



A Practical Guide to

A Successful New Product Launch



GROWTH
TECHNICAL MARKETING

Table of Contents

INTRODUCTION	6
THE IMPORTANCE OF PROCESS	6
MARKET REQUIREMENT DOCUMENT.....	8
Executive Summary	9
Product Definition	9
Product Specifications.....	10
Accessories and Options	10
Manufacturing Requirements.....	11
Commercial Requirements.....	11
Product Reliability Requirements.....	11
Product Roadmap	12
Key Markets and Applications.....	12
Problem.....	12
Solution	12
Market Size.....	12
Market Research	12
Key Target Accounts.....	13
Key Accounts.....	13
Voice of Customer (VOC).....	14
Possible Beta-Site Evaluators.....	14
Competitive Landscape.....	15
Competitive Scorecards.....	15
SWOT Analysis.....	15
• Product (what are we selling?)	16

- Process (how are we selling it?)16
- Customer (to whom are we selling it?)16
- Distribution (how does it reach them?).....16
- Finance (what are the prices, costs and investments?)16
- Administration (and how do we manage all this?).....16
- Anticipated Competitive Response 16
- Business Plan 16
- Value Proposition17
- Key Assumptions17
- Revenue Forecast.....17
- Market Size.....17
- Expected Market Penetration18
- Cannibalization18
- Development Cost.....19
- Opportunity Cost19
- Business Risk and Mitigation19
- Financial Analysis20
- Timing20
- ENGINEERING RESPONSE DOCUMENT.....21**
- RECONCILIATION/REVIEW/SCHEDULE21**
- PERFORMANCE EVALUATION.....22**
- COMMUNICATION.....25**
- PRODUCT RELIABILITY TESTING.....25**
- TRANSITION TO MANUFACTURING25**
- TRAINING27**
- Sales Training27
- Service Training27
- Train the Trainers.....27

Distributor Training	28
Customer Training.....	28
GO-TO-MARKET STRATEGY	28
Your Story	28
Marketing Strategy	28
Clear Goals.....	28
Metrics.....	29
Communication	29
Brand Strategy	30
Competitive Selling Strategy	30
Competitive Response.....	31
Promotional Strategy	32
Web site	32
Metrics and Analytics.....	32
Paid Promotion.....	33
Organic Promotion	33
Direct Marketing	33
Sales Tools.....	34
Webinars	35
Inquiry Handling	35
Tradeshows.....	35
Service Strategy.....	36
Distribution Strategy	36
Pricing Strategy.....	37
Cost Plus	37
Market-Based Pricing.....	37
Skimming	38
Penetration.....	38

Flexible Pricing.....	38
Legal.....	39
REVENUE.....	40
Time-to-Market.....	40
Crossing the Goal Line.....	41
SUMMARY.....	42
Common Pitfalls.....	42
Best Practices.....	43
ABOUT GROWTH TECHNICAL MARKETING.....	44
Launch with Confidence.....	44
REFERENCES.....	46

INTRODUCTION

Maximizing the effectiveness of a new product introduction is critical to the growth of your brand and your company. Competition is tough, development costs are high, and the success rate of new product introductions is mediocre at best.

You only get one chance to introduce your new product, your message and the passion for your technology. This paper gives an overview of the new product introduction process, a checklist of key things to prepare for and suggested best practices for a winning new product launch. While it specifically covers manufactured products, the underlying marketing principles apply equally to software or service products.

THE IMPORTANCE OF PROCESS

The average length of product development cycles is growing shorter. Most companies recognize time-to-market as one of the most important factors impacting profitability. New product development and introduction require the involvement of cross-functional teams representing every core function within the company. The success of a product launch is increasingly related to communication and the strength of the company's New Product Development process.

In the 2003 Journal of Product Innovation Management, authors Cooper and Kleinschmidt¹ reported results on a study of 135 companies and their New Product Development (NPD) performance. The study involved 10 performance measures of a company's new product program: Success rate, percent of sales, profitability relative to spending, technical success rating, sales impact, profitability impact, success in meeting sales objectives, success in meeting profit objectives, profitability relative to competitors and overall success.

Cooper and Kleinschmidt found, *"In rank order of their impact on performance, the main performance drivers that separate the solid performers from the dogs are: A high-quality new product process; a clear, well-communicated new product strategy for the company; adequate resources for new products; senior management commitment to new products;*

¹ Cooper, Robert G. and Kleinschmidt, Elko J., "Benchmarking the Firm's Critical Success Factors in New Product Development" Journal of Product Innovation Management, Article first published online: 2 OCT 2003, DOI: 10.1111/1540-5885.1250374

an entrepreneurial climate for product innovation; senior management accountability; strategic focus and synergy (i.e., new products close to the firm's existing markets and leveraging existing technologies); high-quality development teams; and cross-functional teams.”



Figure 1 - Key steps in a successful new product development process and marketing launch

A successful new product development and launch requires effort from virtually every department in the company. Teamwork among Sales, Marketing, Engineering, Quality, Manufacturing and Service are key to a successful new product introduction. In a 2003 study of 200 new product launches, Di Benedetto² determined that, “Successful launches were found to be related to perceived superior skills in marketing research, sales force,

² Di Benedetto, C. Anthony, “Identifying the Key Success Factors in New Product Launch,” Journal of Product Innovation Management, Article first published online: 30 SEP 2003, DOI: 10.1111/1540-5885.1660530

distribution, promotion, R&D and engineering. Having cross-functional teams making key marketing and manufacturing decisions, and getting logistics involved early in planning, were strategic activities that were strongly related to successful launches.

Several tactical activities were related to successful launches: High quality of selling effort, advertising, and technical support; good launch management and good management of support programs; and excellent launch timing relative to customers and competitors. Furthermore, information-gathering activities of all kinds (market testing, customer feedback, advertising testing, etc.) were very important to successful launches.”

While many companies have implemented New Product Development (NPD) processes in one form or another, these processes often can focus heavily on the completion of the new product engineering effort and resources can tail off once this phase is completed. More effective processes maintain the focus of cross-functional teams until the completion of the New Product Development effort, which is generating revenue. The most effective NPD processes organize the entire cross-functional team toward generating revenue, not the completion of engineering design. As examples:

- After the engineering design phase is completed, design engineering is available to support the transition to manufacturing,
- Manufacturing is available to respond to sales' requirement for additional demonstration or pre-production units and
- Design engineering is able to make modifications resulting from reliability testing, etc.

MARKET REQUIREMENT DOCUMENT

The MRD or Market Requirement Document (sometimes referred to as the Market Requirement Definition) precisely expresses the customer's wants and needs for the product or service. This document is prepared by the product marketing department. It includes a business case defining the overall product opportunity, a financial plan and a product definition, including the problems the new product is intended to solve.

The MRD is written to document the opportunity, but without recommending a specific technical solution. The MRD combines the many market and customer requirements into a coherent whole.

