



# Reports

---

**Knowledge as a Strategic Resource in Logistics and Purchasing (03-100)**

By G. Tomas M. Hult, S. Tamer Cavusgil, and Roger J. Calantone

**Creating a Superior Customer-Relating Capability (03-101)**

By George S. Day

**Marketing Meets Design (03-102)**

Conference summary by Lily Aguirre Just and Rommel Salvador

**Bottoms up! How Container Shapes Influence Pouring and Consumption Volume (03-103)**

By Brian Wansink and Koert van Ittersum

**Ten Lessons for Improving Service Quality (03-104)**

By Leonard L. Berry, A. Parasuraman, and Valarie A. Zeithaml

**The Relevance of Rigor (03-105)**

By Donald R. Lehmann

2 0 0 3

W O R K I N G  
P A P E R  
S E R I E S

I S S U E   O N E

N O .   0 3 - 0 0 1

**MSI**

# Reports

**Executive Director**

Donald R. Lehmann

**Research Director**

Ross Rizley

**Editorial Director**

Susan Keane

**Publication Design**

Laughlin/Winkler, Inc.

The Marketing Science Institute supports academic research for the development—and practical translation—of leading-edge marketing knowledge on issues of importance to business performance. Topics are identified by the Board of Trustees, which represents MSI member corporations and the academic community. MSI supports academic studies on these issues and disseminates findings through conferences and workshops, as well as through its publications series.

Marketing Science Institute  
1000 Massachusetts Avenue  
Cambridge, MA 02138-5396

Phone: 617.491.2060  
Fax: 617.491.2065  
Web: [www.msi.org](http://www.msi.org)  
E-mail: [msi@msi.org](mailto:msi@msi.org)

*MSI Reports* is published quarterly by the Marketing Science Institute. It is not to be reproduced or published, in any form or by any means, electronic or mechanical, without written permission.

The views expressed in *MSI Reports* are those of the authors.

*MSI Reports* © 2003  
Marketing Science Institute  
All rights reserved.

**Subscriptions**

Annual subscriptions to *MSI Reports* can be placed online at [www.msi.org](http://www.msi.org). Questions regarding subscriptions may be directed to [pubs@msi.org](mailto:pubs@msi.org).

**Single reports**

Articles in the 2003 *MSI Reports* are available in downloadable (PDF) format at [www.msi.org](http://www.msi.org).

**Past reports**

MSI working papers published before 2003 are available as individual hard-copy reports; many are also available in downloadable (PDF) format. To order, go to [www.msi.org](http://www.msi.org).

**Corporate members**

MSI member company personnel receive *MSI Reports* (PDF and print versions) free of charge.

**Academic members**

Academics may apply for free access to PDF (downloadable) versions of articles in the 2003 *MSI Reports* and other working papers and for special rates on MSI print publications. For more information and to apply, go to "Qualify for academic membership" at [www.msi.org](http://www.msi.org).

**Classroom use**

Upon written request, MSI working papers may be copied for one-time classroom use free of charge. Please contact MSI to obtain permission.

**Search for publications**

See the searchable publications database at [www.msi.org](http://www.msi.org).

**Submissions**

MSI will consider a paper for inclusion in *MSI Reports*, even if the research was not originally supported by MSI, if the paper deals with a priority subject, represents a significant advance over existing literature, and has not been widely disseminated elsewhere. Only submissions from faculty members or doctoral students working with faculty advisors will be considered. "MSI Working Paper Guidelines" and "MSI 2002–2004 Research Priorities" are available in the Research section of [www.msi.org](http://www.msi.org).

**Publication announcements**

To sign up to receive notices about MSI publications, go to [www.msi.org](http://www.msi.org).

**Change of address**

Send old and new address information to [pubs@msi.org](mailto:pubs@msi.org).

2 0 0 3

W O R K I N G  
P A P E R  
S E R I E S

I S S U E O N E

N O . 0 3 - 0 0 1

# The Relevance of Rigor

**Donald R. Lehmann**

*Have careful thought and analysis become casualties of time-pressured business environments? This commentary suggests that rigor and empirical generalization—the hallmarks of academic research—are critical to knowledge development, and hence good marketing practice.*

“If you can keep your head when all about are losing theirs....” In increasingly challenging times, the pressure to make quick decisions increases. Consequently, reflection and careful consideration are too often viewed as luxuries.

