# Journal of Consumer Marketing Developing a Framework for Sources of New Product Ideas Article information

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# DEVELOPING A FRAMEWORK FOR SOURCES OF NEW-PRODUCT IDEAS

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*One approach to classifying sources of new-product ideas is to describe them simply as either consumer-activated or business-driven. A second approach is to assign short labels for the purpose of depicting the source of the idea. Neither approach fully captures the moment when new-product ideas first take shape. Our study reviewed over one hundred recently reported histories that described the ideas behind new products. A variety of newspapers, magazines, and other periodicals provided examples of actual idea-generating situations and allowed us to classify and develop a framework for new-product ideas. The use of this new framework promises to revitalize our current way of classifying, thinking about, and managing new-product ideas.*

## Introduction

New-product innovation is the lifeblood of today's marketing company. The logical starting point in thinking about new products is the generation of new-product ideas. However, idea generation is a very chancy process. The majority of ideas turn out not to make sense. Drucker has noted, "Innovative ideas are like frogs' eggs; of a thousand hatched, only one or two survive to maturity."[5]

Idea generation for new products should not be left to chance or accident. "The objective of all idea-generating activities is to guarantee that the company does not leave the exploration stage of new-product development to chance. New product gestation has to be a

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*planned function.*"[4] This article suggests an empirically-based framework to help managers plan their new-product activities and think about the many conceivable sources and origins of new-product ideas.

**New product gestation has to be a planned function.**

A search of the literature reveals that the experts do not agree on what is the most useful framework for thinking about the sources of new-product ideas. While there does exist some information about sources, the suggested frameworks typically fall into one of two categories:

1. There are basically two types of sources of ideas for new products: those that are internal to the firm and those that are external.[2,10]

2. Sources of new-product ideas are presented as lists of one-to three-word descriptors of those sources. The identifiers might include, for example, "Marketing," "R & D," "Employee Suggestions," "Acquisitions," "Customers," "Consultants," "Inventors," or "Advertising Agencies."[3,12]

The second framework above appears to be the more helpful one to managers seeking new-product ideas. However, it is not very descriptive, and the brief identifiers obscure any insight about the inception of the idea.

A search of the literature describing actual new-product introductions has shed some light on the sources of the ideas for new products. The literature reveals a certain richness in the underlying situations that is not conveyed by the two frameworks listed above. For example, ideas are often encouraged or fostered as a result of an environmental situation. The Pillsbury Company, for decades, has held a Bake-Off, in which consumers enter recipes containing the firm's products. What was conceived as a public relations project has led to the development of at least one cake-mix line. Consideration of environmental forces can guide us to a richer and better understanding of the process of generating new-product ideas. Such understanding could, in turn, lead to improved planning for the formation of new-product ideas.

## Description of the Research

This article will point out the need for a new framework for classifying sources of new-product ideas and will propose one such framework. Two conditions for such a classification framework are (1) that it include all potential sources of ideas, and (2) that it relate those sources to the specific environmental situation(s) that led to the idea.

The development of the proposed framework centers on research into actual new products reported in recent business trade literature. Articles describing more than a hundred new products were obtained from periodicals such as *Fortune, Forbes, The Wall Street Journal, Advertising Age, Marketing News,* and others. Each new-product idea presented in our framework not only reports the source of the original idea, but also identifies other factors present at the time the idea germinated. We believe these other factors are "necessary" or "supportive" conditions in that, had they not been present, the new-product idea may not have been significant or may not have emerged.

An examination of the total scenario—rather than of only the one factor of the idea source—leads to a better understanding of the overall idea-generation process. This understanding, in turn, leads to the proposal of a new scheme for classifying sources of new-product ideas.