Guidelines to keep in mind when creating the MRD can be easily remembered from the S.M.A.R.T. acronym³:

- *Specific* – Product requirements should be specific and detailed.
- *Measurable* – Each requirement should have a metric and be repeatably measured by all stakeholders.
- *Achievable* - The product requirements should be attainable.
- *Realistic* – The project requirements should be realistic with respect to available resources.
- *Time-Bound* – Similarly, the project timeline should be well communicated and reasonable.

Typical information included in a Marketing Requirement Document (MRD) includes:

Executive Summary

The “elevator pitch”, often considered the most important part of a business proposal. It is targeted to senior management and should summarize how the company will profit by undertaking the development this new product. The executive summary should concisely cover opportunity size, cost, timeline, forecast, justification and conclusion. Senior management’s decision to continue reading often depends on the quality and attractiveness of the executive summary.

Product Definition

The product definition describes in detail exactly what the product is, what problem it is intended to solve, how it should perform and how much it should cost. It is a summary of what is required by the market and what is being asked for by customers. In order to shorten the iterative process with engineering (which advises what is actually possible) it is helpful to prioritize product requirements in some way. This can take many forms, but two common ways are:

- Divide features into must-have and nice-to-have or
- Consider a two-stage product development and assign features to generation 1 or generation 2. In this case, generation 2 might come 3-12 months after a successful product launch and demonstrated demand for the product.

³ Doran, George T. "There's a S.M.A.R.T. way to write managements's goals and bjectives."Management Review 70.11 (Nov. 1981).

The product definition section of the MRD should include:

Product Specifications

- *Performance* - This includes all performance specifications (speed, throughput, power, accuracy, etc.).
- *Interface* - How does the customer interface with the product.
- *Ambiental* - Temperature, humidity and/or altitude.
- *Electrical* - Typical power, max power and/or heat generated.
- *Size* - Weight, etc.

Accessories and Options

This is an important and often overlooked component of the MRD. For several decades, Tradeoff Analysis and Conjoint Analysis^{4,5,6} have proved to be a powerful set of techniques for measuring buyer's tradeoff between product features and marginal cost (incremental product price). The idea being that in a competitive market, with several suppliers offering similar products and product features at similar marginal cost per feature, the dominant supplier is often the one who can bundle features and price closest to meeting the customer's requirement.

This is meaningful both in designing the product, and in defining accessories and options to be sold at an additional cost. Product configurability can be a tremendous advantage in price discrimination and profit maximization.

In defining and pricing options, it is especially important to isolate and correctly value unique product differentiators. Whether features are:

- Built in,
- Added as an option,
- Stripped out to justify discounting without looking like a "cheap" product,

⁴ Green and Rau, "*Conjoint Measurement for Quantifying Judgmental Data*", Journal of Market Research, 8:355-63, 1971

⁵ Sid Simmons, Sid and Esser, Mark, "*Developing Business Solutions from Conjoint Analysis*", Conjoint Measurement, 2001, pp 67-96

⁶ Green and Srinivasan, "*Conjoint Analysis in Marketing: New Developments with Implications for Research and Practice*", Journal of Marketing, Vol. 54, No. 4, Oct., 1990

having a clear definition of features, accessories, options, product configurability and pricing is key, both to a good MRD and successful new product. Flexible product configurability late in the manufacturing process (or even field configurability) can have a powerful impact on profitability. When properly used this allows you to get closest to each individual customer's ideal configuration of product features and price.

Manufacturing Requirements

A common reason cited for new product failures is that the product was too difficult to manufacture, or that manufacturing lacks the necessary time, support or resources during the product launch. In the same way that the MRD document defines market expectations for product features and pricing, it also should clearly define expectations for manufacturability to the new product development team. Examples may include:

- Product reliability target
- Lead-time target
- Manufacturability (yield) target
- Performance headroom (internal product performance specification)

Commercial Requirements

The MRD should clearly outline targets for key commercial aspects of the proposed new product. For example:

- Standard product cost target
- Certifications and agency approvals (UL, CE, RoHS compliance, etc.)
- Product manual and documentation
- Required translation and localization
- Training requirements (levels of training, who, where, how often)

Product Reliability Requirements

In general, product reliability ranks among the top customer decision influencers. The MRD should specify the targeted product reliability, based on competitive offerings and customer input. It should provide a thumbnail sketch of the quality and reliability testing required of the product. Examples may include:

- Life testing and data acquisition – continued to failure
- HALT/HASS testing
- Any changes required of standard product life-cycle process
- Temperature testing
- Vibration and shock testing
- Field life expectancy (MTBF and total life)
- Annual warranty cost target
- Extended warranty offerings planned

Product Roadmap

How does the proposed new product fit into the big picture, specifically the company's roadmap for new technology development. How does this new product development project furthers the company's business goals?

Key Markets and Applications

What markets and applications is the new technology designed to address?

Problem

What customer problem is this new product intended to solve? What customer pain does it ease?

Solution

What is the proposed solution? How does the solution compare to the current way that the problem is addressed? What is the time and cost to the customer to implement the new solution?

Market Size

Potential revenue, profitability, geography

Market Research

Thorough market research is critical. Success comes only by understanding and meeting the needs of your target market. Market research helps to

establish the under-served market segments as well as the customer needs that have not been met.

Often a new product may be initiated by a company's largest customer. New products based on a single customer's demand are the riskiest of all, and this risk should be reflected in the business plan. If it is assumed that other clients will also be interested, talk to them to confirm. Don't get locked into exclusivity without compensation or shared development costs.

Other times, market research is done at the beginning of product planning and development, locked into the product definition. Then two years go by as the product is developed only to find that at the end of the development, the market has changed. Market research and customer engagement should be ongoing throughout the New Product Development process.

Key Target Accounts

Whom are you targeting with this new product? What are the exact companies, subsidiaries, locations and key contacts? What is the potential of each? Special attention should be paid to these customers' requirements when developing and prioritizing the production ramp-up schedule, and forecast for the new product. What is required to win at each account?

Key Accounts

Develop your target customer list, including geography, specific companies, departments, and key decision makers (name, title, role, etc.). The process defined by Wind, Yoram and Webster⁷ for group purchasing process is a useful model. Know thy customers.

⁷ Wind, Yoram and Webster, Frederick E., "A General Model for Understanding Organizational Buying Behavior", Journal of Marketing, Vol. 36, No. 2 (April, 1972), pp. 12-19

Voice of Customer (VOC)

Successful new products begin at the source: The customer. Winning products specifically address a problem or opportunity presented by the consumer. Perhaps the single biggest reason cited for new product failures is that the product does not address a market need or a specific customer requirement. The technology can be revolutionary, but there is no market for it. It must be crystal clear from the start who needs the product, what problem it addresses and what price a consumer would be willing to pay for it.

As enthusiasm about a new product builds, there is the temptation to make important product decisions based on what makes sense to your group, what has worked in the past, or what you've heard the customer wants. Resist these temptations. Speak to key customers directly. Make their input the driving force behind your NPD effort.

From strong customer relationships, the sales and distribution departments can provide valuable market information. However, there is a risk that they can begin selling a new product too early, or that New Product Development information finds its way to your competitors too soon. This risk must be managed accordingly.