The Marketing Science Institute is a 42-year-old nonprofit organization with the mission of developing, translating, and disseminating knowledge that has the potential to impact business practice. In order for the impact to be positive, the knowledge disseminated must be accurate. Hence, aside from the fact that MSI’s middle name is “science,” it is important that knowledge be rigorously developed. However, busy managers may be tempted to rely on anecdotal evidence, intuition, and quickly executed studies and analyses to answer specific questions.

The purpose of this discussion is to suggest that rigor is critical to developing accurate knowledge and thus good practice, i.e., rigor is relevant. Hopefully, it will convince you that (1) intuition is untrustworthy; (2) best practices studies are not a best practice; (3) academic research should and can be both relevant and comprehensible; and (4) empirical generalizations are a useful way to accumulate knowledge and address current issues.

## Why Not Trust Intuition/ Experience/“The Force”?

One approach to decision making relies on intuition or a “sense” of the market. Intuition is widely available and often easy to obtain. Unfortunately, there are two major problems with intuition-based decisions.

*Whose intuition do we trust?* If we had access to a Delphic oracle or mystic, perhaps their intuition should be utilized. Unfortunately, it is hard to find such beings in a phone book or on the Internet. If one relies on mere mortals, however, whose opinion should we follow? Do we listen to the most experienced (who may have lost a step or two), the young up-and-coming (who may lack perspective), salespeople (with their own agenda) . . . ? Do we judge opinions based on slickness of PowerPoint presentations, apparent strength of conviction or loudness of argument, position in the organization, or educational or experience background? If we combine opinions to form a consensus, does that rule out truly innovative thoughts? While some serious research has been done on the subject of combining opinions, in most cases, decision making relies on persuasiveness and/or power which may or (often) may not be related to knowledge accuracy.

**Donald R. Lehmann** is 2001–2003 MSI Executive Director and George E. Warren Professor of Business, Columbia University Graduate School of Business.

Note that widespread agreement does not guarantee accuracy. The consensus was once that the world is flat, the earth is the center of the universe, and investment in the Internet is a sure way to wealth. (There is a term, “false consensus,” for agreement on an incorrect position.) Hence, the fact that “everyone is doing it” doesn’t necessarily mean it is a good thing to do.

*Intuition is faulty.* An entire field of inquiry is devoted to demonstrating how inaccurate and inefficient our judgments and decisions are. Behavioral decision theory (BDT) has catalogued numerous such tendencies, including the tendency to over-rely on readily available (accessible) information and the preference for explanations that allow for control of the outcome. Indeed, the last Nobel prize in economics went to Daniel Kahneman, a pivotal figure in this area. Put in laymen’s terms, our judgment is frequently awful.

As an example, consider the issue of whether one action (increased promotion) causes another (increased sales). When thinking about this, most people recall instances when both the cause and effect occurred, i.e., when increased promotion was accompanied by increased sales. Unfortunately, this is a singularly bad way to assess causality.

Consider the table below which displays various combinations of the possible cause and outcomes.

		Results Occurs (e.g., Increased Sales)	
		Yes	No
“Cause” Occurs (e.g., Increased Promotion)	Yes	<b>A</b>	<b>B</b>
	No	<b>C</b>	<b>D</b>

When considering whether promotion causes sales, most people recall instances when both

increased (cell A) and conclude that it does. Unfortunately, causality is related to the relative ratio of  $A/(A+B)$  to  $C/(C+D)$  (i.e., is the probability of increased sales higher when promotion is increased?). The relative “availability” (ease of recall) of examples in cell A leads to an overestimation of the likelihood of causality, i.e., we see a cause where none may exist.

This problem is magnified by the choice of possible causal variables. Managers tend to consider as causal variables those which are “obvious” (e.g., have data available on them) or are easy to recall and think about or are controllable by managers. They also prefer causes that are consistent with their particular point of view or self-interest (e.g., those in advertising “want” to believe advertising causes sales)—generally a very incomplete set of potential causes.

Even when the “right” variables are considered and data on all four cells are available to them, however, managers (like people in general) are poor judges of causality. For example, one study (Narayanan and Lehmann 1998) found that even when given the number of occurrences in all four cells of the table, people placed most weight on cell A, next on cell B, then C, and finally D (which they essentially ignored). Yet cell D, where the lack of sales increase is accompanied by a lack of an increase in promotion, is critical for establishing causality. The same study also showed a tendency (unhelpful if carried to extremes) of only concluding a cause led to an effect if their prior intuition suggested it does. As a consequence, individual judgments of causality are often quite poor. Since assuming that “promotion causes sales” leads to budget decisions, this is far from being just an “academic issue.”

