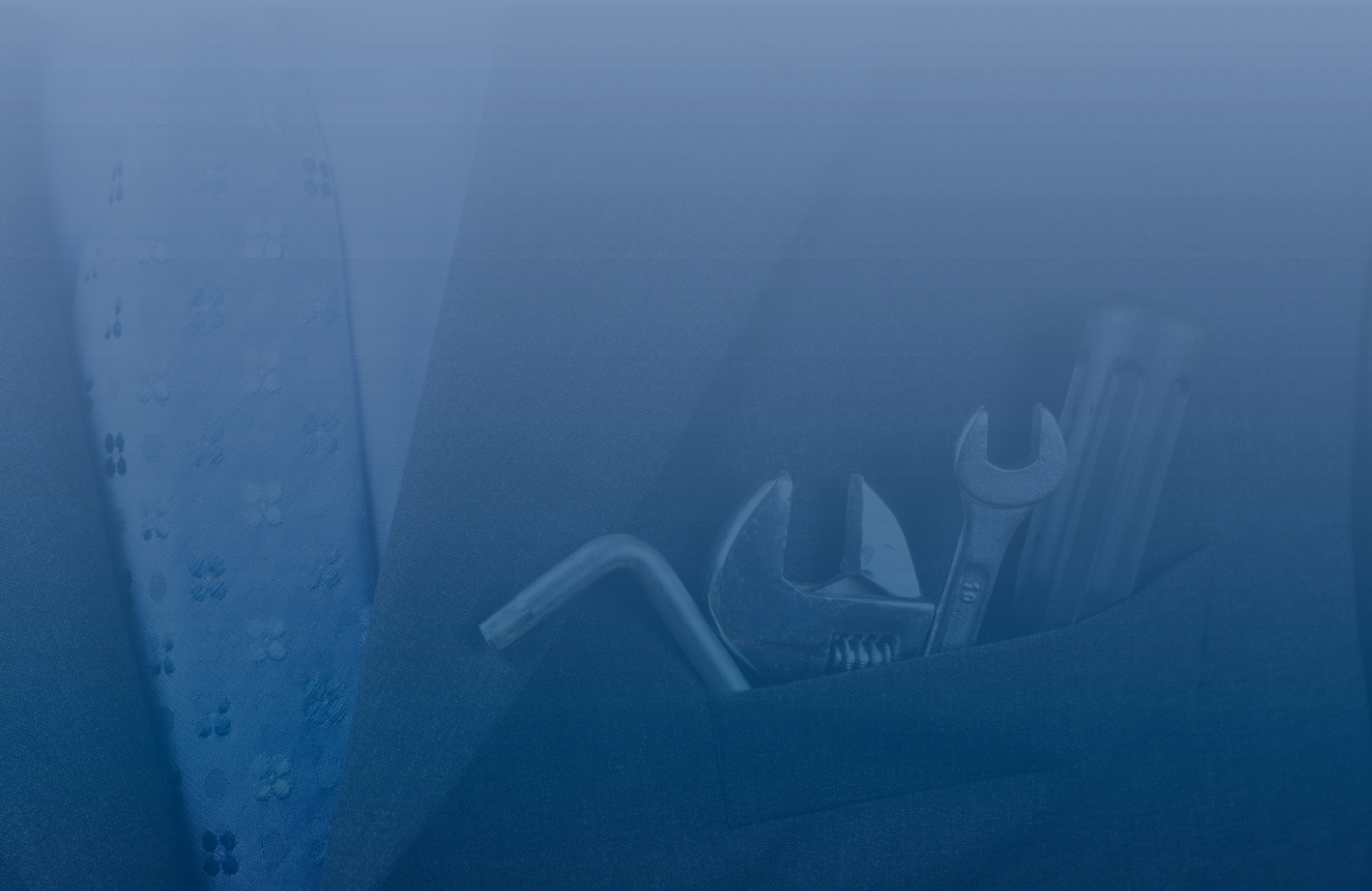
INTRODUCTION

Growth Process Toolkit

New Product Development



INTRODUCTION

Growth through New Product Development
Companies looking to increase share of customer wallet, erode competitors' market share, and boost revenue must incorporate new product (and service) development into their growth strategies. It is for this reason that investment in new product development is considered such a strong predictor of a company's future value.[1] Numerous sources attest to the significance of new product development (or innovation) to companies' growth strategies, as outlined in part below.

- More than 70 percent of senior executives in a recent *McKinsey Quarterly* survey cited innovation as one of the top three drivers of growth for their companies in the next 3 to 5 years.[2]
- A survey of 601 senior executives in the US, UK, Germany, and Canada confirmed that innovation is a top corporate priority.[3]
- 66 percent of senior executives have also said that their organizations' business strategy is either totally or largely dependent on innovation.[4]

Given this nearly universal focus on a shared growth objective, the quality of new ideas, finely tuned customer understanding, and flawless product development take on critical significance. Put another way, if every company seeks growth through the same channel, the winner will be the one that successfully breaks away by executing better than its competitors.

The Risks of New Product Development
Although most companies view new product development as a direct route to accelerated growth, the reality is that most new products fail in commercialization. Indeed, surveys suggest that on average:[5]

- More than 50 percent of new products launched by a company will fall short of executives' expectations;
- 1 in 100 new products cover their development costs;
- 1 in 300 products make a significant difference to customer purchase behavior, the product category, or the company's growth trajectory

It therefore appears that the foundation of many companies' growth strategies is shaky: ideas with no market, disproportionately high development costs, and unsuccessful product launch seem endemic. Indeed, many executives admit that their new product development processes are often disorganized and unable to deliver expected business results:

- 65 percent of senior executives who participated in a recent survey admitted they were only "somewhat", "a little", or "not at all" confident about the decisions they make to stimulate innovation.[6]
- 19 percent of executives also confess that innovation does not factor into the strategic-planning process (in spite of being an important driver of growth).[7]
- 15 percent of executives surveyed said that they were "very satisfied" with their company's ability to convert ideas into service offerings, and only 13 percent said they can do it repeatedly.[8]

Put another way, while most companies acknowledge that effective NPD is the key to long-term competitive advantage and growth, most also acknowledge that they lack rigorous, repeatable processes for generating good ideas and converting those good ideas into profit.

The Difference between NPD and Innovation
One of the most troubling errors companies commit in their quest for new products is that they fail to understand that growth through NPD comes through two distinct but dependent channels: generation of good ideas (i.e., innovation) and commitment to systematic evaluation and development (i.e., NPD). It is important to note this distinction, since innovation and formal new product development processes are both necessary for commercial success.

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INTRODUCTION (CONTINUED)

The Difference between NPD and Innovation (Continued)

The Role of Innovation
Frost & Sullivan defines innovation as the generation of breakthrough ideas or knowledge with the potential to address customer needs. Successful product launch and resulting revenues, profit, and growth begins with a moment of inspiration – and executives are right to invest in activities that can help make those moments of inspiration a regular occurrence at their companies. This is why many firms focus so intently on cultivating an innovation culture and stressing the importance of organizational commitment to that culture. That said, the difficulty of achieving such a culture poses a continual stumbling block for companies, as noted below.

- Only 21 percent of respondents in a recent survey said that their companies have a Chief Innovation Executive, and only 11 percent said that there is a C-suite executive in charge of the innovation process.[9]
- In another survey, 40 percent of senior executives said they do not have the right kinds of talent for the innovation projects they pursue (interestingly, the *employees* surveyed defended their capabilities and argued the culture discourages innovation).[10]
- In the same survey, just 23 percent of employees said they believe their organizations encourage them to learn from failure.[11]

Put another way, companies battle myriad organizational and cultural barriers to sustainable, process-driven innovation. Assuming that an organization overcomes these barriers and surfaces an idea worthy of further development, the challenges do not disappear; they merely migrate to a different place.

The Role of New Product Development
Frost & Sullivan defines new product development as a systematic way of transforming promising ideas into products that can be successfully commercialized. No matter how strong an innovation concept might be, the idea will be wasted unless a company can be flexible enough to quickly get it into the hands of customers. The following case example shows how Xerox built a best-in-class innovation capability but mishandled opportunities to exploit its innovation concepts.[12]

Case-in-Point: Why Aren't You Reading This on an Alto?
Xerox's Palo Alto Research Center

Situation: Due to its monopoly in photocopying, Xerox had become a wealthy and powerful company by the mid-1970s. Its net income had risen from US $3 million in 1959 to $348 million in 1974. In an effort to maintain this rapid growth, CEO Peter McColough commissioned the Palo Alto Research Center (PARC) to invent technologies around the then-new concept of information architecture. Xerox hoped to launch an entirely new suite of products as a result of PARC's efforts, thereby further expanding its long-term growth potential.

Action: PARC scientists achieved a fundamental breakthrough when they realized that mainframe computers could be brought to individual desktops. As a result of this insight, PARC invented a variety of computer-related technologies including a word processing language, a "local area network" through which computers could "talk" to each other, a laser printer, and a "mouse" for moving characters on the computer screen. Perhaps most significantly, PARC developed the Alto, generally considered to be the world's first personal computer.

Result: In spite of these significant accomplishments, PARC never achieved the kind of business success that should have accompanied these scientific breakthroughs. No single reason exists for this failure, but a significant cause can nonetheless be attributed to the absence of any rigorous process for (1) evaluating the commercial viability of PARC's inventions, and (2) developing an idea worthy of further investment.

Xerox failed to (1) understand the commercial potential of many of its innovations, and (2) take its products to market with any speed (when the Alto was finally released, it was too expensive and too slow to gain traction with end users).

Ultimately, Xerox forfeited its first-mover advantage in the information architecture space to competitors that were better equipped to translate ideas into products. In spite of the commercial potential offered by the PARC scientists' insights, Xerox is still known today primarily as a document company, rather than as a leader in the high-tech industry.

Key Takeaway: Innovation is only half the battle. If you don't have a process in place to take an idea from inspiration to implementation, one of your competitors will find a way to do it instead, thereby reaping the benefits of your missed opportunity.

(Continued on the following page)

INTRODUCTION (CONTINUED)

Where Development Goes Wrong
If we accept that a rigorous product development process separates companies like Xerox from companies like Apple, Microsoft, or IBM, then we must also accept that it is the mechanics of development, perhaps more than anything else, that determine a company's growth through NPD. It therefore follows that any company that doesn't consistently convert good ideas into good products is at risk for repeating Xerox's mistakes. There are many ways the development process can go wrong; two of the most common are outlined below.

Pitfall #1: Unpromising Ideas Continue to Receive Funding
There are many reasons why a product might stay in development too long: poor management and bureaucratic inertia are surely causes, but one of the most pronounced seems to be what one author has termed "collective belief." Collective belief refers to the tendency of an organization to seek only evidence supporting a preconceived notion (i.e., the potential of an innovation concept). Widespread belief in the inevitability of success can lead organizations to respond irrationally to compelling evidence that a project should be terminated.[13]

One of the most well-known instances of such a misstep is RCA's failed launch of SelectaVision in the early 1980s (SelectaVision is a video play-back system using an analog needle and a groove system similar to phonograph records). When RCA developed its first prototype in 1970, many already considered the technology obsolete. Seven years later, with the improvement of VCR quality and the emergence of digital technology, every one of RCA's top competitors abandoned videodisc research. In spite of these warning signs, RCA continued to invest heavily in its product. When the project was finally terminated in 1984, it had cost the company US $580 million in development costs and had tied up resources for 14 years (resulting in an incalculable opportunity cost).[14]

An efficient development process does not throw good money after bad ideas. It is not enough to have a development process in place – you must also adhere to a process for consistently evaluating a product's commercial viability before you make significant investments in further development.

Pitfall #2: Promising Ideas Are Prematurely Removed from the Pipeline[15]
Conversely, an efficient development process continues to commit good money to good ideas. The system breaks down when inevitable setbacks during development are viewed unnecessarily harshly, resulting in premature termination of promising ideas. To reference the Xerox case example again, companies stand to lose significant revenue (and in some instances market share) if they fail to conduct the right research to understand a product's potential. Organizational or personal biases against the project or a shortage of resources can also account for such errors.

Just as a rigorous screening process can help eliminate bad ideas, so can it help frontload good ones by verifying an idea's commercial potential with comprehensive and early-stage research. With such an approach in place before inevitable setbacks occur, it is possible to make investment decisions free of impulsiveness or undue bias.

The above-mentioned pitfalls are often the most difficult to avoid throughout the development process. However, the majority of organizations tend to inadvertently promote each early-stage pitfall by focusing disproportionately on late-stage development (i.e., on moving a product as quickly as possible to launch). They tend to under-invest in the early, "truth-seeking" development stages whose explicit job is to head off commercial errors.[16] Early-stage evaluation of a product's potential can help expose losing ideas quickly and cost effectively.

The Solution
Successful companies know how to balance a willingness to kill a product with the tenacity to persist until a product's potential is realized. How do we walk this line, without over-investing in bad ideas and under-investing in good ones? As already suggested, **the answer lies in the application of a rigorous, balanced process for evaluating any idea prior to entering the standard, stage-gate development process**. By assessing a product's viability against a set of basic criteria, companies can determine outright whether a product has the right market and customer base, and is supported by the internal capabilities necessary for a successful launch.