Possible Beta-Site Evaluators

Include an idea of which key accounts might serve as beta-site evaluators for the new product and why. Incentivize early adopters.

Competitive Landscape

Success of your new product or technology requires you to properly define and position your product, and requires drop-dead accuracy in your competitive analysis. Key information required of each competitors includes;

- Key Competitive Applications and Markets
- Product Performance
- Product Reliability
- Warranty
- Lead Times
- Geographical Strengths and Weaknesses
- Key Competitive Accounts
- Product Cost Estimate
- Competitive Pricing
- Selling Strategies
- Distribution
- Competitive Breakthroughs
- Service Strategy

The highway is littered with failed new products that did not fully address each of these key dimensions. Each competitive comparison is important to consider.

Competitive Scorecards

Competitive scorecards provide a quick and easily digestible synopsis of competitors for everyone on your team.

A good competitive scorecard communicates a lot of information in a short time to key decision makers.

SWOT Analysis

Another helpful competitive analysis tool, the SWOT analyzes Strengths, Weaknesses, Opportunities and Threats (SWOT) involved help to understand, present, discuss and make decisions about a business unit, a proposition or an idea. SWOT analysis creator, Albert Humphrey (Stanford Research Institute) advocated that SWOT analysis should focus specifically on:

- Product (what are we selling?)
- Process (how are we selling it?)
- Customer (to whom are we selling it?)
- Distribution (how does it reach them?)
- Finance (what are the prices, costs and investments?)
- Administration (and how do we manage all this?)

Anticipated Competitive Response

A new product represents a price/performance advantage, a unique solution, etc. The anticipated competitive response estimates how long you might hold this advantage. Kuester⁸ et al published an interesting article focused on the defense strategies that firms pursue when threatened by rival new products in their markets. They showed how market growth encourages rapid retaliation, especially on the product mix, whereas in concentrated markets, firms react less strongly on the product mix and exhibit slower reactions.

Many new product fail because of key strategic errors in anticipating competitive responses and reaction times.

Business Plan

A well-thought-out business plan organizes your company to grow your existing business. It establishes strategies, and allocates resources and sets management objectives according to strategic priority. The financial analysis assigns risk, costs and a projected revenue stream for a new product development project, allowing it to be evaluated relative to other investment opportunities. A good business plan clarifies, and allows you to share business objectives with your management team and employees.

⁸ Kuester, Sabine, Homburg, Christian and Robertson, Thomas S., "*Retaliatory Behavior to New Product Entry*," (1999) *Journal of Marketing*, 63, 90 - 106.

Value Proposition

In a nutshell, what value does your new technology offer? The short version of your pitch to potential customers. This section briefly summarizes the problem that the proposed new product solves and how the proposed solution is better. It describes the benefit to the customer (of each feature) in terms of savings or the ability to generate additional revenue.

Key Assumptions

Critical to the review and the discussion of the business plan is that any assumptions upon which the plan is based -- about product cost, competitive response, market conditions, etc. -- are made clear.

Market pricing should come from the competitive analysis. An initial pricing strategy can lead to the assumed Average Selling Price (ASP) that can be realistically achieved with the proposed new product. Product cost can be estimated from initial discussions with engineering, manufacturing and existing product costs. Overhead can be estimated from current levels.

Revenue Forecast

Critical to the MRD, the revenue forecast estimates market size and revenue potential associated with undertaking the new product development project. Key considerations in developing the revenue forecast are:

Market Size

It is useful to estimate market size from a number of different approaches, giving several different estimates. Then the task is to work through reconciling these different estimates into a single estimate the size of the total available market (TAM). As an example, different estimates might come from:

- *Competitors* – How much are they selling? The Competitive Analysis provides information to estimate market size and revenue for each of your top competitors.
- *Key Customers* – Similarly, speaking with, and studying key accounts provides information on how much they are purchasing.
- *By Territory* – Often an analysis by territory provides additional useful information and insight toward a total forecast.
- *Industry Market Summaries* – from key professional societies and organizations.

For an additional layer of checks and balances, approach forecasting from several directions and use different sources of information for the forecast. This helps to avoid bigger misses (e.g. forecasted low sales in Japan or Germany, or extremely high purchases from a single customer, or very low sales from a larger competitor, etc.).

Expected Market Penetration

Once the Total Available Market (TAM) has been established, it is useful to develop an estimate of how much market share can realistically be won and over what period of time. From this, a multi-year forecast of the number of units, and expected revenue and margins can be generated.

Cannibalization

Few new products are completely without impact on existing product revenue streams. Some pitfalls to avoid when a new product competes directly with an existing product are:

- *Insufficient Sales Buy-In* -- Ensure the sales force is enthusiastic about the new product. There is familiarity and comfort in selling the products they know. They need to be able to easily differentiate between the new and old products.
- *Opening the Door* – Occasionally convincing customers to switch products inspires them to re-consider competitive offerings when they might not have

otherwise. A clearly defined migration or upgrade path for existing customers helps minimize this.

- *Inventory Impact* – Maintaining similar products increases inventory, and these costs need to be considered and managed.
- *Products Too Similar*– Sometimes different distribution channels can be used to promote similar products.

When new products are projected to replace or to have a negative impact on existing products, the loss of this revenue and profit needs to be incorporated into the entire Net Present Value (NPV) analysis of the new product development project to avoid “double counting” revenue.

Development Cost

The estimated cost to develop and release the new product should incorporate all costs, including engineering, manufacturing, testing, travel, inventory, marketing, etc. As with all revenue and cost estimates, the MRD begins with a best guess. This estimate is revised as the project advances, with input from the entire team.

Opportunity Cost

Given finite resources, in going forward with this product or technology development, what is the impact on other opportunities and other projects? Has this been communicated clearly throughout the organization?

Business Risk and Mitigation

This business risk section focuses on the risk of assumptions and all other general business-risk hurdles to be overcome. Examples of risk might include:

- Longer time required to penetrate specific new accounts.
- Market shifts, most notably price.
- Other disruptive technologies entering the market.
- Technical risks involved with achieving desired product performance.

- Product is difficult to manufacture, low first-past yield.
- Poor reliability, increased warranty expense.
- Product not released on time.

This section should give an idea of the magnitude of each risk outlined, as well as its potential impact on the overall profitability of the project.

In response to each risk is the plan to mitigate that risk.

Financial Analysis

Reasonable estimates of:

- an attainable multi-year unit forecast,
- estimates of standard product cost and average selling price,
- cannibalization and
- the total estimated new product development cost

enable calculations of the Net Present Value (NPV) of the development of the new product as compared to other business opportunities.

Timing

Poor timing and slow time-to-market is widely recognized as a primary reason why new product introductions fail. Timing is equal or greater in importance to cost and performance specifications, the MRD should clearly outline the window of opportunity and required timeline for the new product.

These seven sections (Executive Summary, Product Definition, Key Markets and Applications, Key Target Accounts, Competitive Analysis, Timing, and Business Plan) of the Market Requirement Document cover the relevant information necessary to properly evaluate a new product proposal.

