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Is There a Potential Market for the Technology?

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Information, research, analysis - as quick and easy as a snapshot or as detailed and painstaking as an oil painting. It was only Odysseus' knowledge of her powers that saved him from the witchcraft of the beautiful enchantress Circe. Like Odysseus, making use of all relevant information can give us the knowledge to make the right decisions when enchanted by the promise of new markets.

IS THERE A POTENTIAL MARKET FOR THE TECHNOLOGY?

TECHNOLOGY ANALYSIS: KEY TO MARKET SUCCESS

Businesses are continually seeking the means to foster growth—by reinforcing or expanding their current market position, by entering promising new markets, or by developing new technologies into products. To evaluate these opportunities, firms increasingly use market analyses and feasibility studies.

Factors for Analysis. Regardless of differences in style, virtually all market analyses or feasibility studies have a common theme. Whether a firm is introducing a new technology, product, or service; improving a current product; investing in a new enterprise or technology; or entering a new market, the fundamental questions are essentially the same:

- What is the basic industry or market structure?
- What is the market demand or potential?
- Who are the major market participants?
- What is the competitive environment?
- What are the specific market entry requirements?
- Are there new technologies/products in development that will impact the opportunity?
- What is the pricing structure?
- Is the process/product/service financially feasible?

In practice, these fundamental questions undergo more specific scrutiny:

- *Overview of market structure* - current technology, production methods, industry production capacity, industry concentration, market integration, number of players, pricing and margin considerations, and market segmentation
- *Analysis of market potential* - current and prospective market environment, differentiated where appropriate by the relevant market scale, i.e., global, international, domestic, regional

- *Examination of major market participants* - production, distribution, consumption market chain

- *Competitive environment* - major competitors, major customers, respective strengths and weaknesses, core technologies, strategies for future market penetration

- *Market entry requirements* - need for specific technology, personnel, distribution methods, or certifications

- *Impact of new technologies and products on markets and competitive position* - will new technologies obsolete our technology or erode our market share?

- *Impact of pricing on market entry* - can the firm profitably fill a specific market need—at a price the market is willing to bear—and still keep competitors at bay?

A Question of Degree. A market and technology analysis or feasibility study can be phased incrementally to provide a series of logical and cost-effective checkpoints along the corporate decision-making path. For example, if after an overview of the market and current technology a firm decides that the market participants are too big or the market potential too limited, it can decide to curtail any further analysis. Should the process move on to consider financial feasibility—following positive signs in each stage—the likelihood of success is enhanced.

Technology, market, and feasibility studies provide crucial information in evaluating new opportunities.

Minimizing Loss, Maximizing Opportunity. Technology, market, and feasibility studies provide crucial information in evaluating new opportunities—particularly to any firm with scarce resources. Such studies are prerequisites for sound corporate planning. With these tools, corporate management can cost-effectively explore a number of options and product developments. This logical, incremental approach minimizes loss while maximizing potential, profitable opportunities.

SNAPSHOT MARKET RESEARCH

How can we get a better handle on new product opportunities that may arise from a technology? Often, a product seems to be a good fit for existing production, marketing, and distribution, but it is perhaps a little more technical than we're comfortable with. Worse, there's a limited window of opportunity and the company has meager funds for expensive market research.

Opportunities to expand production, acquire a plant, engage in a new product venture, or invest in a new technology may warrant background research. There are common reasons for evaluating both a technology and the outlook for associated profit:

- Explore the potential of new products or unfamiliar markets

- Supply technical input relating to venture financing or joint ventures
- Provide due diligence in structuring an investment
- Define areas of negotiation in acquiring rights to proprietary ideas
- Evaluate unexpected actions by competitors or regulatory agencies

These reasons bring us to the case for snapshot market research. This approach relies upon assembling all the information that can be developed in 4 or 5 days of technical inquiry. A significant amount of pertinent information can be collected via on-line databases, telephone interviews, and intensive review of published material. The key element of the process is quick interpretation of the raw information into a balanced appraisal of opportunities and prospects:

- Are claims for the performance of an electromagnetic bone-growth stimulator technically sound? Will the patent offer protection? Will enough physicians accept this new device to ensure a sizable market share?
- Can a vegetable product grown in Samoa be imported as a crude vegetable substance, or must it be labeled as a natural drug of vegetable origin? Which regulations apply—those of the Department of Agriculture, Food and Drug Administration, or U.S. Customs?
- Is there a growing market for equipment to process and analyze Landsat digital images? Does the hue-brightness-saturation approach possess technological advantages over the red-green-blue system?
- Does an inventor's process for producing a low cost oil-coal slurry fuel appear technically and economically sound?
- Does a patented technique for preventing drilling mud leakage in oil well drilling have widespread and general application, or only local and limited utility?
- What products are currently available in the home/personal protective alarm market, what marketing strategies have been tried, and which appear most successful?
- How many commercial cooling towers are in service in metropolitan areas and where are most towers located? What is the size and structure of the industry providing water treatment services for cooling towers?