(Continued on the following page)

INTRODUCTION (CONTINUED)

How Should You Approach New Product Development?

Frost & Sullivan structures the new product development process around the stages listed below.

THE FOUR PHASES OF NEW PRODUCT DEVELOPMENT

PHASE	DESCRIPTION
DEMAND ASSESSMENT	Strategic analysis of all factors that could influence demand for the product or service (e.g., customer needs, competitor activity, market stability)
FEASIBILITY ASSESSMENT	Principled consideration of operational and organizational potential to support the development and launch of an innovation concept
NEW PRODUCT FUNDING AND DEVELOPMENT	Investment in the development and prototyping of approved innovation concepts; disciplined stage-gate evaluation process takes effect
NEW PRODUCT LAUNCH	Preparation for the commercialization of a product (this phase is the focus of a separate Growth Process Toolkit on New Product Launch)

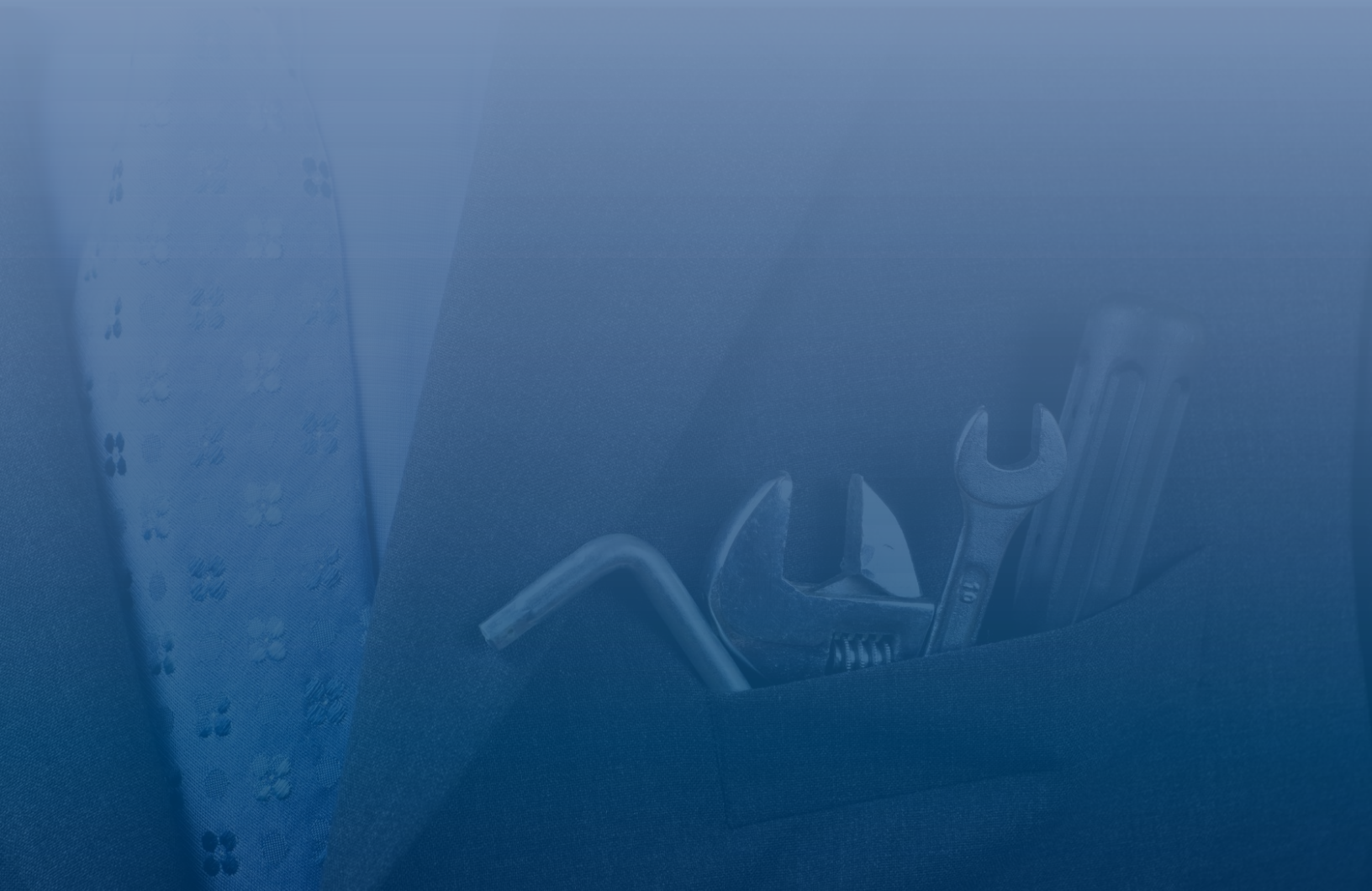
As indicated by the shading above, this toolkit will focus on the first two phases of new product development: Demand Assessment and Feasibility Assessment. These phases are concentrated entirely on the selection of the most promising product ideas from the innovation pipeline.

As noted previously, executives often underestimate the importance of these early-stage activities, spending too little time on determining product viability and too much time on preparing for product launch. This work therefore takes a close look at those phases and lists the key activities and tools that will help ultimately save time and money in new product development.

HOW TO USE THIS TOOLKIT

Growth Process Toolkit

New Product Development



HOW TO USE THIS TOOLKIT

The Growth Process Toolkit for New Product Development

What it is: This toolkit will help you structure your evaluation of innovation concepts prior to investing in expensive development activities such as prototyping and testing. It will show you to predict a product's future success by conducting comprehensive technological, operational, customer, and market research.

On a more technical level, this Growth Process Toolkit presents Frost & Sullivan's best thinking and work on new product development in a step-by-step implementation format. This research gives Growth Team Membership (GTM) members proven processes, tools, and templates to help them successfully manage the risks and pitfalls encountered in this key growth process.

How it will help you: This toolkit will help you and your team cost-effectively execute new product development. While we recognize the importance of an innovation culture and the difficulty of generating good ideas, we believe that most organizations have no shortage of ideas – and struggle more with converting those ideas into profit. Therefore, we have decided to focus on this weakness and show you how a repeatable process for vetting ideas can improve or accelerate your long-term growth trajectory.

How to use it: This book is divided into two sections: Demand Assessment and Feasibility Assessment. Within each section, we have outlined a variety of steps that you should complete. For each of those steps, you are provided with the tools, templates, scorecards, or checklists that you need to complete that activity to a Frost & Sullivan standard. You can read this book cover-to-cover, or you can reference the clickable table of contents to access specific sections.

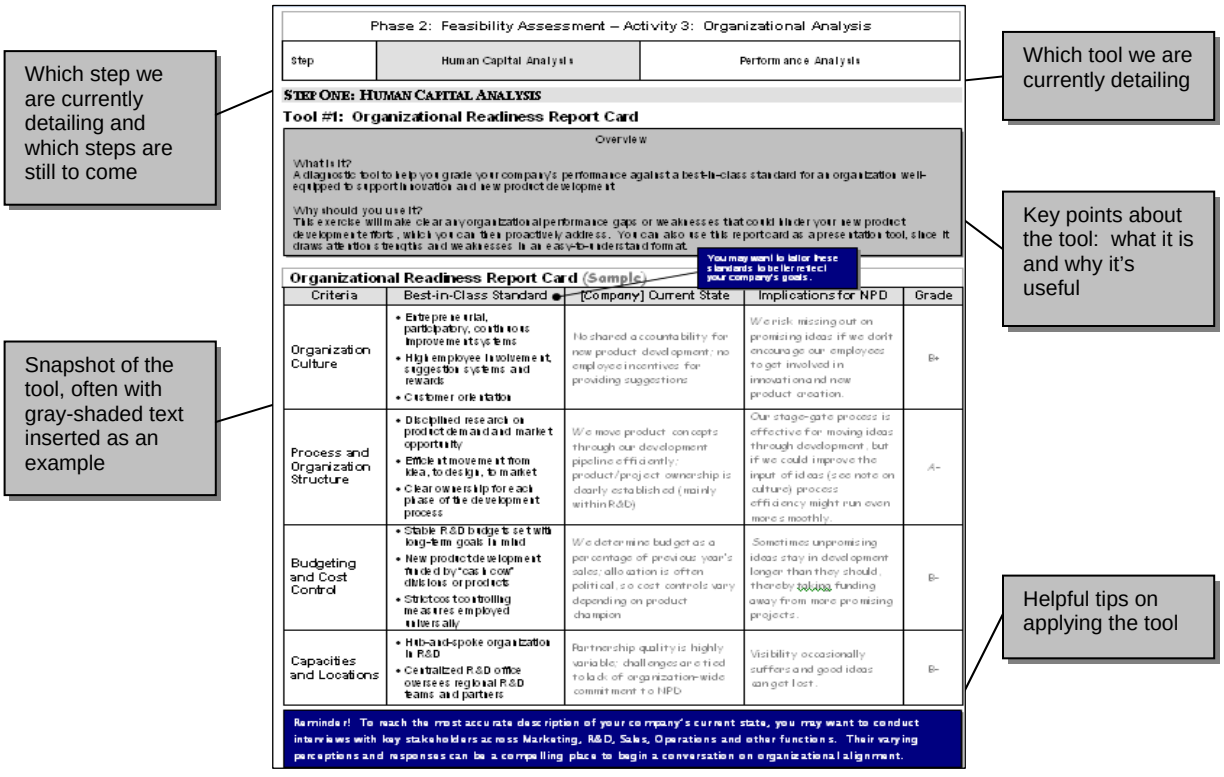
Be on the look-out for helpful reminders throughout this book. We will alert you at key stages when you should involve certain stakeholders, or when it might be a good idea to use additional GTM (or other) resources to aid your implementation.

We encourage you to bookmark this toolkit, save particularly helpful tools to your desktop, and share it with your colleagues. We also encourage you to contact your Account Executive if at any point in your research you require assistance.

The Growth Process Toolkit's Organization and Layout

For ease of navigation, the majority of activities and tools featured in this toolkit adhere to the following template:

SAMPLE PAGE LAYOUT



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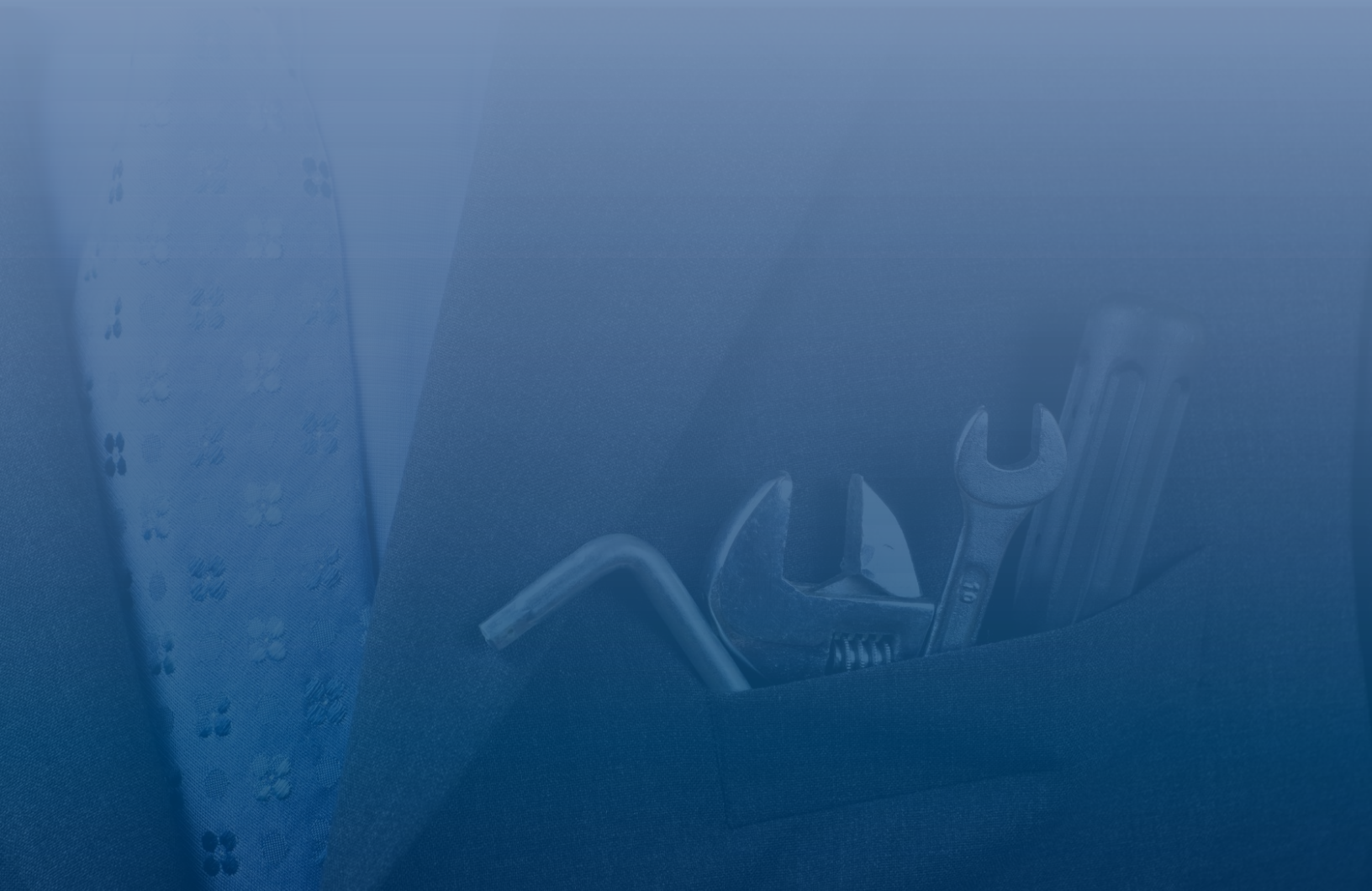

PREFACE: SECURING ORGANIZATIONAL ALIGNMENT

Tool #1: Goal Statement Template

Overview

What is it?
A discussion guide to help the executive team articulate its company's goals for pursuing growth through new product development (NPD).