ENGINEERING RESPONSE DOCUMENT

Once the opportunity has been identified by the Marketing Requirement Document, engineering typically evaluates the technical feasibility of the proposal. It is unlikely that all market requirements (feature, cost, development time, etc.) can be met at one time and with one product. There is a very useful Engineering Response Document (ERD), which defines design risks and hurdles as well as possible solutions, and provides well-defined tradeoffs or alternatives.

The ERD typically addresses each point in the MRD, but includes important new information about one or more identified design paths, such as:

- Initial bench-product test data and response to requested product specification
- Development cost, time, and milestones
- Unanticipated challenges uncovered
- Estimated product cost
- Impact on, or shared resources with other new product development projects
- Technical risk, supplier risk, time-to-market risk
- Required tools, equipment, space
- Potential future product scalability

RECONCILIATION/REVIEW/SCHEDULE

This step involves a meeting (or meetings) to reconcile the MRD and the ERD into a final new product proposal. This is normally done with the entire new product development team and may include topics such as:

- Reconciliation between what was asked for (MRD) and what is realistically possible (ERD), balancing technical and business risks by using possible solutions, tradeoffs and alternatives suggested in the ERD
- Product scalability and future markets
- Required resource allocation.
- Impact on existing new product development roadmap.

Once a final new product proposal is agreed upon, then senior management decides whether to go forward with the project or not, as well as the level of resources to be committed to the project.

Once the decision is made to go forward, product planning and development begins with:

- Planning teams organized.
- A detailed budget.
- A clear schedule and list of task responsibilities is summarized in a GANNT chart and published and periodically updated to the new product development team members, which covers:
 - prototype development and requirements
 - product life-cycle plan definition and gate review schedule
 - beta-site testing plan
 - reliability test plan and schedule
 - schedule for transition to manufacturing
 - product mix planning definition schedule
 - product branding and packaging definition schedule
 - documentation and training development schedule
 - marketing launch schedule and key milestones
 - a rolling forecast which includes:
 - engineering prototypes
 - reliability test units (life testing and destructive testing)
 - field test units (beta testing)
 - trade show units
 - sales and distributor demo units
 - training units and
 - revenue units following the new product introduction.

PERFORMANCE EVALUATION

Does the proposed solution actually work? What is the tangible benefit to customers? What is their feedback? Actual performance data is essential. This comes from in-house bench testing (alpha prototypes) and from customer evaluations. (beta prototypes). It demonstrates that the product really is cleaner, faster, stronger or better in some measurable way. Initial testing reveals areas for improvement (in both product design and

manufacturability) early in the process while design change is still relatively quick and easy to implement.

Collecting relevant data from lead users offers strong benefits to both parties. For the manufacturer, it gives first-hand information on performance and user friendliness. The excitement of the user over the new product portrays a strong gage to the product's acceptance by the overall market. For the key customer, if the new product does offer a unique price/performance value proposition, it may give them the added incentive of being able to access to this technology well ahead of their competitors.

In an article by Neil Baron⁹, he states, *"Just because a product works in the lab, doesn't mean that it will succeed in the marketplace. Beta sites lay the foundation for a successful product. Chosen correctly, these early users can provide critical data used to validate the product's value proposition, and later serve as an influential reference site. Beta site selection criteria include interest in being a first mover; willingness to collaborate; willingness to serve as a public advocate; and strong industry reputation.*

"Some companies are so excited to find a beta site that they don't finish the deal, and put a beta site agreement in place. Other companies are afraid that if they ask for a beta agreement, the customer will walk away. It is at this point that marketing must inject the organization with enough confidence in the potential value of the product to require a signed beta agreement. Don't be afraid to act from a position of strength. Without a beta agreement to define time lines, identify roles and set expectations, these early engagements can wander aimlessly. The beta agreement should require the customer to publicize their results."

Key end-users for new product evaluation should be selected carefully and early on in the process. Communication should be ongoing, in person and over the entire new product development cycle. Tips and tricks include:

- Pick a few representative key customers as beta-site evaluators. Make sure there is a real interest on their side before moving forward, and that they recognize the value

⁹ Baron, Neil, "4-Step Marketing Process to Launch New Products," Boston Business Journal, May 28, 2009

of the new product being offered, and the value of receiving the product in advance of their competitors.

- Getting several key accounts on board early is important to a quick new product revenue ramp. Understand the key account's adoption timeline and requirements.
- In addition to approaching your existing customers, working together on new product development is often a good way to begin working with large new customers with whom you may not have had a meaningful relationship previously.
- Beta-site evaluators are investing considerable time and money in evaluating your product. Target your approach accordingly.
- Plan and schedule demo units. Avoid product delivery delays and the negative message they communicate to your key customers.
- Have a non-disclosure agreement in place and select beta-site evaluators who can be trusted to maintain confidential new product information
- Stay close to these beta-site evaluators. Have face-to-face meetings at least quarterly and engineer-to-engineer communication, either via conference calls or customer visits.
- Ask beta-site evaluators for a commitment to provide formal feedback on their product evaluation and to share this feedback with your new product development team. Act on recommended improvements.

COMMUNICATION

Once the MRD is completed, the new product development team can sometimes go into a room for a long period to develop the product, emerging to discover the unpleasant surprise that the market has changed significantly during that time. It is important to remain in constant contact with key users of the product during the product development cycle, both to prepare and to ensure their product acceptance, and to monitor changes in product or market requirements.

PRODUCT RELIABILITY TESTING

As time is always limited by time-to-market pressures, scheduling and execution of reliability testing is critical to the success of the project. Product failures uncovered during reliability testing should be addressed and responded to quickly by the entire new product development team.

TRANSITION TO MANUFACTURING

Many new products -- even those that may have a clear market definition, a superior technology and a successful engineering development process -- still fail because of a poor transition from engineering to manufacturing. Typical pitfalls during this transition may include:

- Higher-than-targeted product or manufacturing costs.
- Difficult to manufacture, low first-pass yield, or high rework costs.
- High production set-up cost or inability to integrate the product into existing manufacturing facilities.
- Inadequate manufacturing equipment.
- Production floor space issues.
- Poorly documented product assembly procedures or inadequate training.
- Production capacity constraints.
- Poor make/buy decisions.
- Unavailable materials, components or unqualified vendors.
- Inventory issues.
- Manufacturing unprepared for greater-than-expected success and rapid revenue ramp.

- Poor product reliability.
- Poorly defined Part Numbers and Bill of Materials.