## A Proposal for Classifying the Sources of New-Product Ideas

A search of the business and trade literature of the last few years yielded descriptions of the origins of over one hundred new products which companies *attempted* to commercialize. This information was organized and classified according to (1) the source of the idea and (2) the "other necessary or supportive factors" present in association with the idea. The objective was to arrive at a classification scheme compatible with both types of classifications. A

number of different schemes were tried with varying degrees of applicability. Table 1 shows the system that most logically fits the pattern of the information we obtained. This classification system has ten major categories divided into 22 subcategories. The following discussion of this system has two objectives:

1. The major categories and subcategories of the proposed classification scheme are described. Each of these subcategories appears to be an important factor in the generation of ideas for the new products studied.

2. Each category and subcategory is illustrated by one or two new products for which the factor in question was present. These examples (see Table 1) serve as evidence to suggest that the categories are appropriate to the proposed classification scheme.

## Laboratory Sources

Obviously many ideas for new products begin in a laboratory setting. Laboratory-based sources of new-product ideas seem to fall into at least three subcategories—those based on product research, those focused on process technology research, and those discovered accidentally in the laboratory.

*Basic research on "product."* That many new products arise out of basic laboratory research is evidenced by the fact that, in 1989, U.S. companies spent $68.8 billion on R & D—more than the R & D budgets of all Western European and Japanese companies combined.[1]

Both consumer and industrial companies develop new products based on research in their laboratories. Procter & Gamble scientists spent more than four decades developing the fat substitute, Olestra, which reportedly will take the calories and cholesterol out of such products as potato chips and ice cream.

Hewlett Packard researchers noted that the reflectometers used by telephone companies to locate faults in their fiber optics systems were very time-consuming to operate. It took Hewlett Packard several years to develop its award-winning reflectometer, which operated a hundred times faster than existing competitive products.

A number of American universities are financing new companies to exploit the discoveries made in their laboratories by faculty members. Since a recent federal law has given universities greater rights to profit from federally funded research findings, universities have been establishing venture-capital funds and technology-development companies.

2. *Basic research on processing technology.* Some new products can become realized only after basic research has lead to improved or new processing technology. Johnson & Johnson developed a patented processing technology which allowed them to use highly absorbent peat moss in their new line of very thin sanitary napkins. After Warner-Lambert developed a means for testing whether containers on its production lines were airtight, they attempted to commercialize the new device.

3. *Accidental discovery.* Sometimes research done in a laboratory leads to a discovery that is accidental, in the sense that it is useful, but different from that hoped for from the research. Such accidental discoveries can lead to new consumer and industrial products.

Upjohn's well-known hair restoration product, Rogaine, is one such discovery. The company was experimenting with a drug to combat high blood pressure, a high-dosage tablet containing Minoxidil. Eighty percent of the men and women taking the experimental drug were surprised when hair started growing on their head and sometimes on their arms, backs, and cheeks.

New industrial products can also result from accidental discovery. A Stanford metallurgical professor came upon a remarkable discovery while developing a high-performance steel for the government. He found that he could make a normally brittle high-carbon steel behave like warm fudge at about half the metal's normal melting point, and it had the added strength of forged steel after it had cooled. With this new type of steel, it would be possible to mold in a

## Table 1
## Classification Framework With Observed New Products

**A. Laboratory Sources**

1. Basic research on product
   - P & G's olestra
   - HP's reflectometer
   - Kodak's electric camera
   - Dry-air hair treatment
2. Basic research on processing technology
   - J & J's peat moss technology
   - WL's air-tightness tester
3. Accidental discovery
   - Upjohn's Rogaine
   - Molded steel

**B. Management Sources**

1. "Just got the idea"
   - Federal Express
   - MicroFridge
   - PC Flowers
   - Swizzle sticks
   - Weber grill
   - CanUp
   - Elevator car top safety device
2. Organizational encouragement
   - General Electric
   - Xerox
   - Steelcase
3. Corporate "think tank" environment
   - Xerox
   - Steelcase

**C. Company Situation**

1. Desire to break into a new market
   - AT&T's credit card
   - Clorox Super Detergent
2. Desire to improve market position
   - Gillette's Sensor
   - J & J's peat most sanitary napkin
   - Xerox
   - Steelcase
3. Desire to regain market leadership
   - Nike's Air Jordon
   - Reebok's Pump
4. Desire to remain a viable competitor
   - Kodak's electronic camera
   - Xerox
   - Steelcase
5. Company in a "difficult situation
   - Marvin windows

