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# Market Driven Innovation

## A Systematic Method to Focus and Encourage Innovation

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### Need to Focus Innovation Efforts

After three decades of "fast second," "stick to your knitting," and "the pursuit of quality" types of organizational philosophies, decision makers have come to realize that continuing innovation is the essential factor for organizational success. Although most organizations now appreciate the importance of innovation to their prosperity, the truth is that few are being very effective and efficient in producing innovation. Targeting innovative efforts is always difficult, and getting the organization's projects, resources, and culture aligned with each other and focused on the market is a formidable task.

Business history is replete with examples of organizations that have expended tremendous efforts on innovation programs that when brought to fruition had little direct value in the marketplace. The failure of Polaroid's "instant movie camera" in competition with video cameras, the limited success of Kodak's disc camera when it had to compete with improved electronic 35mm photography, the ill-fated venture of Exxon into the world of office machines, and Xerox's office automation system illustrate the fact that poorly conceived innovation projects lead to poor results. In fact, the improper focusing of innovation programs can be almost as dangerous to an organization as a "sit still" innovation policy.

Polaroid's instant movie camera was an incorrect response to a correctly understood customer need. Where Polaroid failed was in letting the response be driven by internal capability and not understanding competitive response and technological capability. Since they had instant film technology, it was natural for them to build on it. However, video technology was improving too quickly, and the window of opportunity closed before Polaroid could improve instant movie film technology to the point of customer acceptability.

The failure of Kodak's disc camera was slightly different. Again, the market demand for simple, quality photographs was understood. The failure was in the strategy Kodak chose to take advantage of the opportunity. Kodak's primary business is film. Through the disc camera, they were attempting to develop proprietary film technology that would give them an advantage over competitors like Fuji. They also failed to understand the impact of the integration of electronic circuitry onto chips. This made the automatic 35mm camera a reality, bringing a higher-quality image to the mass market.

Exxon's mid-1970s venture into word processors was doomed by a failure in the understanding of the technology. Exxon correctly identified office automation as a significant opportunity. Also, they correctly understood that they shouldn't attempt to develop a product internally. In purchasing Vydec, they misjudged how fast the technology was going to move

and what it would take to stay in the game. In addition, the culture of a petroleum company and that of a word processor company are and need to be vastly different. The cultures were too different for the venture to last.

Xerox's first office automation system effort was based on a misjudgment of the time frame of the opportunity. They correctly understood that office automation was a significant opportunity, but they misjudged how fast the opportunity was going to develop. They became technology and innovation driven. They wanted to be advanced and different. As a result, their concepts and technologies were years ahead of the market; many are only just now being utilized by successful companies.

These are all historical examples, but the problems have certainly not gone away. One currently unfolding story is Toyota's latest entry into the pickup truck market. Only 2445 T100s had sold by early 1993, a rate far less than required to meet their 50,000 annual sales projection. Already successful in the small pickup truck market, Toyota apparently could not figure out how to differentiate themselves from their competition in the market for larger pickup trucks. They misunderstood customer needs when they attempted to segment the market into three categories of trucks, and produced an entry in the middle for which there appears to be little or no demand.

On the other hand, many organizations have better understood the overall market and the environmental driving forces and have succeeded by targeting their innovative efforts more effectively. The development of aspartame by the NutraSweet Company, of the Walkman by Sony, and of a truly laptop computer by Compaq illustrate how product innovations can be successful. The commitment of Motorola, Black & Decker, and Ford to improved production processes has provided each with markedly enhanced competitive positions, while the skyrocketing growth of Dell Computers and Wal-Mart shows that new procedural approaches can also produce impressive results.

The point is that innovation effort is valuable if it is properly targeted. Contrary to the emerging opinion that incremental innovation in manufacturing processes is a panacea for all industries, the truth is that there is no innovation strategy that is appropriate for all companies in all situations. What is needed is a method for effectively analyzing the overall environment in which an organization operates, and for developing an innovation program that matches the needs of the customers, the realities of technological progress, the impact of competition, and the capabilities of the organization.