Why should you use it?
This tool will help you ensure the following:

- *Agreement among the executive team* – While you may believe your executive team to be on the same page about strategy and vision, this perception may in reality be off-base. Consensus on goals and expectations at the outset of any activity is a good idea – but even more so when navigating waters as risky and costly as new product development
- *Focus on new product concepts that align with the stated purpose* –Shared commitment to the Goal Statement will enable the executive team to be clear about goals and the boundaries for achieving those goals. Agreement on how to handle all strategic factors will ensure the team pursues NPD with a shared clarity of purpose.

Use this as a living document – something that you can revisit over the duration of new product development efforts to refocus team members on shared objectives, while making adjustments as necessary.

GOAL STATEMENT: TEMPLATE **COMPANY NAME**

Vision: Why are we pursuing growth through new product development?
Hint: Are you battling slowing organic growth; deteriorating margins; commoditization of product portfolio; disproportionate percentage of revenues coming from mature products; new entrants threatening your market position?

(a) How should we (re)define the role that innovation/NPD should play in our growth strategy?

(b) Should a new product expand the reach of an existing brand, or should we consider establishing a new brand with an entirely new suite of products? Why?

(c) How aggressive should our new product development strategy be? What should be our timeline for launch? Why?

(d) Should we focus our NPD efforts on improving the performance of an existing product, or on developing a new product for a specific, high-value customer segment?

Importance: How essential is new product development to the organization's future growth potential?
Hint: Do you need to keep pace with competition, jump-start stalled growth, fight commoditization pressures, or something else?

(a) How exactly will new product development contribute to the success of our growth strategy?

(b) *Can our company achieve the desired growth objectives without developing new products? If 'yes', then why is NPD still part of our growth strategy?*

Organizational Readiness: Is the timing right for new product development?

(a) What external barriers (e.g., government or legal restrictions, economic uncertainty) might prevent us from achieving growth through new product development?

(b) What internal barriers (e.g., unsupportive culture, limited budget) might prevent us achieving growth through new product development? Which of these barriers can we control and resolve?

(c) Which vital skills sets, if any, are we currently lacking among our staff?

(d) Can our existing processes and cost structures support the successful development (and subsequent launch) of a new product?

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Tool #1: Goal Statement Template (Continued)

GOAL STATEMENT: TEMPLATE (CONTINUED) **COMPANY NAME**

Market Entry: How do we want to take a new product to market?

(a) Which customer groups should we target?

(b) Which suppliers and/or partners should we involve? Should we consider: using new suppliers; outsourcing activities we have previously handled internally; handling internally activities that we have previously outsourced?

(c) What sort of distribution channel should a new product use?

Investment: What financial return can we expect from new product development?

(a) What are our minimum and maximum investment thresholds?

(b) Where would we be most comfortable placing our investment on the risk/reward spectrum?

(c) How long do we expect it will take to achieve a positive return?

(d) How should we determine our organization's annual spending on new product development (e.g., based on: this year's goals and opportunities; the previous year's innovation spending as a percentage of the previous year's sales; the previous year's performance against innovation metrics; the relative attractiveness of individual ideas; what competitors are spending on new product development)?

Measurement: How will we determine success?

(a) Short-Term: How will we demonstrate the value of investment in new products to shareholders (i.e., what should be our key targets)? What metrics can we realistically influence during this time?

(b) Long-Term: What signs of success would we expect from long-term investment in a new product development capability? How should we quantify these expectations?

Buy-In: Who has contributed to and/or approved this statement? Who still needs to sign off?

(a) What are plans for ensuring executive team consensus or acceptance?

(b) How will we modify our goal statement if we receive push-back from key stakeholders? On which points are we willing to budge, and on which must we hold firm?

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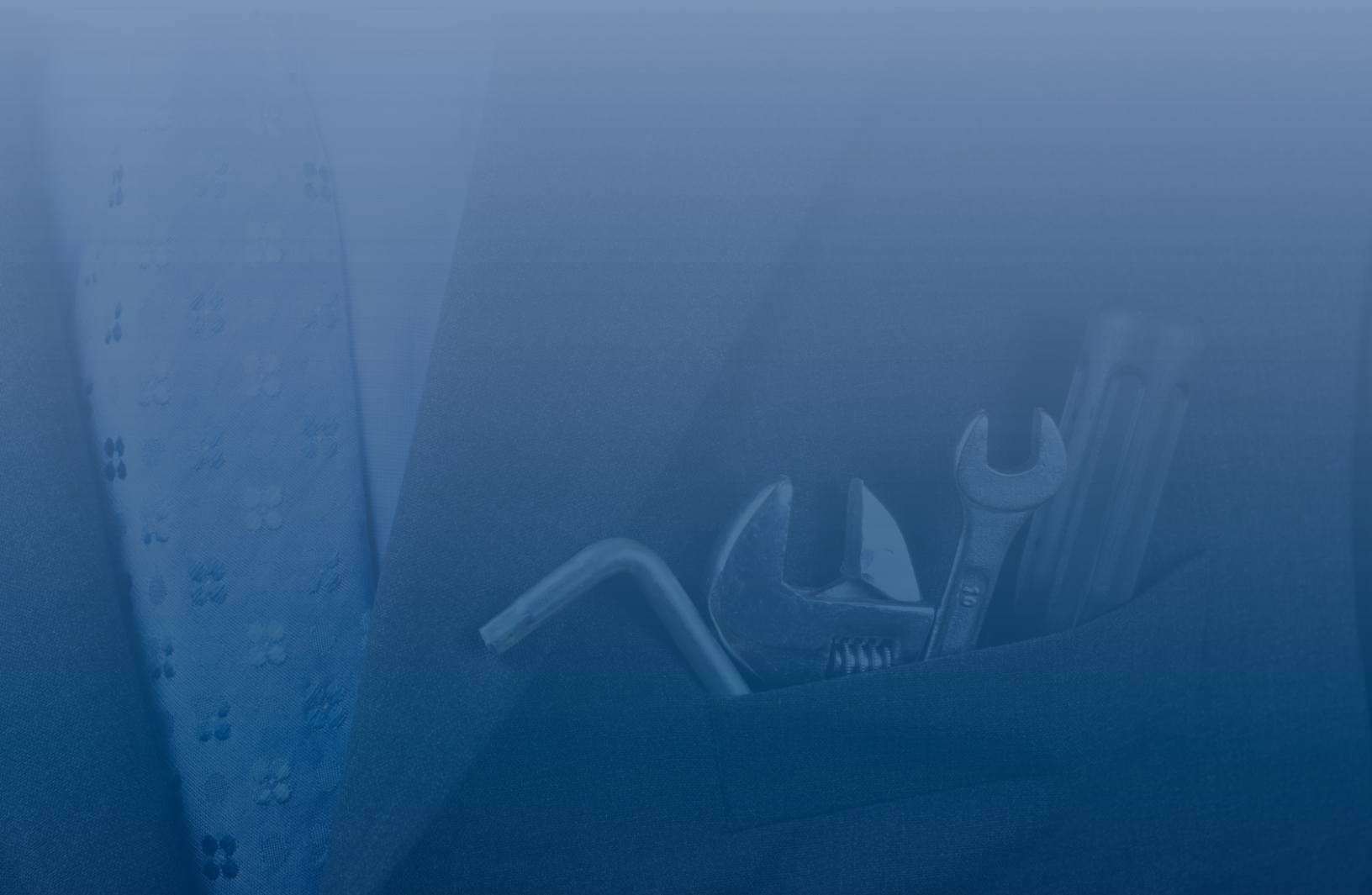
PHASE 1: DEMAND ASSESSMENT

Growth Process Toolkit

New Product Development



PHASE 1: DEMAND ASSESSMENT

The table below lists the key steps, activities, and objectives featured in Phase 1. The pages that follow explore each activity – and its associated tools – in greater depth. This page is also clickable, enabling you to jump to any section directly.

DEMAND ASSESSMENT: KEY STEPS AND TOOLS

ACTIVITY 1: INDUSTRY ANALYSIS		
Step	**Purpose**	**Sample Tools**
Market Analysis	Gain a strategic view of the stability of a given market	Market Strength and Breadth Scorecard
Competitor Analysis	Determine whether another company has already launched (or is in the process of launching) a product similar to the one under consideration	Competitive Landscape Chart
Emerging Technologies Analysis	Consider your company's technical capabilities through the lens of what the market might demand in the coming years	Technical Analysis Guidelines
ACTIVITY 2: CUSTOMER ANALYSIS		
Step	**Purpose**	**Sample Tools**
Lead Customer Identification	Predict emerging customer needs based off what your most progressive customers are doing – and how they are behaving – right now	Customer Opportunity/Fit Matrix
Customer Needs Analysis	Cross-reference existing and emerging customer needs against your organization's ability to meet those needs	Voice of the Customer Collection Guidelines
Customer Needs Prioritization	Rate current and emerging customer needs based in their order of preference and your organization's ability to address successfully	Customer Needs Prioritization Worksheet

Phase 1: Demand Assessment – Activity 1: Industry Analysis

Step	Market Analysis	Competitor Analysis	Emerging Technologies Analysis

STEP ONE: MARKET ANALYSIS

Tool #1: Market Engineering Measurements Worksheet

Overview

What is it?
A list of indicators that can help you conduct a strategic evaluation of any market you are considering targeting with a new product. It will help you consolidate all of your market information in an easy-to-use format that you can share with your peers.

Why should you use it?
You need to present your findings in a compelling, straightforward way. This Excel sheet will help you easily turn a table of data into a series of easy-to-follow charts and graphs. If you're preparing for a presentation, this tool would be useful.

Market Engineering Measurements Worksheet: Market Name (Sample)

Indicator	Measurement	Trend
Market Stage	High Growth	--
Revenues (Year)	$114 million	Increasing
Potential Revenues (Year)	$692.6 million	--
Base Year Revenue Growth Rate (Year)	24.4%	Decreasing
Forecast Period Unit Growth Rate (CAGR)	26.6%	--
Average Product Price	$31,420	Increasing
Price Range	$20,000 - $1,000,000	--
Customer Price Sensitivity	Medium	Increasing
Number of Competitors (active market competitors in base year)	25+	Stable
Companies entering the market (Year)	3	Increasing
Companies exiting the market (Year)	3	Increasing
Degree of Competition (e.g., new market entrants, established players, barriers to entry)	High	Stable
Degree of Technical Change	High	Stable
Customer Satisfaction	Medium	Increasing
Customer Loyalty	Medium	Increasing
Market Concentration (percent of market controlled by top 3 competitors)	59.0%	Decreasing
Average Multiple Paid for Companies in this Market	3X earnings	Increasing
Average Long-Term Debt Load	$15 million	Stable
Average Short-Term Debt Load	$7 million	Stable

Phase 1: Demand Assessment – Activity 1: Industry Analysis

Step	Market Analysis	Competitor Analysis	Emerging Technologies Analysis

STEP ONE: MARKET ANALYSIS (CONTINUED)

Tool #2: Industry Drivers & Restraints Worksheet

Overview

What is it?
A list of questions to help you consider all factors affecting growth in your industry (both positively and negatively). Your answers will help inform an assessment of whether a new product could be launched successfully in a given market.

Why should you use it?
You need to be aware of any factors that might alter a market's stability (for better or worse) in the long-term. In turn, this perspective will help you make short-term decisions about whether to develop any product for that market.

Step One: Fill out the worksheet below for the [Industry].