**D. Distribution Sources**

1. Changing patterns
   - PC Flowers
2. Distributor suggestions
   - Generic cigarettes

**E. Supplier Sources**

1. Supplier offering new ingredient
   - NutraSweet's Simplesse

**F. Consumer Sources**

1. Listening to consumers
   - GE
   - Warner Lambert toilet bowl cleaner
   - White Castle frozen hamburgers
   - Marriott Corporation
2. Dissatisfied consumers
   - Swizzle sticks
   - Weber grill
   - Dry-air heat treatment
   - My Own Meals

**G. Marketplace Sources**

1. Identifying an unsatisfied unsatisfied need
   - CanUp
   - Elevator car top safety safety device
   - HP's reflectometer
   - Upjohn's Rogaine
   - MicroFridge
   - Swizzle sticks
   - Weber grill
   - Dry-air heat treatment
   - My Own Meals
   - Lifeline
2. Changing behavior
   - My Own Meals
   - Hair test for drug usage
3. Accidental discovery
   - My Own Meals
   - Lifeline

H. Foreign Sources

1. New products suggested by foreign products
   - Hershey's Symphony
   - C-P's Fabuloso
   - *National Sports Daily*

single step complex gears and other machine parts that normally require extensive machining.

## Management Sources

Managers can be the sources of new-product ideas by coming up with the ideas themselves. Management can also institute an organizational structure that encourages new-product ideas, or they can organize something akin to "corporate think tanks."

1. *"Just got the idea."* Apparently many new products result because the managers "just got the idea." Perhaps the best-known example is Federal Express, conceived by the founder Frederick Smith, who was convinced there was a market for a small-package, overnight air delivery service. A more recent example is Robert Bennett's, wanting to start a business involving any product that allowed him to use his sales and marketing abilities to the maximum. He founded MicroFridge, Inc., which markets and distributes a miniaturized combination refrigerator-freezer-microwave oven designed for lodgings with limited electrical wiring facilities. His patented switching device limits electric power to only one of the appliance's three functions at a time, so it can be plugged into ordinary household outlets without blowing fuses. The appliance is now marketed to college dormitories and budget motels.

2. *Organizational encouragement.* Because researchers at the General Electric Company are supposed to get their ideas accepted by other departments and divisions, the company's management uses a variety of organizational tactics to encourage cross- pollination of new-product ideas among technology groups.

To foster close, informal contacts between researchers in different disciplines, the company organizes or sponsors art exhibits, concerts, and activities such as choral groups and a regular Friday evening beer and pretzel party. Meetings or talks about new developments or technologies are widely publicized to encourage interdisciplinary work, and the R & D director insists that researchers vary their tablemates in the cafeteria. These efforts have proven to be very successful at General Electric.

Instead of pushing marketers to come up with ideas and then asking scientists to make them work, the company increasingly gives researchers wide berth to imagine and invent—and then shop the invention around GE's divisions.

1. The result: GE and its scientist-salesmen regularly manage to transfer technology from the laboratory to the market, a transition that frequently baffles American business.

2. of 250 technology projects GE undertook between 1982 and 1986, an internal study done by Booz Allen found that 150 produced major applications. The average for U.S. industry is one in 10.[8]

3. *"Corporate think tank" environments.* Xerox and Steelcase are two of a number of corporations reportedly creating "corporate think tank" environments to get their researchers, designers, and engineers to think about ideas that might help the company's new-product development. Removed from the day-to-day pressures of routine business matters, such people are more likely to think about new products that would not ordinarily have occurred to them.