Innovation in products and services, in processes and in operational procedures is essential to the success of any organization. Whether the innovation is incremental, distinctive, or breakthrough should be determined by the future needs of the market. Effective targeting must include analysis of developing customer needs, emerging technologies, the total competitive environment, internal capabilities, and basic organizational goals. An efficient organization has both formal and informal mechanisms to properly align these elements and convert the analyses into productive innovation programs.

Current conditions speak volumes to many organizations about the need for change and innovation. For example, Boeing is focusing significant effort on "not doing what IBM, Sears Roebuck, and General Motors have done." The action plan put in place by Boeing is full of process and procedural innovation requirements. The impact of those requirements will be largely incremental. Importantly, the marketplace opportunity points toward the need for distinctive and breakthrough innovation. Boeing will find it difficult to avoid doing the very things it publicly states it does not want to do.

## A New Approach to Targeting Innovation Efforts

In determining the most appropriate innovation strategy for an organization, a number of factors must be considered:

- 1) What is the time frame the organization considers to constitute its initial "window of opportunity"?
- 2) What is the market the organization chooses to serve? What are the critical driving forces for change affecting the marketplace?
- 3) What are the current and future needs of the customers in the marketplace? Is the market relatively satisfied with present products and services, or is there pent up desire for new capabilities?
- 4) Who are the real competitors, and what are they doing? Are present competitors stressing small advances, or are they emphasizing more basic changes? What competitive responses can be anticipated to meet the needs of customers? Are new and unexpected competitors emerging?
- 5) What are the key technologies in the marketplace? Are they mature, developing, or in a state of transition? What are the underlying supportive and enabling technologies? What is their status? Are there any new technologies that could affect the marketplace?
- 6) What resources are available for innovation efforts? What is the state of the organization's personnel, facilities, funding, intellectual property, and strategic alliances?
- 7) Who are the stakeholders of the organization? What are their needs, hopes, and desires?
- 8) What are the long- and short-term objectives of the organization? Does it seek to be on the forward edge of technology and organizational development, or is it more comfortable with a conservative approach?
- 9) What is the current culture of the organization? What type of change does it permit?

The market-driven innovation methodology is a mechanism to answer all the questions above, plus others, and then to structure the responses in such a way that informed decisions can be made. The result is a creative and productive, purposeful and flexible innovation program. Application of this methodology is divided into four separate but coordinated tasks (Figure 1).