Most people think that obtaining this technical and market intelligence is prohibitively expensive and time consuming. Sufficient information can be gathered in 1 to 2 weeks

with a modest budget of $1,000 to $4,000—a manageable sum for many small businesses.

What data can we expect from snapshot market research?

- *Competitors* - business volume, customers, product characteristics, plant capacity, and production backlog

- *Customers* - types and mix, products used including quantity and prices, ordering backlog, and future needs

- *End consumers* - product preferences

- *Market* - current size forecasts of use and assessment of outlook

In reaching short-term decisions on many projects, a quick-response assessment is essential. If the project proves feasible, a more comprehensive study probably is needed. The initial analysis serves as the basis for follow-up work that could require several months to complete. While the quick-response assessment is a valuable tool for management decisions, it should not be substituted for full-blown market research that is required before committing any resources. In many cases, we just want to know whether or not to play the game.

INFORMATION: A STRATEGIC COMMODITY

On-line searching is one of the simplest and quickest ways to gather information. Time and knowledge are the ultimate denominators for competing in the 1990s. Before we can have knowledge, we must have information.

Most corporate fiascoes occur because companies let faulty assumptions and misinformation direct their decisions. For decades, Xerox was the premier company in the copier market, holding a 90+ percent market share. When Japan entered the market with less expensive copiers, Xerox decided this was no threat. Xerox figured cheaper copiers would not match Xerox quality. When Japan introduced smaller copiers, Xerox assumed smaller copiers could not handle large volume. Before Xerox accepted that Japan's copiers were as reliable and as productive, their market share dropped 20 points.

The Big Three automobile manufacturers also made decisions based on poor or misinterpreted data. These companies had very successful lineups of large and powerful products. An unprecedented increase in petroleum prices—and the availability of small, high-quality cars—caused the marketplace to change. The auto makers, even in the face of this data, insisted that consumer preferences had not changed and that buyers would return when petroleum prices dropped. They lost 50 percent of their market share before they realized that consumer preferences had indeed changed. They have since recovered—but most small businesses don't have the resources to rescue themselves.

Time and knowledge are the ultimate denominators for competing in the 1990s.

Once again, technology has made time and knowledge the ultimate competitive denominators. The ability to access and process information on competitive intelligence, new product information, R&D, market trends, environmental, and regulatory assessments is critical to a company's future. Companies that survive and thrive in our global marketplace have to be information-based.

Information-based companies are more responsive to customer needs and to changes in volatile business environments, which make them more effective competitors. These companies introduce new products and react to market changes much faster and more comprehensively than traditional companies. Companies are finding out the hard way that failure to respond quickly to the needs of the marketplace can be devastating.

Failure to collect or accurately assess information spells disaster. To stay ahead and, more importantly, to get ahead, companies must use the information effectively. Though business intelligence activities have increased significantly in the U.S. over the past 5 years, Japan and Sweden have become the world leaders in business information gathering and analysis. According to an article in *The Journal of Business Strategy*, Japan views business information as a commodity offering competitive advantages in the global marketplace. Business information gathering and analysis is an integral part of Japan's manufacturing and industrial system. Sweden's comprehensive business intelligence activities include well-developed corporate programs, for example, SAS and Volvo, which are supported by global collection networks set up by Sweden's international banks and by government embassies worldwide.

Companies who use information to develop and analyze business scenarios, who benchmark to manage—and control—their business activities in risk—adverse environments, are forging ahead of their competitors. These information-based scenarios are used strategically to develop business studies, rank alternatives, manage risk, leverage critical resources, and sustain competitive advantage.

If we strategically use information, we can improve bottom-line performance both for the short and the long haul. This is a fundamental and far-reaching improvement over short-term gains such as reducing expenses or temporarily increasing capacity. "Plan, do, see" is now "information, knowledge, strategy, creation."