Analysis of Sector-Specific Drivers and Restraints

1. Drivers

Question	Hint	Potential Sources
What are the specific drivers affecting the market and causing it to grow?	Regulatory changes; vertical markets; population growth; labor costs; availability of commodities	Frost & Sullivan research; industry-specific periodicals; trade associations
What do you predict will drive sales in two years?	New markets opening; new technologies	
What changes are you witnessing in customers' demands?	Changes to purchasing cycle; price sensitivity	
How has distribution changed over the past two or three years?	Emergence of new distribution networks	

2. Restraints

Question	Hint	Potential Sources
What is holding back sales or preventing the sector from growing?	Economic uncertainty; saturated market	Frost & Sullivan research; industry-specific periodicals; trade associations
What industry changes have prevented customers from purchasing key products or services?	Price sensitivity; changing consumer behavior; availability of capital	
What industry-wide factors are limiting growth potential?	Poor distribution network; high manufacturing costs	
Are there any company-specific inhibitors that cannot be explained by sector-wide circumstances?	Organizational barriers; talent turnover	

(Continued on the following page)

Phase 1: Demand Assessment – Activity 1: Industry Analysis

Step	Market Analysis	Competitor Analysis	Emerging Technologies Analysis

STEP ONE: MARKET ANALYSIS (CONTINUED)

Tool #2: Market Drivers and Restraints Worksheet (Continued)

Step Two: List each driver and restraint you have identified through your completion of the worksheet on the previous page. Next, estimate the potential impact that each driver and restraint might have on your industry's potential for growth over a period of time that you can forecast with reasonable accuracy (for the purposes of the sample below, we have extended the forecast over a seven-year period, but this number will vary depending on forecasting accuracy and standard projections within your own industry).

Analysis of Sector-Specific Drivers and Restraints

Sample: Airline Sector (Ranked in Order of Impact)

Rank	Driver	1-2 years	3-4 years	5-7 years
1	Emerging low-cost carriers in the Asia-Pacific region	High	High	High
2	Easing of regulations such as open-sky policies	High	Medium	Medium
3	Improvements in the Russian aviation industry	High	Medium	Medium/Low
Rank	**Restraint**	**1-2 years**	**3-4 years**	**5-7 years**
1	Rising fuel prices	High	High	High
2	Shortage of pilots	High	High	High
3	Shortage of maintenance personnel	High	High	Medium

A Note on High/Medium/Low Scoring

Frost & Sullivan rates drivers and restraints on a 10-point scale, with 10 representing a perfect correlation between a driver/restraint and revenue growth/loss in a given sector. The score then translates into a "high", "medium", or "low" classification, as outlined below. Group discussion will help you assign the appropriate scores to each driver or restraint.

- 8 to 10: High
- 4 to 7: Medium
- 1 to 3: Low

Reminder! You should make this exercise highly interactive and invite your peers in Sales, Marketing, Market Research, R&D, Competitive Intelligence, and Corporate Development to contribute unique insights and perspectives.

Phase 1: Demand Assessment – Activity 1: Industry Analysis

Step	Market Analysis	Competitor Analysis	Emerging Technologies Analysis

STEP ONE: MARKET ANALYSIS (CONTINUED)

Tool #3: Market Strength and Breadth Scorecard

Overview

What is it?
A growth opportunity evaluation tool that allows you to assess an *existing* product's competitive advantages and its potential to be applied to a new market.

Why should you use it?
You may want to consider whether a product from your *current* portfolio could fill the same need as a newly-developed product, but without the upfront risk and cost.

Existing Product Strength and Breadth Scorecard

Product Category: Paper Products (Sample)

Step One: Score Market Strength (i.e., a product's competitive advantages in its *current* market)

Strength	Existing Products & Scores: Microencapsulation	Paper Handling	Protective Coatings
Capability *Ability to deliver the product's benefit*	9	3	1
Uniqueness *Difficulty of competition to replicate*	1	1	-3
Cost Position *Compared to competitors*	9	9	3
Total: *Sum of three scores*	19	13	1

Step Two: Score Market Breadth (i.e., the applicability of the product's strengths to a *new* market)

Transferability *Ease of transferring product to new markets*	9	1	NA
Total Market Breadth:	9	1	NA

List all products in your portfolio that you think could meet demand in a new market.

Score each product's strength. (see scoring key).

Total the value of scores in each column.

Complete Step Two for any product receiving a total score of 12 or more in Step One.

Score remaining products' transferability.

Any product that doesn't score 12 or more is not evaluated in Step Two.

Mark products with the highest total score for further consideration.

Scoring Key

9 = Unique to your organization
3 = Valuable (but not unique) to your core business
1 = Commonly applied across industries
-3 = Currently under-performing

Reminder! To learn more about how you can introduce existing products into new markets, please reference Growth Team Membership's best-practice profile of **Appleton Papers' Mature Product Reinvigoration Process**.

Phase 1: Demand Assessment – Activity 1: Industry Analysis

Step	Market Analysis	Competitor Analysis	Emerging Technologies Analysis

STEP TWO: COMPETITOR ANALYSIS

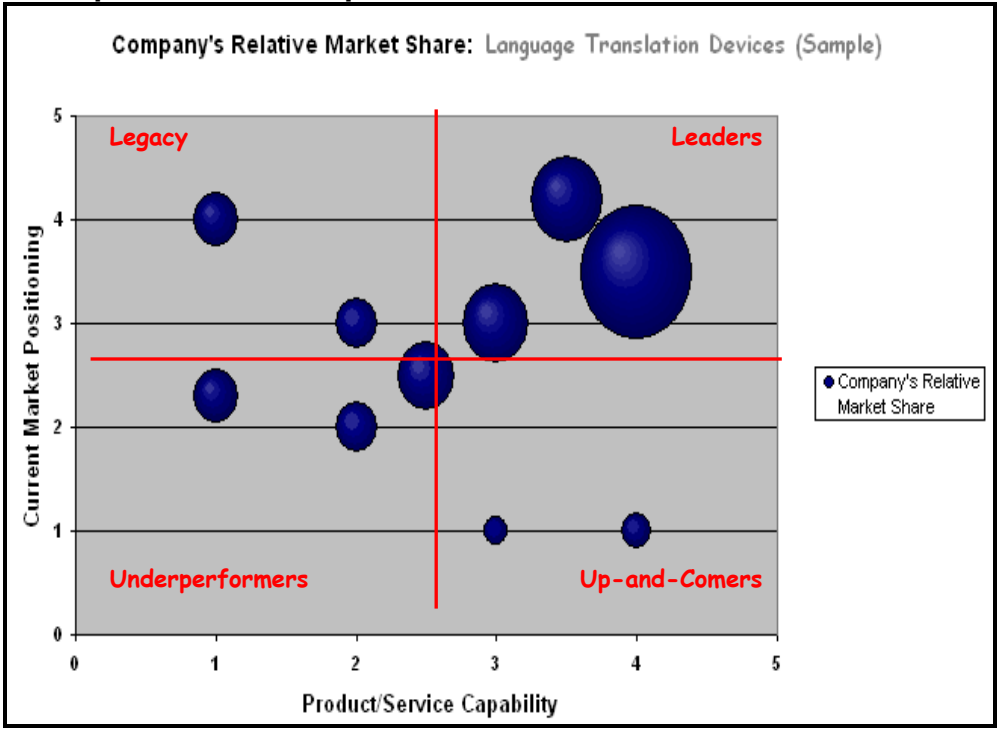
Tool #1: Competitive Landscape Chart

Overview

What is it?
A chart depicting each of your competitors' current market positioning and technical capability in a given product category.

Why should you use it?
You need to consider any new product through the lens of competitor activity. If a competitor already serves a customer need with a product similar to one your company may develop or with a substitute product, you need to know the size and reach of that competitor in order to assess whether it still makes sense to invest in that product (or whether the barriers to entry are too high).

Competitive Landscape Chart



Scoring Guide – Y Axis:
5 = Market Leader
4= Established Market Presence
3= New Product
2= Late Development
1= Early Development

Scoring Guide – X Axis:
*Set capability levels for [product]:**

5	Two-way; high accuracy
4	Two-way; low accuracy
3	Two-way; phrase-based
2	One-way; fixed phrase; high accuracy
1	One-way; fixed phrase; low accuracy

* Note: The capabilities listed above are for demonstration purposes only.

User Guide

1. Identify top competitors within the product category you are evaluating (you will complete this chart for each product category you are evaluating separately).
2. Collect data for each competitor: market share, current market positioning, and product or service quality.
3. Input that data into the template and the bubbles will automatically populate. You will need to add the average lines (inserted in red in the above sample version), which will help you further categorize each competitor's performance.

Reminder! If you already sell in the product category you are graphing, then you should insert your company's data into the chart– otherwise you won't have a frame of reference for evaluating your competitors.

Phase 1: Demand Assessment – Activity 1: Industry Analysis

Step	Market Analysis	Competitor Analysis	Emerging Technologies Analysis

STEP THREE: EMERGING TECHNOLOGIES ANALYSIS

Tool #1: Technological Analysis Guidelines

Overview

What is it?
A series of activities to help you anticipate any emerging technologies that could alter your assessment of a market.

Why should you use it?
To the greatest extent possible, you should assess a product's viability with a forward-looking perspective that accounts for how a technological shift might affect its success in the coming years. This in turn will enable you to anticipate demand and focus your development efforts on the most leading-edge concepts.

Step One: Background Research Checklist

To anticipate technological change over the coming years, you need to conduct comprehensive secondary and primary research. This due diligence checklist will guide your efforts.

- Secondary Research
  - Academic journals and papers
  - Conference proceedings and papers
  - Tradeshows
  - Industry-specific periodicals
- Patent Searching *(Note: this will help you determine whether any companies are establishing IP around a specific technology – which might make it less desirable for development. Depending on the level of detail you are seeking, you may want to involve a patent attorney or patent-seeking company in this exercise – but you can also conduct much of this research on your own.)*
  - World Patents Database
  - US Patents Office
  - European Patents Database
  - Micropatent
  - Derwent World Patent Index
  - Patent Cafe
- Technology Transfer Websites, including national laboratories, government-backed laboratories, military laboratories, and non-profit laboratories
- University Technology Transfer Websites
- Corporate R&D Investments
  - 10K Statements (R&D budgets and strategy section in particular)
  - Other SEC filings (e.g., 10Q, 8K, Annual Report)
  - Annual reports
  - Proprietary databases (e.g., American Chemical Society, American Institute of Physics, Materials Research Society, Institute for Electrical and Electronic Engineers)
- Venture capital and funding reports
- Primary research with:
  - Individual companies
  - Universities
  - Government organizations and laboratories and non-profit laboratories
  - Venture capital firms
  - Financial, market, and technology analysts
  - Scientists, engineers, heads of R&D, project managers, business development specialists, purchasing personnel, strategic planners, CFOs, CIOs, and CEOs.
  - Key end user groups (e.g., early adopters)

(Continued on the following page)

Phase 1: Demand Assessment – Activity 1: Industry Analysis

Step	Market Analysis	Competitor Analysis	Emerging Technologies Analysis

STEP THREE: EMERGING TECHNOLOGIES ANALYSIS (CONTINUED)

Tool #1: Technological Analysis Guidelines (Continued)

Step Two: Current and Future State Worksheet

Answer these questions for any industry or market which you are considering targeting with a new product. It will help you consider how current and emerging trends in technology could alter the demand for a product concept under consideration.

- Which technologies currently dominate this sector?
- Which emerging technologies threaten current technologies?
- Which emerging technologies are likely to achieve applications in 3, 5, 10, and 20 years?
- Which are the leading near-term (perhaps niche) applications for these emerging technologies?
  - How will customers respond to or accept these technologies?
- Which are the applications with the highest potential sales volume and ROI for these emerging technologies?
- Which technologies have the potential for fastest growth and most significant adoption?
- How might these emerging technologies alter customer behavior?
  - What consequences might we expect to see as a result of that change? Does this future state alter the viability of the product currently under consideration?
- How likely is it that any of these emerging technologies would converge with one of our core capabilities (thereby creating a potential partnership opportunity)? Under what circumstances should we pursue such an opportunity if one presented itself?

Step Three: Concluding Questionnaire

Answer these questions from your company's perspective.

- How does the technological information unearthed from the sector assessment align with your company's stated objectives and needs for the present and the future?
- Based on your assessment, which new technology-based growth areas are best suited for exploitation by your company?
- Based on your assessment, what does your company need from a technological standpoint to compete effectively in these growth areas?
- How important might R&D become to your growth strategy, 3, 5, 10, 15, and 20 years from now? Why?
- Should you plan/are you planning for that evolution in your strategies today?
- What kind of specific impact could an emerging technology have on your target market?
- Does this threat improve the appeal of this sector from a product development perspective?

Reminder! Your answers to these questions will change with the same frequency and speed with which your industry's technologies evolve. You should therefore consider this worksheet as your "early warning system," helping you anticipate potential problems or opportunities coming down the pike. Keep yourself informed by viewing this exercise as dynamic and ever-changing.

Phase 1: Demand Assessment – Activity 2: Customer Analysis

Step	Lead Customer Identification	Customer Needs Analysis	Customer Needs Prioritization

STEP ONE: LEAD CUSTOMER IDENTIFICATION

Tool #1: Customer Opportunity/Fit Matrix

Overview

What is it?
A customer segmentation tool that helps you identify which customer groups present the greatest opportunity for growth.

Why should you use it?
Before attempting to better meet customer needs through a new product, you must first determine which customers you want to target. By cross-referencing customers' future value with your organization's ability to meet customers' needs, you can focus new product development on initiatives will help your company target customers with the greatest long-term value to your organization.