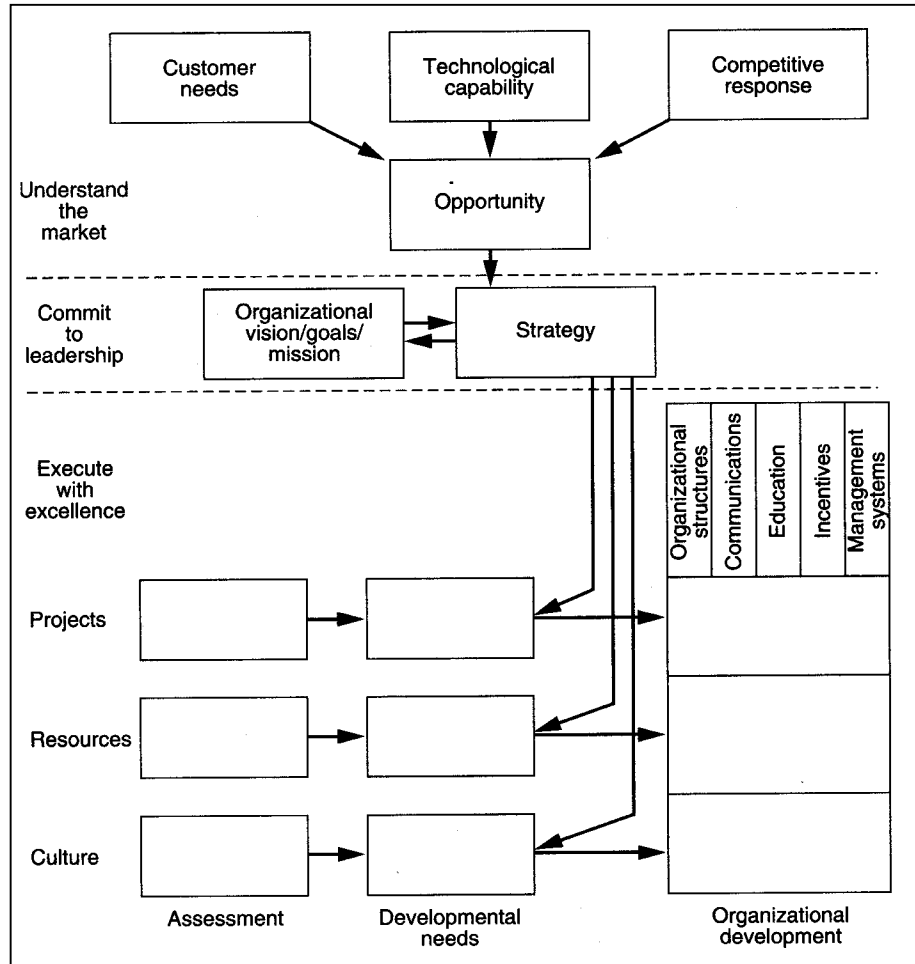


Figure 1. Market driven innovation methodology.

It is best to follow the logic of the tasks presented. However, special situations and requirements often demand that these tasks be done in some other order. Regardless, if all the tasks are fulfilled, sufficient information will be obtained to complete the innovation analysis. There are four basic tasks in the market-driven innovation methodology:

- Understand the market
- Commit to leadership
- Execute with excellence
- Keep customers foremost

## Understand the Market

To understand the market means to develop a clear perspective on its future threats and opportunities. The first step in this task is to decide on the time frame of the initial window of opportunity. The early estimate may be refined as more information is developed, but it is

useful on the first pass to start with a longer time frame than may be ultimately needed. Next, a clear definition of the market the organization chooses to serve should be developed, and the critical driving forces for change affecting the marketplace assessed. The organization then develops an understanding of current and potential customers in the market. The current and future needs of the customers are then determined. Finally, customer satisfaction with present products and services is determined.

The organization must then assess its competition, how they may respond to future customer needs and how they may be affected by the driving forces for change.

Lastly, the organization should assess technology. First the key technologies in the marketplace are ascertained. It is determined if they are mature, developing, or in a state of transition. The capabilities of these technologies to meet the needs of the marketplace are then verified. Finally, new technologies are reviewed for possible inclusion.

When all this information is gathered, an evaluation can be made of the threats and opportunities in the market over time.

### **Commit to Leadership**

A leader in a market is an organization that establishes the ground rules by which all the competitors have to play. To commit to leadership means to seek out the way in which the organization can exploit the opportunity in the market while minimizing or avoiding the threats, meet the needs of its stakeholders, satisfy its business objectives, and effectively and efficiently utilize its own capabilities. A strategy is the organization's way to interpret the market and accomplish leadership.

### **Execute with Excellence**

To execute with excellence means to have an accurate understanding of the organization's capability, understand the differences between the organization's capabilities and the needs of the strategy, and to commit to the development of the organization so that it can effectively and efficiently execute the strategy. This requires a long-term commitment to the organization's projects, resources (including people), and culture. It means treating the organization as a renewable resource, not an expendable one.

For most organizations, the development of the culture is the controlling element. But whichever element - projects, resources, or culture - controls the development of the organization, that element determines the minimum strategic time frame that must be chosen for the analysis. For example, if changing the culture will require five years, the time frame of the analysis must be at least five years. The time frame can be longer if the market dynamics demand it.