A winning strategy is to have representatives from manufacturing, supply chain and quality/reliability involved with the new product development project from the start. In 2003, a study of 60 member companies from the Michigan State University Global Procurement and Supply Chain Electronic Benchmarking Network, published in the *Journal of Product Innovation Management*, Ragatz, Handfield, and Scannell¹⁰ stated *"Faster, better, cheaper—these marching orders summarize the challenge facing new product development (NPD)...Effective integration of suppliers into NPD can yield such benefits as reduced cost and improved quality of purchased materials, reduced product development time, and improved access to and application of technology."*

The study found further, *"To integrate suppliers into NPD, a company must overcome such barriers as resistance to sharing proprietary information, and the not-invented-here syndrome. The results of this study suggest that overcoming such barriers depends on relationship structuring—that is, shared education and training, formal trust development processes, formalized risk/reward sharing agreements, joint agreement on performance measurements, top management commitment from both companies, and confidence in the supplier's capabilities. Overcoming these barriers also depends on asset sharing, including intellectual assets such as customer requirements, technology information, and cross-functional communication; physical assets such as linked information systems, technology, and shared plant and equipment; and human assets such as supplier participation on the project team and co-location of personnel."*

¹⁰ Ragatz, Gary L., Handfield, Robert B. and Scannell, Thomas V., *"Success Factors for Integrating Suppliers into New Product Development,"* Article first published online: 2 OCT 2003, *Journal of Product Innovation Management*, DOI: 10.1111/1540-5885.1430190

TRAINING

Sales Training

One of the most commonly cited reasons for failure of a product launch or a slow, new-product introduction revenue ramp is often due to one thing: Lack of buy-in from the sales force. Sales people are most effective when they sell products that they are comfortable with. Therefore, thorough sales training and access to effective sales tools can be the most beneficial way to (1) increase sales buy-in, (2) shorten the revenue ramp and (3) get everyone on the same page before the product is launched.

The sales training should follow closely the information outlined in the MRD, updated with data collected during the product development process.

Service Training

In general, service should include most of the material covered in the sales training.

Additional material covered:

- Service model and strategy
- Trouble-shooting decision tree
- Repair v. replace criteria
- Technical diagrams
- Service products and pricing
- Field serviceable parts and pricing
- Warranty and extended warranties
- Hands-on time with product
- Known issues and workarounds
- Preventative maintenance schedule

Train the Trainers

In general, the factory may not be directly training every person that needs to be trained. Developing the training programs should also include developing training materials for those who will be training sales, distributors, service and end users. Examples of such training materials may include:

- Service manual
- Presentations (which typically follow the outline of service and end-user manuals)
- Quizzes

- Demo units
- Feedback forms for recipients of sales and service training

Distributor Training

Depending on the sales and distribution strategy, modifications to the training program for direct sales employees may need to be made for distributors and sales representatives. Requirements for training and an on-going periodic training schedule can be very helpful.

Customer Training

Training for end-users (both for operation and user-authorized service) can be a big help and a good revenue source.

GO-TO-MARKET STRATEGY

The Marketing Launch Plan summarizes all current available information at the time of product launch, including but not limited to:

Promotion should follow a clear and well-communicated brand strategy, which would typically include:

Your Story

Author and Presidential Medal of Freedom recipient Isabel Allende was once asked what was required to write a great novel, to which she replied, “start with a great story”.

Same with your marketing efforts. Your story matters. Start by summarizing the problem you solve and clarifying your key selling points. Communicate your value. Make it compelling. Start with a great story.

Marketing Strategy

Clear Goals

Objectives of your marketing efforts should be crystal clear to everyone involved.

Examples include:

- Defend market share within an existing market
- Grow market share within an existing market
- Achieve specific competitive goals
- Disrupt existing technologies
- Expand to new geographical markets
- Address new applications

Metrics

Marketing goals should be specific and measurable (i.e., "\$5M in new product revenue within the first 12 months after product launch) with clear and timely reporting of progress.

Communication

Marketing efforts should make clear (internally and externally) with current information, including:

- Your story
- Product being sold, product mix and expected product life-cycle.
- Pricing strategy, including core value proposition
- Promotion
- Distribution
- Target market, customers and applications

Brand Strategy

Promotion should follow a clear and well-communicated brand strategy, which would typically include:

- Brand message
- Product name
- Logos, graphic design, fonts, colors, etc.
- Key messaging points
- All other materials aligned with brand message and imaging
- Pricing
- Product positioning
- Packaging
- Manuals and documentation
- Descriptions
- Key customer profile

Competitive Selling Strategy

- *Listen* – Your information is imperfect. In general, your customers understand some of your competitors better than you. Maintain an open discussion with customers about competitive strengths and weaknesses, rather than “telling” them. Follow up by investigating further claims of competitors’ advantages.
- *Be Competitor Specific* – Successful competitive selling strategies are tailored to individual competitors. There is no “one size fits all” competitive selling strategy. While a claim may be true for most competitors (e.g. “our product is smaller”), if it is not true for the specific competitor that the customer is currently considering, the salesperson loses credibility and looks foolish.
- *Stress Unique Differentiators* – Focus on features and benefits unique to your product and company, and why these are important to the customer. If these are innovative developments, make it clear that you have a history of innovation and that the customer can expect this from your company going forward.
- *Be Accurate* – Your claims should be specific and accurate, and accompanied by a clear reason for the customer to believe (proof statement). Credibility is key.
- *Be Flexible* -- Avoid statements on things that are easy for competitors to improve or modify for a single customer (software, service strategy, warranty length, price, etc.). A safer strategy is to ask the customer rather than tell them, “*What is your current warranty and how important is warranty to you?*”

- *Be Prepared to Address Weaknesses* – Your sales force should be well-prepared to address and defend competitive attacks (accurate or not). Stay focused on your brand message. Get the word out early and often.
- *Price* – Be careful of responding to customer claims of competitive pricing too early, until “me too” claims can be verified. Generally successful new product launches are based on the assumption of improved pricing or margins through improved features, *and lowered pricing should require significant justification.*
- *Reliable Long-Term Supplier* – In addition to specific product features, don’t forget to address your qualifications as a stable supplier, e.g. relationship, product reliability, on-time-delivery, support, etc. These are critical to customers considering a new supplier.

Competitive Response

A critical component to success is an accurate estimate of the competitive response to your product launch, including expected response time. This estimate dictates your competitive selling strategy. Examples of competitive responses might include:

- *Your Weaknesses* – *It is a safe bet that any competitive response will be strongly focused on your weaknesses.*
- *Imitation* – *The most common competitive response to a successful new product launch is to simply copy the products or features that are gaining momentum in the marketplace. A key question is how long will it take for competitors to do so?*
- *New Technologies* – *Often a chronological history of a competitor’s recent new product and feature introductions can give a good indication of where a competitor is headed with their new product development, and within what time frame. Information from key accounts within the industry often reflects what competitors are promising.*
- *Technology Roadblocks* – *Defining roadblocks for competitors is often useful, either technology that they do not yet possess or patent restrictions.*
- *Industry Publications or Presentations* – *These can often give a specific idea of competitive research directions and timing.*
- *Price* – *Changes in the competitive landscape are often accompanied by changes in the competitive pricing strategy, especially among market leaders. How will these impact your business strategy?*

Monitor closely competitive response to your new product, and consider possible counter-responses in advance. Share information among your sales staff to avoid getting caught by surprise in another territory, with another customer.