CUSTOMER OPPORTUNITY/FIT MATRIX

FIT*	Low Opportunity*	High Opportunity*
High	**At Risk** Action here will depend on the reason for the low opportunity: is it a saturated market? An insignificantly small, albeit high-quality, percentage of the total customer base? Invest here if the opportunity may improve over time.	**Star** Good-fit, high-opportunity customers are the core of your new product strategy. They are your safety net of already-established demand. You should design communications, pricing, and positioning with this segment in mind.
Low	**Low Priority** An investment in this low-growth, poor-fit segment will likely not contribute to your revenue or growth goals.	**Build Up** Serving this segment would require an expansion of capabilities: new product development or acquisitions might help you improve the "fit" between this high-value segment and your product or service offerings.

***A Note on Opportunity and Fit**
Frost & Sullivan defines "opportunity" as a segment's growth potential and "fit" as alignment between a segment's demands and your company's current capabilities.

(Directions listed on the following page)

Phase 1: Demand Assessment – Activity 2: Customer Analysis

Step	Lead Customer Identification	Customer Needs Analysis	Customer Needs Prioritization

STEP ONE: LEAD CUSTOMER IDENTIFICATION (CONTINUED)

Tool #1: Customer Opportunity/Fit Matrix (Continued)

Directions

1. Plot each segment within your customer base according to responses to the questions listed below.
2. Rank each response those questions based on a High, Medium, Low scale. Take the average for each and plot on the grid accordingly.

Questions

A. Opportunity

1. What level of purchasing power do customers within this segment wield (e.g., Wal-Mart's leverage with suppliers)?
2. To what extent is this segment positioned for long-term growth (i.e., is the size of the segment increasing or decreasing)?
3. To what degree can your company differentiate itself with this segment ("high" equals lack of competition)?
4. If multiple companies already compete to serve in this segment, how easy would it be for customers to switch (and how willingly would they do it)?
    a. To what degree can factors other than price influence a switching decision?
5. How high would the average margin on a sale be within this segment? Consider the following:
    a. What is the average cost of acquiring a new customer within this segment?
    b. What is the average cost of losing a customer within this segment?
    c. How long is the sales cycle?
    d. To what degree does price sensitivity govern purchase decisions in this segment?
    e. How high is the cost-to-serve within this segment?

B. Fit

1. To what extent can we price our product or service competitively (but still profitably) for this segment?
2. To what degree does this segment already recognize a need for our product or service?
3. To what degree is our company (or our brand) viewed as offering a high-value product or service to meet demand?
4. What degree of success could we expect if we sell our existing product/service portfolio to this segment without investing in significant or costly changes?
5. What success would we have profitably building a value proposition that would cultivate customer loyalty over time?
6. To what extent do our internal competencies align with this segment's demands and buying behavior?

Phase 1: Demand Assessment – Activity 2: Customer Analysis

Step	Lead Customer Identification	Customer Needs Analysis	Customer Needs Prioritization

STEP TWO: CUSTOMER NEEDS ANALYSIS

Tool #1: Customer Needs Identification Guidelines

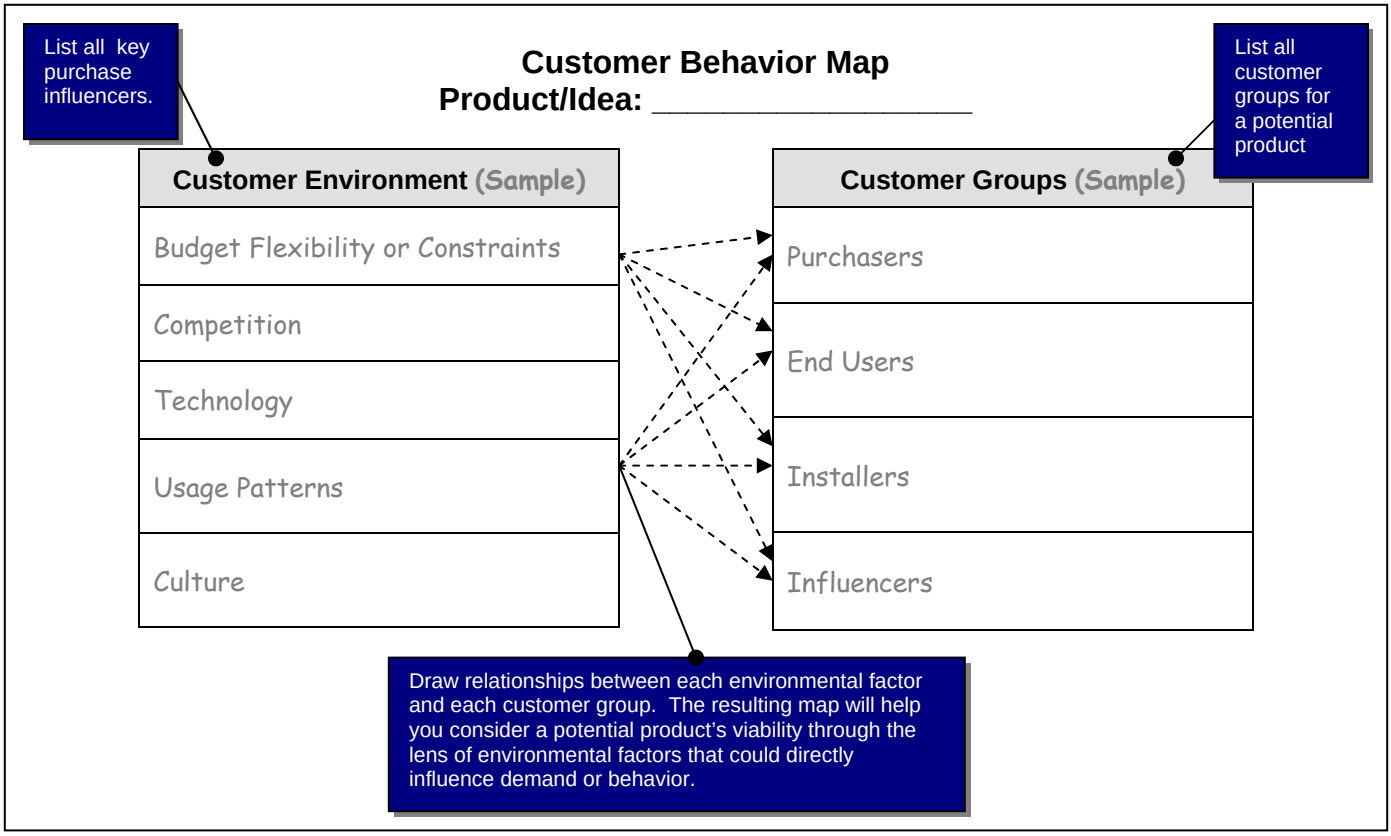
Overview

What is it?
A "mini-process" for developing a comprehensive view of customer needs by capturing the complete customer environment and customers' desired "outcomes" from product use.

Why should you use it?
You don't want to miss an opportunity to create new value for customers. An overly narrow perspective on customer needs and behaviors may lead you to prematurely abandon a promising idea – something that you can avoid by thinking expansively about customers, their needs, and relevant conditions or processes.

Step 1: Map customer purchase influencers against customer groups.

This activity will help you determine how various groups interact with one another and with the product.



(Continued on the following page)

Phase 1: Demand Assessment – Activity 2: Customer Analysis

Step	Lead Customer Identification	Customer Needs Analysis	Customer Needs Prioritization

STEP TWO: CUSTOMER NEEDS ANALYSIS (CONTINUED)

Tool #1: Customer Needs Identification Guidelines (Continued)

Step 2: Surface customers' desired outcomes from product usage.

By incorporating outcome-based customer interviewing techniques into your customer research, you can methodically identify opportunities to create new value for customers. Any insights you can gain into customers' desired outcomes will help you determine whether a potential product aligns well with what your customers are trying to achieve (and whether it therefore warrants further investment).

Customer Outcome-Based Interview Template

Product: _____

Customer Group: _____

1. What task, activity, or job are you trying to *complete*? (Be sure to phrase responses as actions: e.g., "minimize", "increase".)

2. What is the ideal output or outcome that you want to achieve?

3. How would you know when the outcome has been successfully achieved?

4. How would you measure success?

5. What are you currently doing to achieve your desired outcome?

6. Do you consider it efficient? Why/why not?

7. How would you alter the way you currently achieve your desired outcome, if at all?

8. How willing would you be to pay a premium for a new product that could make this job easier or more convenient?

9. Could you provide examples to clarify any job or outcome you have mentioned?

* In this context, the word "product" applies to either a tangible good or an intangible service.

Reminder! The questions listed in this interview template are, by necessity, rather broad. You can tailor this interview guide for specific customer groups by inserting more segment-specific questions. The main teaching here is that by asking the right questions, you can identify ways in which significant customer value is created. Ask whatever questions you need to achieve this end result.

Phase 1: Demand Assessment – Activity 2: Customer Analysis

Step	Lead Customer Identification	Customer Needs Analysis	Customer Needs Prioritization

STEP TWO: CUSTOMER NEEDS ANALYSIS (CONTINUED)

Tool #2: Product Features Association Matrix

Overview

What is it?
A visual guide to buyer behavior within specific segments; it specifically illustrates how key factors might influence a purchase decision.

Why should you use it?
It will help you identify not only what may influence a customer segment's purchase decision, but which capabilities would enable you to take advantage of those influences. In turn, these insights can help focus your new product development efforts on key customer value-drivers.

Purchase Influence Association Matrix (Sample)
Customer Segment: _____

Correlate purchase influencers to identify potential synergies	Manufacturer Reputation	Tested & Proven Technology	New & Sophisticated Technology	Enhanced Daily Driving Experience	Automated Driver Responses
Manufacturer Reputation	N/A	-	-	-	-
Tested & Proven Technology	.583	N/A	-	-	-
New & Sophisticated Technology	.403	.345	N/A	-	-
Enhanced Daily Driving Experience	.367	.369	.582	N/A	-
Automated Driver Responses	.356	.269	.586	.554	N/A

Sample Conclusion

This company collected data on the top five purchase influencers within a key customer segment and ran a regression to identify correlations between features. This exercise helped it determine that the best way to influence purchase is to either a) emphasize the validity of the manufacturer reputation, or b) emphasize the sophistication of the technology and how it automates driver responses and enhances daily driving.

(Directions listed on the next page)

Phase 1: Demand Assessment – Activity 2: Customer Analysis

Step	Lead Customer Identification	Customer Needs Analysis	Customer Needs Prioritization

STEP TWO: CUSTOMER NEEDS ANALYSIS (CONTINUED)

Tool #2: Product Features Association Matrix (Continued)

Directions

1. List five key purchase influencers for your highest-value segment (Market Research may be able to help you identify the influencers).
2. Write these influencers along the x- and y- axis on the grid template (the objective is to look for correlations between these influencers).
3. Collect data on each of the selected drivers. Data should be based off surveys conducted with a statistically significant number of customers (32 or more). In the example shown on the previous page, customers were asked, "Which of the following attributes influences your decision to purchase a safety feature?" Responders then ranked each of the five categories in the table on a scale of 1 (not influential) to 5 (highly influential).
4. Regress all data responses for one category against all data responses for each of the other four categories (in the example on the previous page, a total of 20 regressions were run).
5. List correlations (R^2) between influencers in the grid (e.g., how strongly "manufacturer reputation" explains "proven & tested technology") to predict the most effective ways to influence customers' purchase decisions.

Reminder! Correlation does not imply causality. A correlation between two items does not necessarily mean that the two are linked. Consider the underlying reasons you're seeing the correlation; those reasons will help you assess the credibility of the correlation.

Phase 1: Demand Assessment – Activity 2: Customer Analysis

Step	Lead Customer Identification	Customer Needs Analysis	Customer Needs Prioritization

STEP THREE: CUSTOMER NEEDS PRIORITIZATION

Tool #1: Voice of the Customer Prioritization Guidelines

Overview

What is it?
A list of considerations to guide your allocation of development resources toward those projects with the greatest potential to drive customer value.

Why should you use it?
You need to avoid a product development disconnect with customer priorities. If you can not only gain insights into what customers want, but also prioritize those wants correctly, you can allocate resources toward products that align best with customers' top value-drivers.

Voice of the Customer Prioritization Guidelines

Guideline #1: Interview your leading customers to identify their top value-drivers.
Periodic, face-to-face interviews will help keep your company focused only those product concepts that would provide the highest value to important customers.

Customer Interview Guide Template

Company:
Customer Group/Segment:

1. How do you view [Company's] [product line OR service]? (Note: Open-ended questions will form a small but valuable part of your conversations with clients: unprompted responses can give you insights you might not glean any other way).
2. What is most important to you about our [product/service]? OR: What is most important to you when you complete [activity]?
3. What other factors are of importance to you?
4. Can you rank all factors on a scale of 1 to 10 (10 most important)?
5. How important is it for [Company] to meet those expectations you've just presented? Can you state the importance in quantifiable terms (e.g., a dollar figure)?
6. To summarize, [restate top value-drivers] are most important to you when dealing with [Company] or [performing Activity]. Please tell us which of these are:
   a. Absolutely necessary
   b. Not critical but important
   c. A value-added bonus
7. Some customers have asked for [insert product/idea-specific detail/feature here]. For you personally, this is:
   a. Must have
   b. Nice to have
   c. Something I might use
   d. Something I'd never use

Identify all factors of importance to the customer.