### **Keep Customers Foremost**

Keeping the customer foremost means that throughout the entire market-driven innovation methodology, the customer's needs, current and future, must have the highest priority. Delighting customers results from anticipating their needs, and effectively and efficiently utilizing technology and the organization's capability to fulfill those needs in ways the organization's competitors do not.

## Application of Market Driven Innovation

In each case where the market-driven innovation methodology has been employed significantly, easily observable benefits have resulted. We have found the methodology to be particularly useful in the following areas:

**Understanding complex and chaotic markets.** One organization, already known for its innovation, used this methodology to understand the emerging market for intelligent vehicle highway systems (IVHS). IVHS is a large, complex market with many systems, subsystems, products, and technologies. IVHS, simply stated, involves the merging of electronics, communication, and computer hardware and software systems to produce "smart" cars, "smart" highways, and the systems that link them together. Using this methodology, it was possible to understand how the market was evolving and for the organization to determine a strategy to enter the market. The methodology provided insights not possible with conventional methods; it also allowed the organization to develop a way to handle the technological changes that must accompany this new market.

**Developing organizational vitality.** In today's environment organizations must be vital. To be vital means to be alive, growing, developing, changing, and learning. In one case a large software development division of a worldwide corporation used this methodology to determine a strategy to keep its organization vital and identify a set of values that the organization must develop to transcend the software and system changes on the horizon.

**Creating a vision and a consistent culture.** A presently small commercial real estate firm, The Trilog Group, whose founder and owner, Alan Graham, has a view of the future that is grand and entrepreneurial, adopted the methodology to completely structure the organization. The methodology was first used to create, then to clarify, the vision, mission, and goals of the organization. Then the entire organization worked together to understand the market, and to develop strategies to take advantage of the identified opportunities. Finally, the organization has begun to plan and develop programs to create consistency in the organizational culture.

**Creating strategic direction.** The Austin-San Antonio Corridor Council is an economic development organization for a region of Central Texas. This methodology was used in a workshop retreat setting to reestablish the direction of the organization, unify diverse factions that were pulling the organization apart, and establish clear vision, mission, and goals.

**Applying quality to R&D.** Quality programs have been very successful in some manufacturing organizations, but not very successful in R&D organizations. This methodology was used in the R&D division of a large petrochemical company to structure a measurement system to improve quality and effectiveness.

**Comparing organizational objectives with actual programs.** Often, in carrying out strategic programs, basic objectives become lost in execution activities. This methodology provides an excellent means of relating the two. For example, at one large, high-tech organization, the management had specifically charged its research and development staff to concentrate on forefront-type innovations. Although there was general agreement in the company that this mandate was being followed, an analysis showed that the bulk of the R&D projects actually underway were of an incremental, short-term type. Moreover, an

analysis of the existing incentive program clearly showed why this shift in effort had occurred, as well as how the program should be changed.

**Facilitating communications between various groups within the organization.** The need to classify technologies, markets, competitive actions, and internal resources requires the establishment of common vocabulary and thought structures, but these are often lacking in large organizations. For example, at a large chemical company using this methodology, research, manufacturing, and marketing people said that, for the first time, they truly understood the objectives and concerns of their counterparts.

**Identifying future opportunities and threats.** Given this methodology's emphasis on innovation, it is not surprising that it is primarily future oriented. Thus, it tends to look at what the market environment will be rather than what it is. This orientation has often uncovered opportunities and threats that would otherwise have been overlooked in traditional planning approaches. In an analysis of a large telecommunications company, business opportunities were identified not only in its traditional market area, but also in associated areas of interest.