Xerox recently announced a new machine that combines high-speed copying, printing, scanning, facsimile, and computing capabilities in a single unit. The machine had it origins at Xerox's California research center, where "the project started as a labor of love for a tiny team of Xerox engineers, marketers, and futurists who had been directed to come up with technologies that would supplant traditional copiers before competitors beat them to the punch."[7]

The main reason Steelcase recently constructed its corporate development center was the desire to create a light, airy environment to stimulate creativity and innovation. The large structure has outside terraces where people can work, and inside are one-person think

tanks (called "caves"). Other unusual features include coffee stations that stand among blackboards where researchers can diagram ideas for others to see and comment on. According to an official who guided the center's conceptual design: "We're trying to anticipate the needs of the office of the future. We want to understand better what people will need to become more effective in their jobs. The bottom line for us is whether we produce better products."[11]

## Company Situation

A company's current situation in its industry may stimulate or force it to search out new-product ideas. The examples found in the literature suggest five types of company situations that encourage such searching: the company's current markets offer few growth opportunities, the company is trying to strengthen its competitive situation or improve its market position, the company desires to regain the position of leadership it once held, the company wishes to remain a viable competitor in a certain market, and the company is in a difficult or desperate situation.

1. *Desire to break into a new market.* When a company's market enters the maturity phase or experiences strong new competitors, the company often begins looking for new-product ideas. AT&T's recent move into the credit-card business probably resulted from the increased competitive pressure on its core businesses of long-distance services and telecommunications equipment.

Because the Clorox Company dominates the liquid chlorine bleach market, its earnings are heavily reliant on bleach profits. To reduce its reliance on a single product line, the company introduced Clorox Super Detergent, which leveraged on its strong existing brand franchise to give it an entry into a much larger market.

2. *Desire to improve market position.* The desire for an improved position in a market can stimulate a firm to look for new-product ideas. The Gillette Company obtains over 60 percent of its operating income from the shaving market, which showed signs of becoming a low-margin commodity business because of the growing popularity of disposable razors and the decline of high-margin razor-and-blade systems, such as Trac II and Atra. In an attempt to counter this market trend, the company decided to use its many resources to concentrate on products with a technological edge that could command a premium price. The result has been its highly successful "Sensor" shaving system, introduced in January 1990.

3. *Desire to regain market leadership.* With some companies, the position of leadership is a point of pride. If threatened, such companies aggressively direct bold efforts to search out new-product ideas which might help them regain their number one position. When Nike lost its leadership position to Reebok in the mid-1980s, the company responded with a new marketing strategy. It quickly launched new products, especially its very popular Air Jordan shoe. When Nike regained the leadership position in 1989, Reebok aggressively counter-responded. An important new Reebok product was a basketball shoe—the "Pump"—which had an inflation device to provide a snugger fit. Introduced in time for the 1989 Christmas season, the Pump enjoyed great success through the winter and the following spring.

4. *Desire to remain a viable competitor.* The Eastman Kodak Company has dominated the photographic film market ever since the birth of modern picture-taking. However, if the future brings cameras that take pictures electronically, without film of any kind, the film industry may fade into oblivion. Such developments could lead to the demise of the Eastman Kodak Company if it does not prepare itself for playing an important role in this rapidly changing market.

Kodak has already announced its first new product involving electronic photography. It is a hybrid of film and electronic photography called Photo CD. Consumers will take pictures as they always have, but they will have a new option—prints can be stored on a compact disk, which permits the images to be viewed

on either a television or a computer. While other filmless cameras exist, they make fuzzy pictures. Kodak's new Photo CD has the important advantage of making pictures almost as sharp as regular photographs.

5. *Company in a "difficult" situation.* Occasionally a company may find itself in a difficult situation due to competitive or market conditions which result in declining sales and excess or unused capacity. When a company is facing an uncertain future, management may be motivated to search for new-product ideas in the hope that they will reverse the company's downward trend.