Ask customers to make trade-offs.

Ask customers questions with specific, quantifiable responses.

Page 1 of 2

(Continued on the following page)

Phase 1: Demand Assessment – Activity 2: Customer Analysis

Step	Lead Customer Identification	Customer Needs Analysis	Customer Needs Prioritization

STEP THREE: CUSTOMER NEEDS PRIORITIZATION (CONTINUED)

Tool #1: Voice of the Customer Prioritization Guidelines (Continued)

Voice of the Customer Prioritization Guidelines

Guideline #2: Categorize customers' value-drivers according to their responses in the trade-off exercise.
This exercise will help you evaluate key drivers likely to affect which products or services you flag for further investment.

Customer Needs Prioritization Categories

Company:
Customer Group/Segment:

Category	Description	Examples
Must Have	Baseline expectations for performance; failure to get these right will result in customer attrition	Long-lasting battery; awareness of incoming communication; prevention of inadvertent setting changes
One-Dimensional	Any change in performance directly affects customer satisfaction (either positively or negatively)	Billing accuracy; customer service quality; warranty protection
Delighter	Important but not critical: absence does not harm satisfaction levels, but its presence may increase satisfaction levels	Web access through phone; touch-screen functionality; MP3 compatibility

Consider how you might categorize your potential product against these factors.

Responses to your trade-off questions will fall into one of these three categories.

Guideline #3: Cross-reference your company's performance against customers' top value-drivers.
By gaining a clear understanding of customer priorities, you can identify not only the most leveraged areas to which to dedicate resources, but also the appropriate performance targets necessary to delight customers.

Must-Have Value-Drivers Analysis Template (Sample)

Prioritized Must-Have Value-Drivers	Long-lasting battery	Awareness of incoming communication	Prevention of inadvertent setting changes
Customer Requirements	"I can use my phone continuously for eight hours without charging."	"I always know when I'm getting a call."	"My phone never does anything I don't want it to do."
Customer Expectations	+/- 2 hours in customer-expected usage time	Don't miss more than 3 calls per day	Settings stay the same unless altered by user; lock panel is easy to use
[Company's] Ability to Meet Requirements	Current battery lasts an average of four hours with continuous usage	Volume, ring, and vibrate options are featured on current model	Screen lock function is featured on current model
[Company's] Ability to Meet Expectations	Poor: Average falls outside of margin of error	Good: we control what we can control	Medium: Lock panel is hard to locate/activate

Prioritize and analyze customers' "must-have" value drivers.

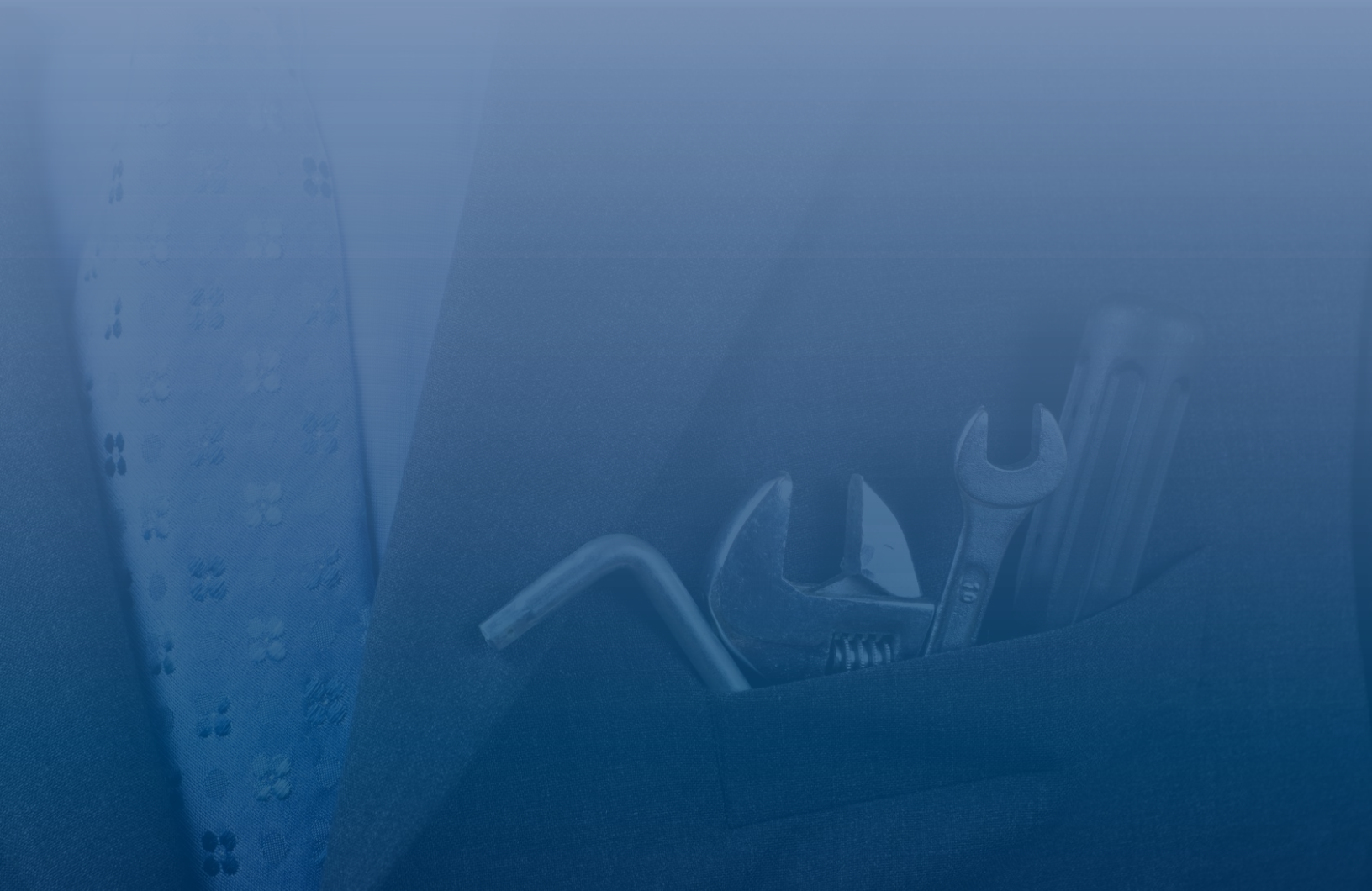
High-priority unmet need warrants further NPD investment.

Page 2 of 2

PHASE 2: FEASIBILITY ASSESSMENT

Growth Process Toolkit

New Product Development



PHASE 2: FEASIBILITY ASSESSMENT

Where Are We Now?

Completion of the exercises featured in Phase 1 has enabled you to:

- Establish a shared vision among the executive team for your new product development efforts
- Determine the extent to which your industry can support a new product introduction
- Assess the strength, size, and scope of your top competitors
- Identify opportunities to better serve high-value customers

At this point, you should have a well-articulated vision and a strong sense for actual market demand for your product concept.

What Do I Do Next?
Assuming your product concept has survived your industry and customer research filters, your next step is to determine to what extent your company is capable of producing the product and supporting its launch. Phase 2 will aid your evaluation of company capabilities, product ROI projections, and required talent levels. By identifying barriers to success, you can prepare for the most eventualities and make an informed go/no-go decision on your product concept.

Outlined below are the activities and steps you will complete in Phase 2. The pages that follow will feature the resources you need to complete each one of these steps.

FEASIBILITY ASSESSMENT: KEY STEPS AND TOOLS

ACTIVITY 1: CAPABILITY ANALYSIS		
Step	**Purpose**	**Sample Tools**
Internal Resource Audit	Determine a product concept's fit with company resources	New Product Concept Opportunity/Fit Matrix
External Resource Audit	Assess potential to overcome capability gaps with third-party involvement	Partnership Selection Guidelines
ACTIVITY 2: FINANCIAL ANALYSIS		
Development Efficiency Assessment	Manage costs associated with product concept's development	Development Cost Consideration Checklist
Profitability Assessment	Estimate margins on new product concept	ROI Calculation Template
Business Case Development	Build an unbiased case for continuing further development (if applicable)	Business Case Template
ACTIVITY 3: ORGANIZATIONAL ANALYSIS		
Step	**Purpose**	**Sample Tools**
Human Capital Analysis	Diagnose any organizational process inefficiencies or competency gaps that could jeopardize your NPD efforts	Organizational Readiness Report Card
Performance Analysis	Create measurable standards for NPD activities	Performance Dashboard Template

Phase 2: Feasibility Assessment – Activity 1: Capability Analysis

Step	Internal Resource Audit	External Resource Audit

STEP ONE: INTERNAL RESOURCE AUDIT

Tool #1: New Product Concept Opportunity/Fit Matrix

Overview

What is it?
A framework for determining whether a new product **concept** is a good "fit" with your company's **resources** (this format may be familiar to you: we applied a similar one to a customer segmentation exercise).

Why should you use it?
You need to assess the match between company capabilities and the resources required to develop a new product. Such a perspective will help you avoid wasting money on poor-fit concepts that cost more to develop than they are worth to the organization. Additionally, this exercise may help you identify any gaps that could be overcome through strategic partnerships.

NEW PRODUCT CONCEPT OPPORTUNITY/FIT MATRIX

COMPANY FIT*		Low	High
	High	**Low Priority** No degree of capability fit can compensate for the unattractiveness of a potential product's market.	**Double Down** Good-fit, high-opportunity products should be the core of your NPD strategy. Invest in any opportunities that fall into this "sweet spot."
	Low	**Avoid** Any action taken here will likely not contribute to your NPD revenue or growth goals.	**Partner** Serving this segment would require an expansion of capabilities: new product development or M&A might help you improve the "fit" between this high-value segment and your product or service offerings (see Partnership Selection Guidelines).

PRODUCT OPPORTUNITY*

***A Note on Opportunity and Fit**
Frost & Sullivan defines "opportunity" as a product concept's attractiveness (i.e., growth potential) and "fit" as alignment with your company's current capabilities.

(Directions listed on the following page)

Phase 2: Feasibility Assessment – Activity 1: Capability Analysis

Step	Internal Resource Audit	External Resource Audit

STEP ONE: INTERNAL RESOURCE AUDIT (CONTINUED)

Tool #1: Product Opportunity/Fit Matrix (Continued)

Directions

1. Plot each potential product you are considering according to responses to the questions listed below.

2. Rank each response those questions based on a High, Medium, Low scale. Take the average for each category and plot on the grid accordingly.

Questions

A. Product Opportunity

1. How highly defined is the market need for [product]?

2. To what extent does this product meet the needs of our most profitable customer groups?

3. To what degree are technology advances in this market (see Technological Analysis Guidelines) creating a long-term market need for [product]?

4. How likely is it that the market can support a new product introduction (considering size of regional and/or global market and projected growth rate)?

5. To what degree is this product similar to one already offered by competitors?

B. Company Fit

1. To what degree does this product align with our company's long-term growth strategy?

2. To what extent do projected development costs for [product] align with our company's NPD budget?

3. To what degree does our company's infrastructure align with the stated market/customer need?

4. To what degree do we control the technology/IP required to develop and launch [product]?

5. How feasible would it be for us to develop this product without investing in significant or costly adjustments to our current operating model?

Answer the following two questions only if your company is developing a tangible product rather than a new service:

6. To what degree does our distribution capability align with how this product should be taken to market?

7. To what extent do our current suppliers provide materials required to manufacture [product]?

8. To what degree is the profitability of the new product subject to commodity pricing pressures or restrictions?

Phase 2: Feasibility Assessment – Activity 1: Capability Analysis

Step	Internal Resource Audit	External Resource Audit

STEP TWO: EXTERNAL RESOURCE AUDIT

Tool #1: Partnership Selection Process

Overview

What is it?
A set of criteria to guide your selection of third parties best-equipped to support your NPD efforts. It will help ensure the best possible fit between your company and its partners.

Why should you use it?
As noted in the New Product Concept Opportunity/Fit Matrix, you may find that your company is not currently capable of developing and launching a highly attractive product concept. In that instance, you should consider partnering with a third party who can fill your organization's competency gaps. Such partnerships can increase your growth opportunities without requiring significant internal investment on your part.

Partnership Selection Process

Product: Microencapsulation (Sample)

Step	Detail
List traits of the ideal partner.	Ideal traits: 1. Open Innovator – Willing to collaborate on new product development 2. Eager Partner – Flexible in all interactions 3. Market Share Leader – The dominant player in our targeted industry 4. Product Value Control – Will allow our company to manufacture product
Identify and prioritize potential candidates.	Prioritize according to: 1. Focus in our chosen market 2. Willingness to partner 3. Actively seeking solutions for technology gap 4. No conflicts with other [Company] partners
Initiate contact with potential partners.	Meeting agenda – need to discuss: 1. Agreement on boundaries/conditions 2. Range of potential product models 3. Legal implications
Negotiate next steps.	Need to set: 1. Co-development funding agreement 2. Business model

Since ineligible partners will filter out at each phase in your selection process, only those that are a strong fit with your company's requirements will make it to Step 4.