### The Questionable Practice of “Best Practices” Studies

Terms like “practice sharing” and “best practices” have become ubiquitous in management circles. Indeed, these now substitute for more traditional research in many cases. Without question they can

uncover interesting ideas and actions to consider. However, they are not very useful for establishing causality or projection for a number of reasons.

### Availability/sample bias

What do best practices studies do? They look for a common practice or practices followed by successful companies and imply that these practices cause success. In essence, this is the same problem discussed previously with new labels:

	<b>Successful Companies</b>	<b>Unsuccessful Companies</b>
<b>Follow Practice</b>	<b>A</b>	<b>B</b>
<b>Don't Follow Practice</b>	<b>C</b>	<b>D</b>

Practices studies essentially report cells A and B, the number (or percent) of firms following a practice. Best practices studies focus on cell A, the practices followed by successful firms. Neither establishes that the practice causes success. For example, if 80% of the companies that are successful follow a particular practice, one might label it a best practice. Would you still do so if 90% of unsuccessful firms followed the practice?

### Getting causality backwards

In many cases, the causality may actually be reversed. That is, successful firms may be able to afford the practices (e.g., extensive health benefits, sabbaticals for employees). In general, the firms that advertise on the Super Bowl (the aberration of dot.coms excluded) are successful whereas few unsuccessful (small, unprofitable) firms advertise there. Yet it seems more likely that successful firms can afford Super Bowl ads than that Super Bowl ads make a firm successful.

### Tendency to ignore other explanations

Most humans seek explanations that are appealing or acceptable to them (e.g., failure was

someone or something else's fault or the practice is one they like or can control). This leads to considering a limited number of practices. For example, many managers underestimate the impact of competitors or the economy on their results, preferring to focus on their own actions.

### Ignoring complexity

Humans, sensibly, like simple explanations. Unfortunately (perhaps due to evolutionary biology which required quick decision rules to avoid saber-toothed tigers), we carry it to extremes. Rather than asking if some other cause may be involved, we tend to seize on the first cause/practice that "works." This means we ignore the likelihood that another practice might work better or that a given practice only works in certain conditions, i.e., when something else is also going on. For example, an increase in promotion may increase sales only when brand equity is high, competition is weak, etc. While some find such complexity irritating, its existence is important and, for some of us, beneficial. If the world were truly simple, then children or calculators could be programmed to make decisions, thus obviating the need for managers with expensive educations and six-figure (or higher) salaries.

### History works, except for turning points.

I am a huge believer in learning from history (and the related French proverb about history repeating itself) and a major proponent of meta-analysis, an approach which basically summarizes what happened in the past. Nonetheless, the past (especially when examined in short time periods) isn't always the future. How many of the *In Search of Excellence* firms are still excellent? If one examined the characteristics of firms with the greatest value (market capitalization) in early 2001, they would share many practices: large hype, growing losses, young employees involved in high-tech (in general) and Internet (in particular) businesses. Employing such "best practices" at that time, however, would have been disastrous.

### Copying practices often just adds cost (you never lead by following).

What happens if all companies search for "best practices," find the same ones, and employ them?

The result is that no one has a competitive advantage, much less a sustainable one. Since most practices add costs, the consequence is the kind of “pure competition” where no one makes much money. To paraphrase a maxim from sailing, it makes sense to go with a strong wind. Unfortunately, if you are behind and have no executional advantage (e.g., efficiency), you will never pass the leader. At some point you need to track to clear air. Looking for best practices can generate ineffective me-too, as well as antiquated, solutions to problems.

### Relevant Academic Research: An Oxymoron?

Academic research is often couched in specialized and arcane language and uses incomprehensible (and unnecessarily complex) methods and language. Yet in spite of this, much academic research has relevance to real decisions. As examples of how academic research can be relevant, consider some work in three MSI research priorities areas: understanding customers, brands, and new products.