Promotional Strategy

Budget, timing and activities to promote the new product should be crystal clear prior to the product launch. Typical promotional activities include:

Web site

Your web site is where most customers learn and form their initial opinion of your company. Focus on:

- Corporate Image
- Strong messaging
- SEO/Backlinks
- Landing pages, Clear call to action, Maximize response rate
- eCommerce, if applicable

Metrics and Analytics

Establish the ability to clearly and easily measure the results of all promotion. Adopt an ongoing, Darwinian approach to continuous improvement of all promotional efforts. Report and review results periodically (say monthly). Direct mail and virtually all online advertising offer clever ways of accomplishing this. Consider:

- Results – Traffic - Efficacy
- Cost per lead
- Lead quality – Not all leads are equal. Track all leads, where they come from, and their quality.
- Saturation of a single theme
- Customer satisfaction surveys after engagement

- Invest in engaging with and monitor the media who write about your technology and your industry (web sites, critics, magazines, blogs, etc.). Coordinate closely with them before, during and after your product launch.

Paid Promotion

- Keyword + display advertising
- Retargeting ads
- Banner advertising in key industry journals and on key industry web sites
- Social media advertising
- Industry or application blog advertising
- Press releases, follow up, and engagement

Organic Promotion

- Ongoing content generation effort
- Social media postings and engagement (LinkedIn, Facebook, Twitter, Instagram, YouTube, etc.)
- Technical presentations at key tradeshows and industry meetings
- Articles in key trade journals
- Relevant subject matter blogs
- Grow professional networks (LinkedIn, Twitter, etc.)
- Open houses (yours and distributors)
- User groups

Direct Marketing

- Develop targeted key account list with contacts
- Direct mail/email blasts
- Concise landing pages
- Strong incoming lead handling

Sales Tools

Sales tools reinforce product benefits, competitive selling strategies, brand messaging and the product's overall value proposition. When a sales person goes to call on a customer, these are the arrows in his or her quiver. Sales support often includes:

- Lead generation
- New product price list and clear discount authority
- Service product price list and warranty options
- Sales release bulletins
- Sale demo units
- Sales presentations
- White papers
- Data sheets/Product brochures
- Success stories
- Application notes
- Videos
- Field sales support
- Customer road shows
- Lunch-and-Learn at customer site
- Distributor open houses
- FAQs
- Software demonstration disk or online demo
- Strong CRM support
- Specific product performance data
- Specific product reliability data
- Customer training schedule
- Product photos
- Application photos (i.e. high resolution, consistent results, etc.)
- Videos can be highly effective tools, especially with:
 - Proof statements for claims such as “easy-to-install”, “easy-to-service”, “easy-to-use.”
 - Product demonstrations
 - Application data (i.e. “faster processing time”).
 - Training
 - Outlining product features and benefits
 - Communicating company attributes (e.g. clear, easy, friendly, etc.)
 - Enriching social media (profiles, followers, blog and forum posts)
 - Webcasts, Webinars, Web conferences

Webinars

Excellent tool for engaging new accounts. Possible topics:

- Industry trends
- New regulation/compliance requirements
- Product introductions, or product/software demos
- New and growing applications
- Customer training

Inquiry Handling

Getting the customer to pick up the phone costs money, and is of great value. Confirm that your inquiry-handling folks are trained, comfortable, and have everything they need to respond promptly:

- Order acknowledgment information
- Literature fulfillment
- Sales and service bulletins
- Upcoming Webinars, training schedules, trade shows, and other key events
- Inquiry analysis / feedback
- CRM database management

Tradeshows

Industry trade shows and events require:

- Identifying key exhibitions attended by decision makers from the companies you are targeting.
- Exhibit design, graphics and display panel layout
- Pre-show promotion
- Inquiry management

- Invite industry journal editors to booth visits and events
- Demonstration units
- Customer seminars or road shows

Service Strategy

Service can and should be a high margin revenue source. Your service strategy should be clearly defined, in place and clearly communicated prior to the product launch, and should cover:

- Operator manual
- Service manual
- Depot repair/rework service
- Field service
- Advanced replacement
- Remote diagnostics
- Service model
- Return v. replace
- Field serviceable parts
- Warranty
- Extended warranty
 - Customer technical support.
 - Service pricing
- Tested and well-communicated backwards compatibility and known issues.
- Trade-in or product-upgrade programs.
- Service training courses and schedule.
- Spare parts inventory targets.
 - At factory
 - At distribution
 - At end user
- Post installation customer satisfaction survey.

Distribution Strategy

A poorly defined distribution strategy can result in new products “falling through the cracks.” As with the service strategy, the distribution strategy should be defined, in place and clearly communicated prior to the product launch. Additionally, it should address the key points of:

- Sales territories and distribution channels should be clearly defined. A clear set of guidelines for addressing both gaps and overlap should be defined for all distribution channels, including direct sales, OEMs, integrators, contract

manufacturers, sales representatives and distributors. Contracts and compensation agreements should be in place.

- Pricing and discount authority should be clear, as well as escalation for larger accounts.
- Key account management should be clearly defined and communicated.
- Distributor and sales resources, and factory support clearly defined and readily available.
- Private-branding guidelines should be clearly communicated.
- It should be clear who does installation and service, and how they are compensated.
- Spare part and new-product inventory requirements should be clear.
- Training availability and requirements should be clear.

Pricing Strategy

Profit maximization requires a detailed knowledge of both customer requirements and market, and competitive pricing. It assumes an exact knowledge of your own product cost to perform an accurate and meaningful profit margin analysis. Some common pricing strategies are:

Cost Plus

Cost-plus pricing is the most basic type of pricing and simply represents marking up the price by a fixed amount from the cost of production. Generally the markup is based on company profit goals. The drawback to this approach is that it does not put much weight on market forces in setting prices, the customer's willingness to pay, or the fact that different products may face different levels of competition and thus are able to earn different margins.

Market-Based Pricing

Generally more effective, market-based pricing responds best to competitive pricing.

Skimming

Skimming is a strategy often used by technological leaders who are first to enter the market or have a significant competitive advantage that others cannot yet offer. Skimming establishes higher price until other competitors enter the market.

Penetration

The pricing strategy used often when entering a new market entrants to “buy” market share, volume and customer references through lower prices.

Flexible Pricing

Much has been published on profit maximization via price adjustment on feature bundles^{11,12,13}. The idea being that, in a competitive market where several companies offer similar products with similar features and each feature having a similar cost, there can be an advantage to the competitor who can offer the price/feature bundle closest to what the customer is seeking. With the ability to configure or reconfigure products late in the production cycle or even in the field, this allows a company to more closely match the feature bundle (and price) for each specific customer’s requirements.

Similarly, the standard product could come “fully loaded” and then features could be removed in order to heavily discount the product for price-sensitive customers, and

¹¹ Ward and Martin, R. Kipp, “Optimal Bundle Pricing”, *Management Science*, February 1990 vol. 36 no. 2 155-174

¹² Wu, Shin-yi, Hitt, Lorin M. Hitt, Chen, and Pei-yu, Anandalingam, G., “*Customized Bundle Pricing for Information Goods: A Nonlinear Mixed-Integer Programming Approach*” *Management Science*, 2008 54:608-622

¹³ Ibragimov, Rustam and Walden, Johan, “*Optimal Bundling Strategies Under Heavy-Tailed Valuations*,” *Management Science* November 2010, vol. 56, no. 11, 1963-1976

where a company's more unique features and accessories would carry a higher margin.