**Idea generation is a very chancy process.**

The Marvin Company had been in the lumber business for many years. When an economic turndown left its employees with little to do, the company turned to making window frames. At the time, window frames were essentially a commodity business, with hundreds of little companies across the nation producing windows of standard sizes and shapes. Marvin decided not to compete against them, but rather to concentrate on a wide line of customized, made-to-order, high-quality, weather-resistant windows. The company offers a wide variety of windows produced to meet a builder's or architect's specifications. According to the vice-president of marketing, this successful new product line results from the following strategy: "The whole idea is to offer so much we never have to say no to an inquiry."[6]

## Distribution Sources

An idea for a new product may start when a firm notices some changing trends or patterns in distribution, or when a distributor suggests a new product.

1. *Changing patterns.* Two businessmen became intrigued with the electronic marketing system called Prodigy, developed by IBM and Sears. They believed that the new electronic marketing method opened up opportunities for new businesses, new products, and new services. They started PC Flowers, which used the Prodigy electronic marketing system to allow customers to order flowers with their personal computer. Through the Prodigy system, customers gain access to the FTD network of floral shops which provide worldwide delivery. Customers make their selection from drawings of some two dozen floral arrangements displayed on their PC monitor. The Prodigy system then sends the orders to the PC Flowers' computer system. Clearly, PC Flowers could exist only after the new electronic marketing system was already in place.

2. *Distributor suggestions.* Sometimes a distributor may be looking for additional products to fill out his line. If a search reveals that no one supplies the desired product, the distributor may approach a manufacturer with suggestions regarding a possible new product.

Topco, Inc., is a cooperative that distributes a wide range of generic products to grocery stores. It wanted to include generic cigarettes in its product line, but found no such product available. Topco approached Liggett Group Inc., the smallest of the six big U.S. tobacco companies, and asked the company to produce generic cigarettes which Topco would then sell at a discount under a generic label or store labels.

## Supplier Sources

*Supplier offering new ingredients.* Today's technology-oriented industries are producing various electronic components, food ingredients, genetic materials, and so on which manufacturers of other products might use in some product or some new product yet developed. The firms that develop such components sometimes contact these manufacturers and provide information and assistance on how their offerings might be used in the manufacturers' products. They even help them to develop and launch new products. According to the president of NutraSweets' Simplesse Company, which produces the fat substitute Simplesse, the company "is working with sev-

eral manufacturers to launch new products containing Simplesse as soon as the FDA allows it."[9]

## Consumer Sources

Consumers are good sources of new-product ideas in two ways. One, consumers let companies know about their likes and dislikes in regard to products. Also, consumers can be so dissatisfied with the available products that they take it upon themselves to design a better product.

1. *Listening to consumers.* More and more companies have an "800" telephone number for customers who wish to ask a question or express a complaint. Such telephone calls can be a source of ideas on how current products can be improved. Sometimes callers even suggest a new product. As a result of such calls, General Electric made modifications to one of its clothes dryers, and Warner Lambert received suggestions for developing its Efferdent dentures-cleanser into a product that removes tough toilet bowl stains.

Taking a cue from its customers, White Castle discovered that some of its customers were taking burgers home to put into the freezer, so it started freezing its little square hamburgers and selling them through grocery stores.

The Marriott Corporation, which is in the lodging and feeding businesses, undertakes much consumer research on room design and taste-testing. Listening to customers has been a tradition at Marriott Corporation, since its founder, J. Willard Marriott, believed strongly that one of the keys to success was giving customers good service. This belief translated into the practice of managers talking directly with customers, a practice that continues to this day.

2. *Dissatisfied consumers.* Consumers dissatisfied with current products may be motivated to come up with improved versions. Dissatisfied consumers might possibly be one of the best sources for new-product ideas. Reportedly, the now common cocktail swizzle-stick started with a dissatisfied consumer after the repeal of prohibition. The Weber grill, an outdoor cooking appliance which seems to be a feature of almost every patio and backyard in the United States, was also the creation of a dissatisfied consumer.

Ken Davidson was dissatisfied with standard whirlpool treatments for his son's tennis elbow. The whirlpool could not provide enough heat because people cannot tolerate very hot water for even a short time. Knowing that humans can stand hotter temperatures if the heat is dry rather than wet, Davidson developed a dry-air heat-treatment device which became widely accepted by physical therapists.