#### Understanding customers

Consider the following two statements, both of which seem sensible:

1. New products should be targeted to experienced (expert) customers.
2. People respond positively to expert advice.

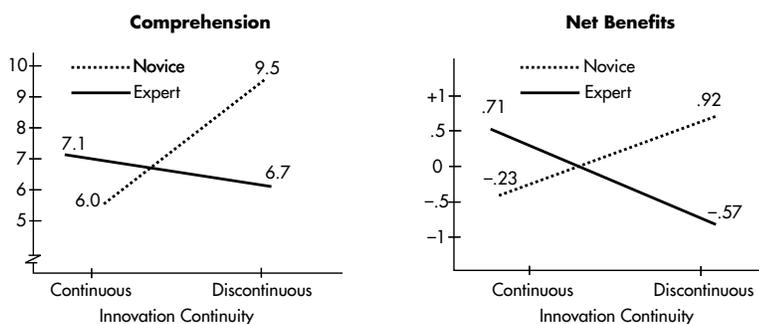
Unfortunately, both are at best too simplistic.

One study (Moreau, Lehmann, and Markman 2001) examined reactions of potential customers to new products (e.g., digital photography). For a “continuous”/marginal innovation, experts were indeed better able to comprehend, and saw more benefits in, the new product. However, when the innovation was portrayed as discontinuous/radical (made analogous to a scanner), the results reversed, with camera experts having lower comprehension and seeing fewer net benefits. (See “Customer Reactions to New Products.”)

This suggests targeting radically new products to light or non-users is a potentially superior strategy.

Another study (Fitzsimons and Lehmann 2003) found that “expert agent” recommendations often produced an unintended opposite (“reactance”) effect. When told an apparently inferior/bad alternative was bad, 71% of shoppers chose an apparently superior alternative. However, when told the inferior alternative was good, they became *less* likely to choose it (i.e., 87% now chose the apparently superior one.) Similarly, when the agent said the apparently superior alternative was good, 71% chose it. However, when the agent said the superior alternative was bad, more people (93%), not less, chose it. They did this in spite of the fact that they were now less satisfied with their decision. Basically, this “reactance” to apparently incorrect information led them to move in the opposite direction of the recommendation. (See “Expert Recommendations and Reactance Effects.”)

### Customer Reactions to New Products



Source: Moreau, Lehmann, and Markman (2001), p. 21.

This finding suggests that one should be careful with “unpopular” recommendations since you may get the reverse effect (think parents and children), as well as generate dissatisfaction which can harm future business. (This, unfortunately, may explain politicians’ general unwillingness to espouse unpopular views.)

Another level of customer understanding comes from analyzing the value of a customer (Gupta, Lehmann, and Stuart 2001). Assuming a customer generates a constant level of net revenue to a firm (i.e., there is no growth/customer expansion),

## Expert Recommendations and Reactance Effects

What Agent Says	% Choose Superior Target	Decision Satisfaction (1-10)
About a Bad Alternative		
It's Bad	70.6%	8.1
It's Good	86.7	6.2
About a Good Alternative		
It's Good	70.6	8.8
It's Bad	92.9	4.7

sion), the (discounted) value of that customer to a firm depends on the discount rate and customer retention:

Retention Rate (%)	Discount Rate (%)			
	10	12	14	16
60	2.00	1.92	1.85	1.79
70	2.50	2.38	2.27	2.17
80	3.33	3.13	2.94	2.78
90	5.00	4.55	4.17	3.85

Source: Figures based on Gupta, Lehmann, and Stuart (2001).

Two main insights emerge from this straightforward but "rigorous" calculation. First, the value of such a customer is two to five times current (e.g., annual) net revenue. This provides a useful standard against which to weigh acquisition and retention costs.

Second, the multiple is much more sensitive to the retention than the discount rate. (Actually, the discount rate may in fact be a function of the

Marketing Mix Variable	Average Changes (%) 1990-96				
	P&G	All Competition	Colgate	Unilever	Gillette
Advertising	+20.7%	+6.2	+67.3	+9.0	+68.8
Deals	-15.7	+12.6	+39.7	+2.2	+11.5
Coupons	-54.3	-17.3	+24.0	-32.0	+127.8
Net Price	+20.4	+8.4	+2.5	+11.5	-7.7

Source: Ailawadi, Lehmann, and Neslin (2001), p. 49.

retention rate; higher retention means less risk which should lead to a lower discount rate.) This suggests that work on product quality and marketing will add more to customer, and hence firm, value than exotic financial engineering. Put simply, marketing matters.

## Brands

Rigorous research can be simple and straightforward. One study examined the impact of P&G's move toward everyday low pricing (EDLP) in the early 1990s (Ailawadi, Lehmann, and Neslin 2001). The paper had the "usual" collection of statistical models (e.g., non-linear demand equations and competitive reaction functions). However, a simple analysis of average changes over the 23 product categories studied makes clear what happened (see table below).