As discussed, designing a more easily configureable product (through software or hardware configuration, accessories, etc.) can allow the company much greater price flexibility.

Specific deliverables of the pricing strategy planning process are:

- Profit margin analysis.
- Sales discount authority and escalation path.
- Discounts/Incentives for the various sales and distribution channels.
- Price list.
- Service product price list.

Legal

As part of any successful product launch, a thorough review of all legal issues should be completed prior to the product launch. Typical issues may include:

- Intellectual Property Rights
 - Patentable features (if applicable)
 - Royalties
 - Licensing
 - Competitive patent issues
 - Trademarks and copyrights
- Product safety concerns
- Export restrictions (ITAR)
- Relevant legislation
- Contracts
- Guarantees and warranties
- Terms and conditions

REVENUE

Time-to-Market

Timing is critical. Key accounts, media, investors, competitors, and stakeholders pay close attention to your announced release dates. Missed milestones are interpreted as problems, making even ardent early-adopters nervous. As reliability problems or delays with your product or service affects your key customers' business as well, most will not want to be a guinea pig for a dubious new product or service.

Development time is one of the factors that can impact an organization's bottom line the most. In today's product development environment, products and their underlying technologies change rapidly. A 1996 McKinsey study reported that on average, companies lose 33 percent of after-tax profit when they ship product six months late, as compared with losses of 3.5 percent when they overspend 50 percent on product development.

For this hypothetical example, there are two simple assumptions:

- Everything that can be done is being done by you to shorten the Revenue Ramp phase (limited by market acceptance) and to lengthen Revenue Decline phase (product obsolescence), and that
- Product obsolescence for this product is not determined by you, but rather by the market, and the introduction and acceptance of competitive technologies. It is a fixed stake in the ground at some future date.

In considering revenue over the life of the product in this way, it is clear that delays in the schedule of the new-product introduction cut directly into the Full Revenue Generation phase of the product life cycle.

In this simple example, if a company introduced a new product and it takes one year to ramp revenue to \$12M, the product then generates \$12 million per year over the next three years before declining to \$0 over the final year. In this case, with these two assumptions, the cost to delay the new product introduction would be \$12 million per year or \$1 million per month of delay. The point this example serves to illustrate is that new-product release delays are generally much more expensive than intuition alone would dictate.

Taken to the extreme, Clark¹⁴ (1989) estimates that for a \$10,000 car, delay in the new product release represents a loss of \$1 million *per day* in profit.

Time-to-market also needs to be balanced with the need to make sure that the product is ready for market. Just as arriving to market too late can reduce product life and its revenue stream (or miss the window of opportunity altogether), taking shortcuts (such as sacrificed performance specifications, too high a product cost, or insufficient reliability testing) to get to market early can also kill a new product's profitability.

In their investigation of the relationship and tradeoff of time-to-market versus new-product performance for technology-driven firms, Cohen, Eliashberg and Ho¹⁵ introduced the concept that there is a minimal speed of improvement capability required for undertaking a new-product development profitably, and presented a model to demonstrate this.

Rather than completing functional tasks sequentially, by working together, the new-product development team can overlap tasks, shortening the total product development time by as much as 30 percent. Examples include:

- Design engineering supporting the transition to manufacturing
- Supplier qualification and long-lead time components ordered prior to final release
- Reliability testing beginning as early in the process as possible
- Prototype sharing to meet critical project dates
- Engaging key accounts prior to product release
- Efficient resource management
- Strong communication among all departments
- Clear revision control process, especially during the transition to manufacturing

Crossing the Goal Line

For each functional sub-group within the company, the bulk of the sub-group's tasks come and go within a fixed amount of time between project gate reviews. There is always the

¹⁴ Clark, K., "Project Scope and Project Performance: The Effect of Parts Strategy and Supplier Involvement on Product Development," *Management Science*, 35, 5 (1989), 1247-1263

¹⁵ Cohen, Morris A., Eliashberg, Jehoshua and Teck-Hua Ho, "New Product Development: The Performance and Time-To-Market Tradeoff," *Management Science*, Vol. 42, No. 2 (Feb, 1996), pp. 173-183

challenge with the pressures of the next project, daily firefighting, etc. that groups can disengage from the project, feeling that their portion is complete.

It is critical to keep the entire NPD team focused on the principle goal of the project, which is generating revenue and profit. Revenue does not come all at once, but rather ramps up over time. While most of the product development tasks have been completed by the start of the revenue ramp, it is during the revenue ramp portion of product life that the most important product information comes - manufacturability, cost reduction, product reliability, customer feedback and market acceptance.

It is a NPD team's understanding and ability to quickly respond to this information and challenges that can often make or break a new product.

SUMMARY

Common Pitfalls

A recent study shows that over 80 percent of executives rated their method of launching new products as "neutral," "ineffective" or "very ineffective." Some common pitfalls are:

- The product does not solve a common problem.
- No structured process or inconsistent use of the process.
- Lack of company-wide buy-in.
- Poor communication.
- Delayed product release.
- Too few early adopters at product launch.
- Support team too small.
- Company unprepared to support fast growth.
- Poor product quality or product performance falls short of market requirements.
- Poorly defined value proposition. Insufficient customer input.
- Inefficient information and training to sales and service.
- Unanticipated competitive response.

Best Practices

- **Process** – The average length of product development cycles is growing shorter. Most companies recognize time-to-market as one of the most important factors impacting profitability. New product development and introduction require the involvement of cross-functional teams representing every core function within the company. The success of a product launch is increasingly related to communication and the strength of the company's New Product Development process.
- **Buy-In** – All key company functions need to be involved from day one and remain involved until the new product begins generating revenue. Ensuring company-wide buy-in is critical to the success of new product launches. Salespeople must be trained, understand and accept the value proposition, and be enthusiastic about the new product.
- **Timing** – Just as arriving to market too late can reduce product life and its revenue stream (or miss the window of opportunity altogether), taking shortcuts to get to market early can also kill a new product's profitability. Planning and executing to a schedule based on a project's window of opportunity is vital to a successful new product launch.
- **Product** – Making sure you have the right product begins with listening. Defining the correct market requirements should be based on the voice of customers and a detailed, thorough competitive analysis. Market research must be on-going and your plan flexible enough to accommodate changes in the market during the product development cycle.
- **Strategy** – Branding, price, promotion, distribution and competitive selling strategies are all key factors in the success or failure of a new product.
- **Prepare for Success** – Given how well most companies hedge their bets, not committing resources until proof of success, it is ironic that so many products fail because the company did not put an equal amount of time, planning, and resources evaluating the contingency of success and a rapid revenue ramp. A slow revenue ramp can give competitors too much time to respond.

ABOUT GROWTH TECHNICAL MARKETING

Growth Technical Marketing is a Silicon Valley-based marketing and business consulting firm.

With a broad variety and depth of experience, we complement and accelerate your existing marketing and product development efforts to meet critical time-to-market objectives, and make sure nothing critical is missed in your product launch.

When considering the time and expense of developing a new product, our help pays for itself many times over. Use us as little or as much as you require.