**Formulating an innovation enhancement program.** Often, an organization wishes to enhance and expand the innovation activities of its people. A first step in accomplishing this is an analysis of the innovation potential of its employees and of its own innovation environment. A large computer company assessed the innovation propensities of its employees in order to tailor an effective innovation program, and a large government agency conducted a similar assessment. In the latter case, the innovation program will be integrated with a "quality management program."

**Providing continuity of planning and execution between organizational levels.** The market-driven innovation methodology and its vocabulary are basically the same at all organizational levels. Hence, efforts can be started at top levels and filtered down, or started at lower levels and aggregated to the corporate level. At the Gas Research Institute, the latter approach was applied. Analysis started with small commercial air-conditioning equipment and extended to the Space Conditioning Division. On the other hand, at the previously mentioned high-tech company, the methodology was started at corporate headquarters and will later be extended to subordinate groups.

**Assisting people to break out of stereotypical thinking modes.** Most managers and executives spend the bulk of their time solving familiar problems in familiar ways. The special structure of the market driven innovation methodology forces people to think of situations in new contexts. For example, one organization examined its promotion policies and procedures. Early in the analysis, the organization found, to its surprise, that present policies and procedures were strongly motivating activities that management was trying to discourage.

**Creating a team.** In all the examples cited above, and in many others, a team was truly created. Members of different groups within the organization were brought together. During the time they worked together they came to understand and use a common language. Moreover, they developed and shared common purposes and were confidently able to take the output from their efforts and directly create innovative programs.



## Long Term Value of the Market Driven Innovation Methodology

Over the last decade, executives have been bombarded by a plethora of "slogan solutions" which promise quick fixes to their management problems. Theory Z management, quality circles, the book *The OneMinute Manager*, "management by walking around," and a host of others have each had their day in the sun and have, to a large extent, faded into the dusk. Each of these approaches has had its utility. However, each has addressed only a limited aspect of the organization's operation.

These approaches have drawbacks. They tend to:

- Focus on a single element of the organization, while the market-driven innovation methodology deliberately involves all elements.
- Focus on a single level in the organization's chain of responsibility, whereas this methodology can be applied equally well at all levels.
- Focus on a snapshot in time, while this methodology is organized to address a dynamically changing environment over time.
- Not be able to link the organizational culture to market needs, while this methodology allows the organization to link its culture to market needs.

Market-driven innovation is fundamentally different from these other concepts. Although its concept is simple, its effective application requires effort, imagination, and insight. The primary value of the methodology is not an immediate solution to immediate problems.

Rather, it is an examination of the fundamental structure of the organization, the markets it serves, and the business environment in which it operates. It can act as a generator for the business model that can effectively tie the organization to its environment.

Moreover, the market driven innovation methodology provides a means for making basic changes in the organization's approach to opportunities and threats. Since the primary focus of this methodology is on innovation, it forces the organization to look to the future and, most important, it provides the organization with a method for examining and exploiting that future in a logical, structured, sustained manner while maintaining its creativity.

This methodology is not a quick fix to all management problems. It is a method for enhancing and expanding the innovation efforts of the organization and for focusing these efforts to better achieve both long and short-term organizational goals and objectives. One of the participants in a seminar on the methodology summed up her perspective on the approach with a drawing, which has been recreated in Figure 2. She stated that market-driven innovation is a breakthrough innovation which allows the individual or company to map a path between the push of technology, the pull of the market, and the clash of competition, and to evaluate, strengthen, and integrate internal resources for management, research, and entrepreneurship in order to develop a strategic vision for innovation in all categories and at all levels.