P&G increased advertising and price and cut deals and coupons. Unilever tended to go along. However, competitors on average and Colgate and Gillette in particular did not: they increased deals and coupons. The result: P&G lost share, although its profits may have increased. This result reinforces the need to consider competitor reactions when analyzing strategic options, a "complication" which is often overlooked. It also suggests that rigor need not be complicated.

## New products

One critical issue is what makes a new product successful. A number of studies have addressed this. In one (Goldenberg, Lehmann, and Mazursky 2001), a series of successful and unsuccessful new products were identified and their characteristics analyzed. The results are interesting (at least to me).

Products that relied on clear attribute-based changes tended to be successful. More interesting, solution-spotting (seeing what customers were doing on their own to solve problems), and formal market research increased the likelihood of success while "our friends" intuition (mental invention) and trend-following (practice-copying) decreased it. Also, while market newness increased success, technical newness

## What Makes a New Product Successful?

Early Determinants	Variable	Success (%)
Templates	Attribute dependency (24)	91.7
	Component control (76)	87.1
	Not a template (76)	32.9
Source of idea	Need spotting (34)	64.7
	Solution spotting (17)	88.2
	Market research (11)	72.7
	Random event (7)	85.7
	Mental invention (40)	32.5
	Trend following (19)	21.1

Project Level Determinants	Variable	Success (%)
Newness to the market	High (39)	56.4
	Moderate (87)	69.6
	Low (32)	25.0
Newness to the firm	New to the firm (87)	52.5
Product offering	Need addressing (54)	75.9
	Economical (5)	40.0
	Segment focused (24)	62.5
	Trend, gimmick (39)	41.0
	Technological superiority (24)	9.0
	Formalization (27)	74.1
Technology change	Major (24)	20.8
	Moderate (33)	42.4
	Minor (69)	73.9

**Source:** Goldenberg, Lehmann, and Mazursky (2001)

decreased it. The moral: do something new/better, but do it simply. Here again, simple analysis revealed interesting results that may not match intuition. (See “What Makes a New Product Successful?”)

### Empirical Generalizations

Companies have, but often ignore, considerable information in their files. By analyzing what has

happened in the past (aka meta-analysis), one can obtain a prediction of what will happen in the future (barring a major turning point not accounted for in the analysis). This approach helps average out the infinite number of idiosyncrasies associated with a single study and allows for “triangulating” a finding. Considerable evidence suggests that even when averages differ (e.g., between large and small regions or specific products) the impact of specific variables (e.g., advertising) can be similar.

## Innovation Processes and Success

Factor	Number of Studies	Number of Measures	Average Correlation
<b>Strategic:</b>			
Technological synergy	6	18	.22
Product advantage	5	22	.31
Marketing synergy	5	24	.14
Company resources	3	4	.30
Strategy	1	9	.32
<b>Development Process:</b>			
Protocol	7	27	.29
Proficiency of technical activities	7	27	.26
Proficiency of marketing activities	5	20	.31
Proficiency of pre-development activity	5	14	.24
Top management support/skill	2	12	.23
Financial/business analysis	1	4	.18
Speed to market	1	1	.18
<b>Market Environment:</b>			
Market potential	4	18	.18
Environment	2	4	.29
<b>Organizational:</b>			
Internal/external relations	3	15	.31
Organizational factors	3	16	.30

**Source:** Montoya-Weiss and Calantone (1994), p. 408

In essence, this is a different approach to developing knowledge. Specific studies, often done in rush mode, have high apparent relevance. However, they are also subject to idiosyncrasies (e.g., a world event or characteristics of a test area). In contrast, a meta-analysis goes across several studies which provides for a more stable estimate and allows one to assess the impact of different conditions (e.g., a consumable vs. a durable good or a growing vs. contracting economy). It also has the advantage of being available yesterday, a notable advantage in a time-compressed world.

Consider the quest for the silver bullet, that magic process to guarantee new product success. One study (Montoya-Weiss and Calantone 1994) assembled available research to a point in time to assess the effect of various aspects of the new product process on success. The resulting correlations are on the order of .3, meaning they individually explain 9% of the variation in

success. While this is important and relevant, it is hardly a silver bullet. What this means is that multiple processes need to be combined to improve the odds of success. (See “Innovation Processes and Success.”)