Launch with Confidence



CEO Tim Edwards has more than 27 years of experience growing revenue and market share in technology-based businesses. His combination of technical knowledge and marketing experience help convey subtle yet important technology advantages.

His proven process has been used to launch more than 50 successful new products, resulting in over \$250 million of increased revenue.

Tim began as a design engineer, earning several patents. He has worked in sales and marketing of technology-based products, living and working in Switzerland, the Pacific Rim, Chile, and now Silicon Valley. In addition to founding Growth Technical Marketing in 2013, he also started two other ongoing businesses, a tech startup manufacturing laser systems in New England, and a vineyard producing award-winning organic wines.

Tim earned a B.S. in Engineering, M.A. in Economics, M.A. in Consumer Psychology, and an MBA in Marketing, attending the University of Missouri, Washington University and Stanford. He is fluent in English and Spanish.

Tim is an active environmentalist, and in December 2019, was invited to address the United Nations' annual conference on climate change (UNFCCC COP 25) in Madrid.



Says Edwards, "After many years of working with market leading companies, I saw the opportunity to help smaller companies to accelerate growth using proven marketing strategies. My background in engineering, marketing and new product development offered a unique perspective from which to help smaller companies grow. And thus, Growth Technical Marketing was born."

Could a second set of eyes help on your next product launch? Give us a call at:

+1 408 780 GROW (1-408-780-4769)



REFERENCES

- ¹ Cooper, Robert G. and Kleinschmidt, Elko J., "Benchmarking the Firm's Critical Success Factors in New Product Development" *Journal of Product Innovation Management*, Article first published online: October 2, 2003, DOI: 10.1111/1540-5885.1250374.
- ² Di Benedetto, C. Anthony, "Identifying the Key Success Factors in New Product Launch," *Journal of Product Innovation Management*, Article first published online: 30 SEP 2003, DOI: 10.1111/1540-5885.1660530.
- ³ Doran, George T., "There's a S.M.A.R.T. Way to Write Managements's Goals and Objectives." *Management Review* 70.11 (Nov. 1981).
- ⁴ Green and Rau, "Conjoint Measurement for Quantifying Judgmental Data," *Journal of Market Research*, 8:355-63, 1971.
- ⁵ Sid Simmons, Sid and Esser, Mark, "Developing Business Solutions from Conjoint Analysis," *Conjoint Measurement*, 2001, pp 67-96.
- ⁶ Green and Srinivasan, "Conjoint Analysis in Marketing: New Developments with Implications for Research and Practice," *Journal of Marketing*, Vol. 54, No. 4, Oct., 1990.
- ⁷ Wind, Yoram and Webster, Frederick E., "A General Model for Understanding Organizational Buying Behavior", *Journal of Marketing*, Vol. 36, No. 2 (April 1972), pp. 12-19
- ⁸ Kuester, Sabine, Homburg, Christian and Robertson, Thomas S., "Retaliatory Behavior to New Product Entry," (1999) *Journal of Marketing*, 63, 90 - 106.
- ⁹ Ward and Martin, R. Kipp, "Optimal Bundle Pricing," *Management Science*, February 1990 vol. 36 no. 2 155-174.
- ¹⁰ Wu, Shin-yi, Hitt, Lorin M. Hitt, Chen, and Pei-yu, Anandalingam, G., "Customized Bundle Pricing for Information Goods: A Nonlinear Mixed-Integer Programming Approach," *Management Science*, 2008 54:608-622.
- ¹¹ Ibragimov, Rustam and Walden, Johan, "Optimal Bundling Strategies Under Heavy-Tailed Valuations," *Management Science* November 2010, vol. 56, no. 11, 1963-1976.
- ¹² Baron, Neil, "4-Step Marketing Process to Launch New Products," *Boston Business Journal*, May 28, 2009.

¹³ Ragatz, Gary L., Handfield, Robert B. and Scannell, Thomas V., "Success Factors for Integrating Suppliers into New Product Development," Article first published online: 2 OCT 2003, Journal of Product Innovation Management, DOI: 10.1111/1540-5885.1430190.

¹⁴ Clark, K., "Project Scope and Project Performance: The Effect of Parts Strategy and Supplier Involvement on Product Development," Management Science, 35, 5 (1989), 1247-1263.

¹⁵ Cohen, Morris A., Eliashberg, Jehoshua and Teck-Hua Ho, "New Product Development: The Performance and Time-To-Market Tradeoff," Management Science, Vol. 42, No. 2 (Feb, 1996), pp. 173-183.

Anderson James C and James A Narus, "A model of distributor firm and manufacturer firm working partnerships," Journal of Marketing, 54(January), 42-58, (1990).

Anderson, Erin and Barton Weitz, "Determinants of continuity in conventional industrial Industrial channel dyads," Marketing Science, 8(Fall), 310-323 (1989.)

Anderson, Erin and Barton Weitz, "The use of pledges to build and sustain commitment in distribution channels," Journal of Marketing Research, XXIX, (February), 18-34, (1992).

Barney, Jay B, "Firm resources and sustained competitive advantage." Journal of Management, 17 (March), 99-120 (1991).

Berthon, Pierre, Leyland F. Pitt, Michael T Ewing and Gunnar Bakkeland, (2003). "Norms and power in marketing relationships: Alternative theories and empirical evidence," Journal of Business Research, 56, 699-709.

Bharadwaj, Sundar G, P Rajan Varadarajan and John Fahy, "Sustainable competitive advantage in service industries: A conceptual model and research propositions," Journal of Marketing, 57 (Oct), 83-99 (1993).

Brodie, R J, Coviello N E, Brookes R W and Little, V, "Towards a paradigm shift in marketing; an examination of current marketing practices," Journal of Marketing Management, 13(5), 383-406. (1997).

Carpenter, Gregory S, "Modeling competitive marketing strategies: The impact of marketing mix relationships and industry structure," Marketing Science, 6(2), (Spring), 208-221 (1987).

Chandrasekaran, Deepa and Gerard J. Tellis, "The Global Takeoff of New Products: Culture, Wealth, or Vanishing Differences," Marketing Science, p. 1-17 (2008).

Dwyer, F Robert, Paul H Schurr and Sejo Oh, "Developing buyer-seller relationships," Journal of Marketing, 51(April), 11-27 (1987).

Harvard Business Review (2001) "Customer Relationship Management," Harvard Business School Press.

Jackson, Barbara Bund, "Winning and keeping industrial customers," Lexington, KY:Lexington books (1985).

Johns, N., "What is this thing called service?" European Journal of Marketing, 33(9/10), 958-973 (1999).

Hackett, James P., "Preparing for the Perfect Product Launch," Harvard Business Review Online (April 2007).

Kelly S, "Analytical CRM: the fusion of data and intelligence," Interactive Marketing, (3), 262-267 (2000).

Sivadas, Eugene and Dwyer, F. Robert, "An Examination of Organizational Factors Influencing New Product Success in Internal and Alliance-Based Processes," Journal of Marketing, Vol. 64, No. 1 (Jan., 2000), pp. 31-49.