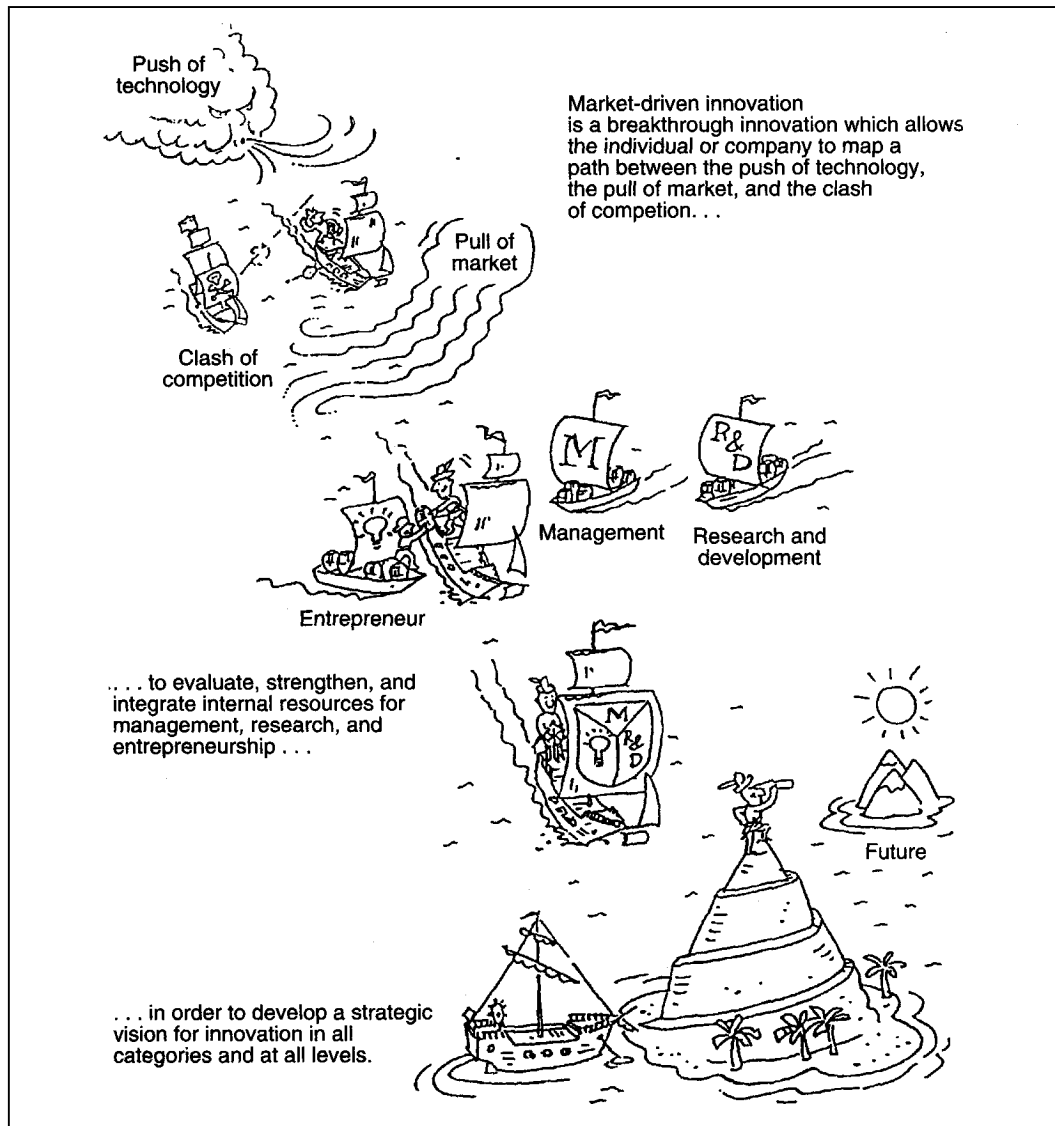


Figure 2. Market driven innovation.

## About the Authors

Paul Schumann and Donna Prestwood are the founders of Glocal Vantage, Inc., an Austin, Texas based consulting firm. They offer consulting, training, seminars and speeches on developing innovation in organizations. More information about Glocal Vantage can be obtained at [www.glocalvantage.com](http://www.glocalvantage.com). This article was excerpted from their book, *Innovate!*, McGraw-Hill, 1994.