Another potential use of meta-analysis is for purposes of evaluating proposed budgets. Consider the following budget for a slowly growing market:

	Current	Proposed
<b>Sales (\$)</b>	30,000,000	39,000,000
<b>Gross Margin (50%)</b>	15,000,000	19,500,000
<b>Advertising (\$)</b>	5,000,000	8,000,000
<b>Profit (\$)</b>	10,000,000	11,500,000

Is it reasonable? Would you decide based on the appeal of the PowerPoint presentation?

One approach is to see if the implied budget is sensible in terms of the implied effect of advertising on sales. Based on research (Lodish et al. 1995; Assmus, Farley, and Lehmann 1984), we know the impact of doubling advertising spending (“advertising elasticity”) tends to increase sales, from about 1% for a mature product to about 30% for a new product. The budget above proposes a 30% increase in sales for a 60% increase in advertising, i.e., an elasticity of 50%. Since this is beyond the range of past experiences, it seems prudent to question the budget. While the campaign, copy, etc. may be “special,” it is probably not that special compared to past ones (which also used copywriters, copy-testing, etc.) While sometimes it makes sense to “ignore the odds,” it is still useful to know you are doing so.

### Rigor vs. Rigidity/Rigor Mortis

Rigor is not magic or formulaic; creativity matters. The developers of “rigorous” methods were often quite creative (e.g., in physics, Kepler interpreted his mentor Brahe’s data to develop laws of motion).

Rigor is not synonymous with complicated (see earlier examples regarding P&G’s EDLP and the

value of a customer) or unintelligible. There is a disturbing tendency of many researchers to use more complicated methods, in the name of rigor, when less complicated will do. This is often accompanied by the use of specialized language only intelligible to their group/tribe/cliue. Real rigor is simple and direct.

Rigor is also not irrelevant, as some of the previous examples hopefully indicate.

Rigor without relevance is often interesting. Similarly, basic research may not benefit the developer (e.g., Xerox PARC) even though it is hugely beneficial to society. On the other hand, relevance without rigor is largely conversation, demagoguery, and supposition.

I suspect you will like some of the things said here and dislike and/or ignore others. That makes one of my points: you are searching for information that supports your intuition or position. The only real way to guard against this is to try to carefully consider issues from multiple perspectives, which makes rigor extremely relevant.

In summary, intuition works for the gifted; rigor is for the rest of us (hence the “S” in MSI). Put simply, give me facts described as stories, not stories represented as facts. ■

---

### References

Ailawadi, Kusum, Donald Lehmann, and Scott Neslin (2001), “Market Response to a Major Policy Change in the Marketing Mix: Learning from Procter & Gamble’s Value Pricing Strategy.” *Journal of Marketing* 65 (1) (January), 44–61.

Assmus, Gert, John Farley, and Donald Lehmann (1984), “How Advertising Affects Sales: Meta-Analysis of Econometric Results.” *Journal of Marketing Research* (February), 65–74.

Fitzsimons, Gavan, and Donald Lehmann (2003), “Reactance to Recommendations: When Unsolicited Advice Yields Contrary Responses.” New York, N.Y.: Columbia University, Working paper.

Goldenberg, Jacob, Donald Lehmann, and David Mazursky (2001), “The Idea Itself and the Circumstances of Its Emergence as Predictors of Success.” *Management Science* (January), 68–81.

Gupta, Sunil, Donald Lehmann, and Jennifer Ames Stuart (2001), “Valuing Customers.” Cambridge, Mass.: Marketing Science Institute, Report No. 01–119.

Lodish, Leonard M., Magid Abraham, Stuart Kalmenson, Jeanne Livelsberger, Beth Lubetkin, Bruce Richardson, and Mary Ellen Stevens (1995), “How T.V. Advertising Works: A Meta-Analysis of 389 Real World Split Cable T.V. Advertising Experiments.” *Journal of Marketing Research* (May), 125–39.

Montoya-Weiss, Mitzi M., and Roger Calantone (1994),

“Determinants of New Product Performance: A Review and Meta-Analysis.” *Journal of Product Innovation Management* 11 (5), 397–417.

Moreau, C. Page, Donald Lehmann, and Arthur B. Markman (2001), “Entrenched Knowledge Structures and

Consumer Response to New Products.” *Journal of Marketing Research* 38 (February), 14–29.

Narayanan, Sunder, and Donald Lehmann (1998), “An Investigation of Factors Influencing Causal Attributions in Managerial Decision Making.” *Marketing Letters* 9 (3), 301–12.

---

**Report No. 03–105**

© 2003 Marketing Science Institute