## Marketplace Sources

There are three ways that the marketplace itself can be a source of new product ideas: the marketplace identifies a need that is not being satisfied; changes in the marketplace or in its behavior suggest ideas; someone accidentally discovers that the marketplace is interested in a certain new product.

1. *Identifying an unsatisfied need.* James Cosgrove saw that one market trend was toward smaller housing units in increasingly crowded cities. This, combined with another market trend toward convenience packaging, was creating a storage space problem in many kitchens. He designed CanUp, a patented space-saving device for storing standard-sized food cans on a plastic rack mounted to the underside of kitchen cabinet shelves. The racks allow consumers to store cans in space that previously had been unusable.

The Guardian Elevator Company, a small company that maintained and repaired elevators in high-rise buildings, noted that it was getting more calls for unusual elevator repairs. It was increasingly being asked to repair elevators damaged by teenagers who managed to ride on the roofs of the elevators instead of inside them. In addition to the increased maintenance costs, building owners were concerned about unnecessary elevator downtime and lia-

bility claims in the event of accidents. The Guardian Company designed the Elevator Car Top Intrusion Device, which shuts off the elevator while sounding a loud alarm whenever an infrared beam detects tampering by someone trying to get onto the elevator roof.

2. *Changing behavior.* The widespread acceptance of microwave ovens in the first half of the 1980s spawned many new frozen-food products that were microwaveable. The rapid growth of VCRs during the second half of the 1980s has contributed to consumers' eating out less often and buying more "take out" food to eat at home.

Because the 1980s was also a decade of increased drug consumption, many employers began testing their employees for drug usage. The standard test involved urine analysis, but this test could identify drug use only if it had occurred within the last few days. Werner Baumgartner invented a process that produced a person's drug-use profile over the previous three months: the drugs enter the bloodstream, and traces are left behind in the protein that makes up hair. Neither washing, dyeing, or bleaching will remove the evidence of drug usage. Baumgartner's hair test is therefore much more likely to identify a drug user than the standard urine analysis test.

3. *Accidental discovery.* Sometimes the marketplace helps someone to accidentally discover an idea for a new product. Some event or encounter in the marketplace might suggest an idea that results in a successful new product.

Because Mary Anne Jackson was a working mother, she felt guilty about not spending more time with her baby. In an attempt to assuage these feelings, she spent much of her weekend cooking a week's supply of nutritionally balanced meals which would then be doled out to her daughter by the baby-sitter. Soon, many other working mothers wanted information about the meals she was cooking, so she began thinking about marketing a line of nutritious, easy-to-prepare meals for children. She launched her product line, My Own Meals, in Chicago in 1988.

Ray Tannatta was both a professional fireman and a licensed plumber who invented Lifeline, a device that could keep people from suffocating if they were trapped in a smoke-filled hotel room. Rooms equipped with Lifeline allow a trapped person to breath filtered air through the building's plumbing system until the person is rescued or the smoke dissipates. Tannatta's inspiration to invent the device came from a tragedy at a high-rise apartment fire he was fighting: a hotel occupant suffocated close to the sink that could have saved him.

## Foreign Sources

1. *New products suggested by foreign products.* Products in foreign countries can be the basis for a product introduced into the United States. A foreigner coming to the United States might notice the absence in this country of a product that is in widespread use in his or her native land and may see an opportunity to introduce the product as a new one.

Hershey Foods introduced a milk chocolate bar, Symphony, modeled after a creamier and smoother-tasting chocolate bar marketed in Europe. The Colgate-Palmolive Company reportedly is considering introducing into the United States its Fabuloso household cleanser. Because Latin American women are attracted to the brand's pleasant fragrance and lighter cleaning formula, Colgate believes Hispanic women in the United States would also use the product.

The idea for the *National Sports Daily*, a nationwide, sports newspaper, started with a foreigner. Emilio Azcarrago, a Mexican citizen, believed such a newspaper would be successful in the United States because most other countries were able to support a daily national sports newspaper.