Reminder! To learn more about how you can screen for best-fit development partnership opportunities, please reference Growth Team Membership's best-practice profile of Appleton Papers' Mature Product Reinvigoration Process.

Phase 2: Feasibility Assessment – Activity 2: Financial Analysis

Step	Development Efficiency Assessment	Profitability Assessment	Business Case Development

STEP ONE: DEVELOPMENT EFFICIENCY ASSESSMENT

Tool #1: Development Cost Consideration Checklist

Overview

What is it?
A list of questions to help you assess the efficiency of your product development efforts and identify opportunities to lower development costs.

Why should you use it?
It isn't enough to consider whether R&D is capable of producing the product under consideration. The more pertinent question is: how *cost-effectively* can R&D prototype the product? These questions will help you identify opportunities to lower development and ultimately production costs – and as a result, improve the potential profitability of the product under consideration.

Development Cost Consideration Checklist
Product: _____

- ☐ What would our production numbers be in the first year (i.e., can we meet demand)?
  - o If you can meet demand: Can we keep pace with projected demand increases over the coming years?
  - o If you cannot meet demand: What might the implications be for this product's development if we are not equipped to meet demand?
    - ▪ What steps can we take to bridge the gap between capacity and demand? What sort of investment would such steps require (and is it justifiable)?
- ☐ What will raw materials cost?
  - o Will prices remain stable or increase over the coming years?
- ☐ What will suppliers charge us?
  - o Will prices remain stable or increase over the coming years?
- ☐ Can we buy materials at a lower cost than we currently do?
- ☐ Do we have a development cost-reduction target for our R&D group? Should we, if we don't?
- ☐ Can we pursue virtual testing for this product as a cost-control measure?
- ☐ Is there any part of this product that we could/should develop offshore or with an outsourced company?
- ☐ Do we meet our current quality management standards for manufacturing? If not, what steps can R&D take to improve quality?
- ☐ How does production efficiency compare to our competitors? How can R&D help improve manufacturing efficiency (e.g., streamlining design)?

Phase 2: Feasibility Assessment – Activity 2: Financial Analysis

Step	Development Efficiency Assessment	Profitability Assessment	Business Case Development

STEP TWO: PROFITABILITY ASSESSMENT

Tool #1: ROI Calculation Template

Overview

What is it?
Two models that can help you predict the ROI of a new product or service, respectively.

Why should you use it?
By projecting a concept's potential return, you can make more informed decisions about whether an idea warrants further funding – and if it does, your ROI calculation will be a key component of the business case you will eventually write.

**Note: If you are developing a product, please reference the tool featured below. If you are developing a service, please turn to page 34.*

Option 1: Phase-Based ROI Calculation on a Potential *Product* (Sample Data Inserted)[17]

This option organizes ROI calculation by the life cycle of a new product, from concept to phase-out. It takes into consideration differences in revenues and costs based on the phase/stage in the product life cycle.

Discount Rate	7.5%

Click here for more information on how to calculate the discount rate.

Product Phases	Innovation	Research & Development		Replacement		Competitive Advantage		Saturated Market		Phase Out	
Year	0	1	2	3	4	5	6	7	8	9	10
Revenues	$ -	$ -	$ -	$ 300,000	$ 400,000	$ 700,000	$ 800,000	$ 600,000	$ 600,000	$ 400,000	$ 100,000
Cost of Goods Sold	$ -	$ -	$ -	$ 150,000	$ 200,000	$ 350,000	$ 400,000	$ 400,000	$ 450,000	$ 275,000	$ 65,000
Selling, General Administrative	$ -	$ -	$ -	$ 20,000	$ 40,000	$ 55,000	$ 65,000	$ 40,000	$ 40,000	$ 20,000	$ 5,000
Net Profit	$ -	$ -	$ -	$ 130,000	$ 160,000	$ 295,000	$ 335,000	$ 160,000	$ 110,000	$ 105,000	$ 30,000
Investment Cost	$ 60,000	$ 250,000	$ 600,000	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
NPV Net Profit	$ -	$ -	$ -	$ 104,645	$ 119,808	$ 205,485	$ 217,067	$ 96,441	$ 61,677	$ 54,766	$ 14,556
NPV Total Investment Cost	$ 60,000	$ 250,000	$ 600,000	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -

ROI	96.1%

Projected Average Net Profit Per Year	$ 30,000
Time to Recover Investment (Years)	30.3

Time to recover investment depends on average net profit per year.

The time spans listed for each product phase (and total number of years) are for demonstrative purposes only; they will vary depending on your organization's circumstances.

A Note on Phases

Frost & Sullivan applies the following definitions to each phase listed in the above model:

- **Innovation** – Development of an idea; any investment in the creative process
- **Research & Development** – Creation of the product; any investment in prototyping
- **Replacement** – Introduction of new product when it replaces an existing product (i.e., product upgrade)
- **Competitive Advantage** – Product is in market with no direct competitors
- **Saturated Market** – Product competes with competition on price; margins begin to decrease
- **Phase-Out** – Declining sales and margin obsolescence; product begins market exit

(Continued on the following page)

Phase 2: Feasibility Assessment – Activity 2: Financial Analysis

Step	Development Efficiency Assessment	Profitability Assessment	Business Case Development

STEP TWO: PROFITABILITY ASSESSMENT (CONTINUED)

Tool #1: ROI Calculation Template (Continued)[18]

Option 2: Customer Lifetime Value Calculation for a Potential *Service* (Sample Data Inserted)

Click here for more information on how to calculate the discount rate.

CLV is typically calculated over a three-year period.

Discount Rate	7.5%

Year	1	2	3
Number of Customers	500000	400000	340000
Retention Rate	N/A	80%	85%
New Customer Rate	N/A	1.05	1.10
Total Customers	500000	420000	374000
Average Orders Per Year	1.6	1.8	1.9
Average Revenue Per Order	$ 100	$ 110	$ 120
Total Annual Revenues	$ 80,000,000	$83,160,000	$85,272,000
Annual COGS as a % of Revenue	65%	63%	60%
Total COGS	$ 52,000,000	$52,390,800	$51,163,200
Acquisition Cost	$ 10,000,000	$ 500,000	$ 500,000
Marketing Cost	$ 50,000	$ 70,000	$ 80,000
Total Annual Costs	$ 62,050,000	$52,960,800	$51,743,200
Net Profit	$ 17,950,000	$30,199,200	$33,528,800
Total NPV Net Profit	$ 16,697,674	$26,132,353	$26,989,362
Profit Per Customer	$ 33.40	$ 65.33	$ 79.38

Customer Lifetime Value	$ 178.11

Terms and Definitions

Listed below are definitions for some of the less self-explanatory terms.

New Customer Rate	The rate at which new customers are added; this rate is applied to total number of customers after retention rate has been taken into consideration	**Total Customers**	The total number of customers accounting for new and lost customers
Total Annual Revenues	The total number of customers multiplied by the average orders per year and average revenue per order	**Annual COGS as a % of Revenue**	The percentage of Total Annual Revenues that constitutes Cost of Goods Sold
Net Profit	Total Annual Revenues minus Total Annual Costs	**Acquisition Cost**	The cost of acquiring new customers
Profit Per Customer	The percentage of Total Annual Revenues that constitutes Cost of Goods Sold	**Total Annual Costs**	The total combined annual costs to include COGS, acquisition and marketing costs
Total NPV Net Profit	Total net profit discounted to present value	**Customer Lifetime Value**	Sum of the profit per customer in all years

Phase 2: Feasibility Assessment – Activity 2: Financial Analysis

Step	Development Efficiency Assessment	Profitability Assessment	Business Case Development

STEP THREE: BUSINESS CASE DEVELOPMENT

Tool #1: Business Case Template

Overview

What is it?
An outline that you can apply to each business case you write to advocate for further development funding.

Why should you use it?
It will help you write a business case that is succinct and targeted to your audience's primary points of interest. By applying this outline to each business case you write, you can also enable an easier comparison of the commercial viability of each product in your company's development pipeline.

Business Case For: [Product]

Core Message/Key Takeaway:

Highlight projected ROI, development timeline and costs, and role within your company's larger growth strategy.

A. Strategic Overview

What is the value of [Product] to our business? What must we do in the near-term to reap long-term benefits?

1. How does [Product] open new avenues for [Company's] growth?
2. How does [Product] differentiate [Company's] position?
3. How does [Product] support [Company's] long-term growth strategy?
4. What new sales growth opportunities will this [Product] unlock?
5. What is our potential for sustained premium pricing due to differentiation?
6. How does [Product] help us better target key segments?
7. How much funding will [Product] require?
8. What is our projected profitability for [Product]?
9. What is the projected timeline to launch?
10. What, if any, processes must we change if we are to develop and launch this product successfully?

Ensure executive commitment/buy-in by contextualizing the product within the larger corporate strategy.

Prepare the executive team in advance for any changes in processes required for successful product launch.

Page 1 of 2

(Continued on the following page)

Phase 2: Feasibility Assessment – Activity 2: Financial Analysis

Step	Development Efficiency Assessment	Profitability Assessment	Business Case Development

STEP THREE: BUSINESS CASE DEVELOPMENT (CONTINUED)

Tool #1: Business Case Template (Continued)

Business Case For: [Product]

Core Message/Key Takeaway:

B. Tactical Overview

Before we can commit to investing in [Product], we need to understand the following:

1. A basic technical description of [Product]
   a. [Product]'s features
   b. Benefits to customers

Keep it simple: do not overwhelm your readers with too much information that may ultimately obscure your point.

2. [Product]'s assembly information (for planning and production purposes)
3. Product]'s quality information (relevant for product categories with a quality spectrum: e.g., automobiles)
4. Projected list price (and how you arrived at this number)
5. Projected uptake rate (and how you arrived at this number)
6. Projected increase in sales (and how you arrived at this number)
7. Internal development costs
8. Launching costs
9. Competitive advantage
10. Materials costs (if relevant)
11. Supplier development costs (if relevant)
12. Warranty costs (if relevant)
13. Manufacturing costs (if relevant)

If your new product is an intangible service, some of these questions may not be relevant for your business case.

Reminder! Successful business cases are (1) simple and clear, and (2) speak to the interests of the executive team. You are more likely to gain traction with senior leadership if you cast the rationale for product investment in terms of tangible, near-term gains that align with your peers' incentives and goals.

Phase 2: Feasibility Assessment – Activity 3: Organizational Analysis

Step	Human Capital Analysis	Performance Analysis

STEP ONE: HUMAN CAPITAL ANALYSIS

Tool #1: Organizational Readiness Report Card[19]

Overview

What is it?
A diagnostic tool to help you grade your company's performance against a best-in-class standard for an organization well-equipped to support innovation and new product development.

Why should you use it?
This exercise will make clear any organizational performance gaps or weaknesses that could hinder your new product development efforts, which you can then proactively address. You can also use this report card as a presentation tool, since it draws attention to strengths and weaknesses in an easy-to-understand format.

You may want to tailor these standards to better reflect your company's goals.

Organizational Readiness Report Card (Sample)

Criteria	Best-in-Class Standard	[Company] Current State	Implications for NPD	Grade
Organization Culture	• Entrepreneurial, participatory, continuous improvement systems • High employee involvement, Idea suggestion systems and rewards • Customer orientation	No shared accountability for new product development; no employee incentives for providing suggestions	We risk missing out on promising ideas by not encouraging our employees to get involved in innovation and new product creation.	B
Process and Organization Structure	• Disciplined research on product demand and market opportunity • Efficient movement from idea to design to market • Clear ownership for each phase of the development process	We move product concepts through our development pipeline efficiently; product/project ownership is clearly established (mainly within R&D)	Our stage-gate process is effective for moving ideas through development, but if we could improve the input of ideas (see note on culture) process efficiency might run even more smoothly.	A
Budgeting and Cost Control	• Stable R&D budgets set with long-term goals in mind • New product development funded by "cash cow" divisions or products • Strict cost controlling measures employed universally	We determine budget as a percentage of previous year's sales; allocation is often political, so cost controls vary depending on product champion	Sometimes unpromising ideas stay in development longer than they should, thereby taking funding away from more promising projects.	C
Capacities and Locations	• "Hub-and-spoke" organization in R&D • Centralized R&D office oversees regional R&D teams and partners	Partnership quality is highly variable; challenges are tied to lack of organization-wide commitment to NPD	Visibility occasionally suffers and good ideas can get lost.	C

Reminder! To reach the most accurate description of your company's current state, you may want to conduct interviews with key stakeholders across Marketing, R&D, Sales, Operations and other functions. Their varying perceptions and responses can be a compelling place to begin a conversation on organizational alignment.

Phase 2: Feasibility Assessment – Activity 3: Organizational Analysis

Step	Human Capital Analysis	Performance Analysis

STEP ONE: HUMAN CAPITAL ANALYSIS (CONTINUED)

Tool #2: Employee Talent Diagnostic[20,21]

Overview

What is it?
A list of questions to help you determine the degree to which your human capital supports innovation and new product development. It will help you identify any gaps within your organization that could adversely affect the NPD process as a whole or the development and launch of one product in particular.