## Government Regulations

1. **Regulation changing the environment.** Business and environmental changes can occur from new laws being passed, new proclamations being made by government agencies, or the regulation or deregulation of certain indus-

tries. Such changes in regulation often encourage people and companies to think about new-product ideas.

It is common knowledge that new airlines came into existence because of airline deregulation. Federal Express Company was able to introduce its "Overnight Letter" service when the Postal Service changed its regulations. More recently, the DuPont Company introduced a family of air conditioner and refrigerator coolants to replace the ozone-depleting chlorofluorocarbon coolants (called CFCs) used in the past. The new coolants currently are more expensive than CFCs, but as new government taxes are imposed on CFCs beginning in 1992, the new coolants will become less costly. The government tax imposed on CFCs clearly encouraged industry to seek out a new product to replace them.

## Military and Space Programs

1. **Adapting military or space technology.** Over the last forty years federal administrators have made substantial research expenditures for military and space needs. Often these expenditures are for programs which can suggest new-product ideas for civilian or commercial usage.

The U.S. military has a network of satellites called GPS, Global Positioning Systems. Any automobile or boat that can receive and interpret signals from GPS can pinpoint its exact location on earth. Boaters are now able to purchase such receivers. Similar devices may be available for automobiles in the not-too-distant future. Such products came out of the government's work on geographic positioning systems.

Large commercial airline manufacturers estimate that between 500 and 1,500 supersonic jumbo jets could be sold annually by the year 2005 if the industry could come up with an acceptable supersonic jet engine. The industry is capable of building an engine that can propel a jumbo jet at speeds three times the speed of sound using technology that has already been developed for military jets. However, that technology must first be modified to make it more cost effective and environmentally responsible.

## Managerial Implications and Recommendations

If we can better understand the sources of new-product ideas, we should be able to predict and manage the innovation process more effectively. Thinking about new-product ideas must be a **planned** process. Plans need a blueprint or a road map to follow.

Some of the new-product sources presented in this study do not easily fit into either of the two frameworks found in the existing literature. The "internal/external" paradigms are too broad or too general to be of much practical use to managers. Neither do the lists of eight to ten identifiers seem adequate when compared with idea sources found in the literature. On the other hand, because the data falls naturally into the pattern presented in our framework, our model seems to fit reality quite well. Thus the total scenario surrounding a new-product idea may be more important than just the "source" of the idea.

It should be noted that idea generation can be more complex than a single-factor phenomenon. Some new products appear to have their origins in a number of sources or factors. For example, in Table 1, "My Own Meals" is listed under four subcategories (F2, G1, G2, G3), the dry-air heat treatment device is listed under three subcategories (A1, F2, G1), and several items (e.g., H-P's reflectometer and PC Flowers) appear under two subcategories. The implication is that some clusters of factors may be more important than others in certain situations. However, our limited sample size allows us only to note that some new products may have multiple factor origins.

Two managerial implications follow from these findings. First, the generation of new-product ideas is a chancy matter, but the procedure for coming up with new-product ideas should not be left to chance. The classification scheme shown in Table 1 can help practitioners gain a better understanding of the phenomenon known as new-product idea generation.

Second, the proposed classification scheme can also help managers redesign their organizations to make them more effective in identifying and capturing new-product ideas. In the past, the responsibility for product idea generation has often been assigned to specific departments, such as R&D or Marketing. However, the various categories in our framework suggest that a number of other groups should participate in this responsibility as well. Clearly, categories B and C imply that top management should be deeply involved in this activity. Sales managers and distribution managers should be alert for new-product ideas originating with distributors, and the purchasing department should report new-product ideas suggested by suppliers. Marketing research personnel should constantly be monitoring both consumers and the marketplace for signals that might be the basis for a new-product idea. In many firms there may be no single department or group that is responsible for monitoring possible ideas emanating from foreign sources or resulting from changes in federal regulations or from military or space programs. However, for some companies those may be good sources of new-product ideas, and the specific responsibility for monitoring those sources should be assigned to someone.

## End Notes


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