Why should you use it?
Forty percent of executives in a recent survey said they didn't have enough of the right kinds of talent for the innovation projects they want to pursue. This tool will help you evaluate your current talent pool and diagnose specific shortfalls, which in turn may direct your future hiring.

Employee Talent Diagnostic

Spirit of Innovation/Creativity

1. Does our organizational culture allow for mistakes, in the spirit of trial-and-error creativity?
   a. Do our employees agree with this assessment (i.e., how effectively or sincerely do we encourage them to learn from failure)?
2. Do we assess for creative thinking in our hiring process – and if so, is our current method effective? Why/why not?
3. Do our employees believe that innovation is a core part of their responsibilities?
4. Do we typically see innovation suggestions come from many areas of the organization?

Project Management Capability

1. How frequently do projects run over schedule and/or budget?
   a. What is the average variance between estimated and actual development schedule and budget?
2. What is the root cause of project schedule and budget overruns?
3. Do we actively cultivate/reward project management skills within our organization?
4. Do we actively recruit and hire individuals with demonstrated project management skills?

Customer Focus

1. Do our employees consistently listen to the "right" customers?
2. Do our employees reference customer anecdotes or data?
3. Do our employees know how to create a unified view of target customer segments?
4. Do our employees focus innovation on customer priorities and value-drivers?
   a. Do our employees incorporate Voice of the Customer processes into their product evaluations?
5. Do our employees consistently speak in terms of customers' desired outcomes, as opposed to product features?

(Continued on the following page)

Phase 2: Feasibility Assessment – Activity 3: Organizational Analysis

Step	Human Capital Analysis	Performance Analysis

STEP ONE: HUMAN CAPITAL ANALYSIS (CONTINUED)

Tool #2: Employee Talent Diagnostic (Continued)

Employee Talent Diagnostic (Continued)

Idea Collection

1. Are employees motivated to submit product ideas to the innovation pipeline? Do they know how?
2. Do we give employee-generated innovation concepts a fair and unbiased hearing?
3. Do we provide employees with the right incentives to encourage their participation in innovation and new product development processes?
4. Do our employees feel a strong sense of ownership in our "innovation culture"?
5. Do we have an effective method for collecting the good ideas that reside throughout the workforce (e.g., social networking sites, innovation-focused games or competitions)?

Collaboration

1. How well do our employees communicate across departments, functions, and business units?
2. To what degree do our employees across functions, business units align around shared objectives?
3. To what degree do our employees across functions or business units align around execution of shared strategies?
4. How well do our employees remain engaged, focused, and productive over the course of a shared project?
5. Do we facilitate consistent information- and knowledge-sharing across all silos?
6. What should we be doing that we are not currently doing?

Conclusions

1. In which of the above areas does our organization have a talent shortfall?
   a. In which area is the shortfall most pronounced?
   b. What is the root cause of these shortfalls?
2. In which of the above areas is our organization most adept?
   a. Why are these areas our most notable strengths?
3. Which shortfall requires urgent attention?
4. What steps should we take to resolve those shortfalls (e.g., internal training, reallocation of top-performers, new hiring)?
5. What will it cost to resolve these shortfalls, and what can/should we expect the ROI to be?

Reminder! You can apply this guide to the evaluation of your talent pool as a whole, or to the specific evaluation of one department or individual. You may also want to use this guide in conjunction with the job description template featured on the next page.

Phase 2: Feasibility Assessment – Activity 3: Organizational Analysis

Step	Human Capital Analysis	Performance Analysis

STEP ONE: HUMAN CAPITAL ANALYSIS (CONTINUED)

Tool #3: Job Description Template[22,23,24]

Overview

What is it?
A list of competencies, responsibilities, and employee qualities that you might want to apply to any job description you issue for your new product development or innovation group.

Why should you use it?
It will help ensure that any new hires you make to support new product development will have a profile that fits with the culture you are trying to cultivate. This template will also save you time, since it lists a variety of options under each category that you can easily tailor to your own job descriptions.

[Title], New Product Development/Innovation (Page 1 of 2)

Overview

1. Insert short paragraph describing your company

2. Begin transition: "We are seeking a [Title], whose overall responsibilities will include:" (Use any that apply)

- Identifying new product ideas
- Monitoring customer and competitor trends
- Developing and testing product concepts
- Developing business plans for new product initiatives
- Serving as internal product champion
- Creating and executing the go-to-market strategy
- Serving as project manager during the development phase through successful product launch

Primary Responsibilities

Use any that apply:

- Support new product development strategies to grow the business based on an understanding of the customer's evolving needs and applications
- Make recommendations based on data analysis and research
- Work with other functional areas (e.g. Business Analysis, Marketing, Operations, Customer Service, Sales)
- Redevelop and reposition existing products
- Work closely with CI/Market Research team to review and use existing customer insights to aid in innovation
- Develop detailed product descriptions that provide clear and thorough requirements for the key support functions
- Participate in the development of roadmaps, marketing and product positioning strategies linked to revenue and other financial and operating targets and objectives
- Oversee specific projects as they relate to overall new product development, (e.g. roadmap development)
- Create, evaluate, and analyze proposals for new business ideas, new lines of business and products
- Develop analytical tools to filter and prioritize ideas
- Develop and direct research aimed at improving current products and generating ideas for new products and services
- Conduct post-launch assessment of newly implemented initiatives
- Manage the product development process from end to end, including idea generation, concept development and approval, and launch execution
- Identify and develop new products that profitably serve our target market
- Work closely with CI/Market Research team to review and use existing customer insights to aid in innovation
- Gather market intelligence on an ongoing basis
- Present product ideas to senior management and seek approval for execution and launch
- Research, evaluate, and filter assigned ideas from senior management
- Gather client feedback, comments and suggestions on existing products and services through sales, customer service, end user customers, and market focus groups
- Champion new ideas and ensure appropriate size and scope of proposed action plans
- Manage the new product development budget and prepare funding proposals to support R&D efforts
- Challenge ideas lacking substance
- Support new product development efforts for existing and proposed products and services through data analysis (financial and non-financial data), market research, and competitive analyses

(Continued on the following page)

Phase 2: Feasibility Assessment – Activity 3: Organizational Analysis

Step	Human Capital Analysis	Performance Analysis

STEP ONE: HUMAN CAPITAL ANALYSIS (CONTINUED)

Tool #3: Job Description Template (Continued)

[Title], New Product Development/Innovation (Page 2 of 2)

Core Competencies

Use any that apply:

- Excellent project management and organizational skills
- Ability to meet tight deadlines
- Ability to conceptualize research and evaluate new ideas from a market and financial standpoint
- Creative thinker
- Analytical thinker
- Strong people management skills
- Organizational & administrative skills
- Ability to multi-task
- High degree of tolerance for uncertainty
- Strategic thinker
- Ability to work well with people at all levels of the organization
- Excellent communication and presentation skills

Qualifications

Use any that apply:

- Bachelor's degree required
- MBA preferred
- Advanced-level Excel and Power Point skills
- Strong oral and written communication skills
- Prior product management or product development experience
- Prior industry and/or strategy experience
- Prior experience generating and testing hypotheses

Base Pay

[Insert salary requirements]

Contact Information

Send resume and cover letter to:

Name:
Phone:
Email:

Phase 2: Feasibility Assessment – Activity 3: Organizational Analysis

Step	Human Capital Analysis	Performance Analysis

STEP TWO: PERFORMANCE ANALYSIS

Tool #1: Performance Dashboard Template[25]

Overview

What is it?
A performance dashboard template to help you measure your organization's overall performance in NPD. It will help you track your overall product portfolio and communicate those results to the executive team.

Why should you use it?
It will simplify the executive team's evaluation of the new product development pipeline. While you may have more specific dashboards for individual products, this template will help you provide a holistic picture of your new product development efforts. By standardizing metrics across your organization, you can also make apples-to-apples comparisons of NPD productivity across all BUs within your organization. Completion of the Goal Statement may aid you in this exercise.

A. Product Development Portfolio: Key Performance Metrics (Sample)

Metric	Target	Performance	Trend
Revenue growth due to new products/services	15% annually	Up 10% in 2008	Below projection
Customer satisfaction with new products/services *(i.e., variance between expectation and performance)*	No variance	Minimal variance	Continuing positive
Number of ideas/concepts in the pipeline	25 ideas (2 viable)	15 ideas (4 viable)	Total down; # viable up
R&D spending as a percentage of sales	20%	20%	Continuing steady
Percentage of sales from new products/services over the last year	15%	20%	Increasing
Number of new products or services launched in the past year	4	5	Increasing
ROI on new products/services	10%	10%	Continuing steady
Number of R&D projects currently progressing through the state-gate process	5	5	Continuing steady
Number of FTEs dedicated to innovation	35	30	Increasing
Profit growth due to new products/services	10%	5%	Increasing
Projected value of entire new product/service portfolio	USD $15M	USD $10M	Increasing

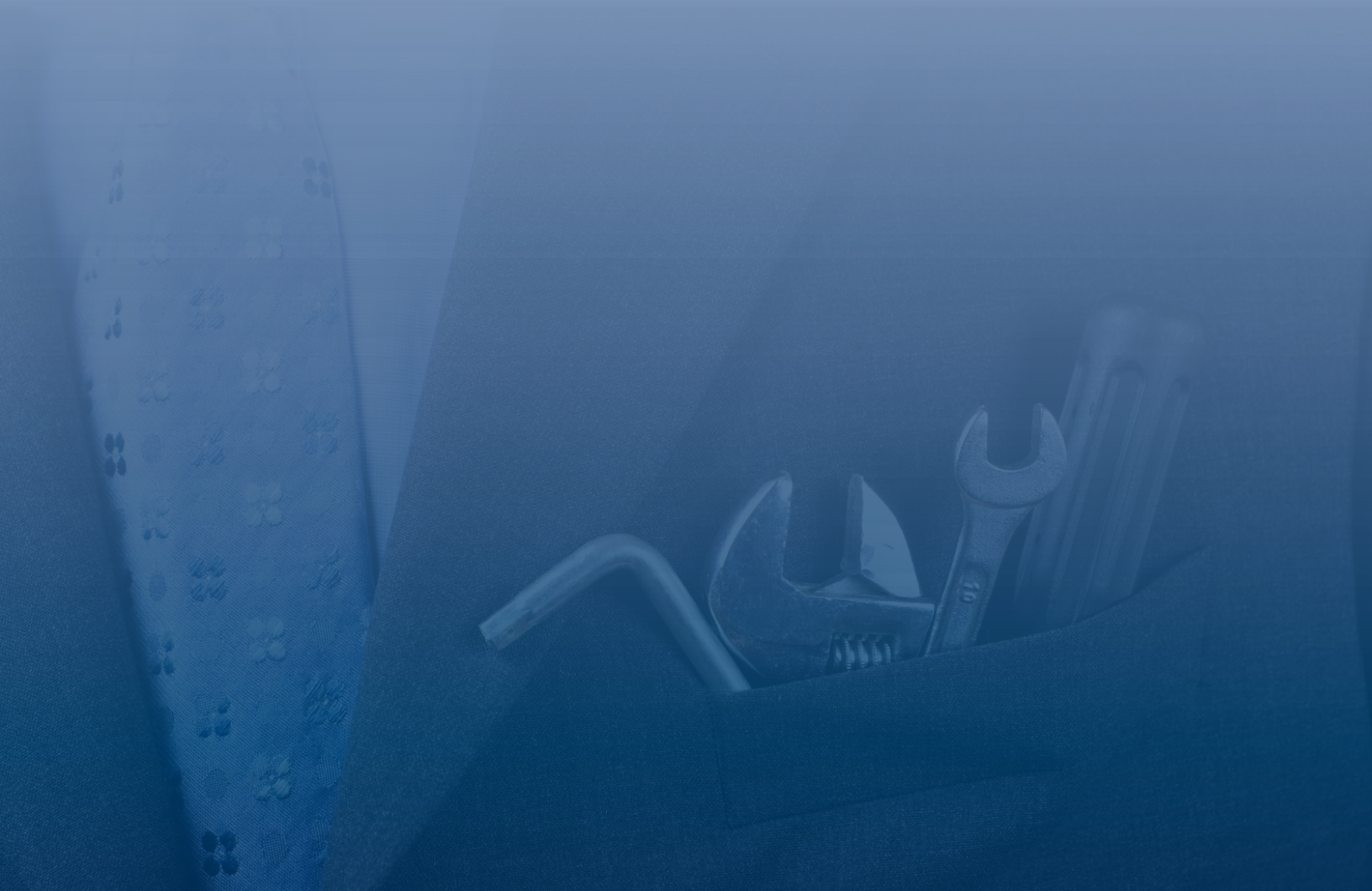
B. Product-Level Performance Metrics (calculated for each product in the portfolio)

Metric	Target	Performance	Trend
Total time from funding approval to launch	7 months	6 months	Above average
Total funding required for development	USD $2M - $3M	USD $3M	Consistent with budget target
Revenue growth/total sales year-over-year	18% growth in first year	20% growth in first year	Increasing
Customer satisfaction with developed product *(i.e., variance between expectation and performance)*	No variance	Minimal variance	Continuing positive
Average sales margin	7%	8%	Above average

END NOTES

Growth Process Toolkit

New Product Development



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