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Running head: FEASIBILITY ANALYSIS

Title is clear and
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entire focus of
the report

Feasibility Analysis of a Career in Technical Marketing

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FIGURE 23.4 (Continued)

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This section makes visuals easy to locate

FIGURE 23.4 (Continued)

Abstract fully summarizes the content of the report



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Abstract

The feasibility of technical marketing as a career is based on a college graduate's interests, abilities, and expectations, as well as on possible entry options.

Technical marketing is a feasible career for anyone who is motivated, who can communicate well, and who knows how to get along. Although this career offers job diversity and potential for excellent income, it entails almost constant travel, competition, and stress.

College graduates enter technical marketing through one of four options: entry-level positions that offer hands-on experience, formal training programs in large companies, prior experience in one's specialty, or graduate programs. The relative advantages and disadvantages of each option can be measured in resulting immediacy of income, rapidity of advancement, and long-term potential.

Anyone considering a technical marketing career should follow these recommendations:

- Speak with people who work in the field.
- Weigh the implications of each entry option carefully.
- Consider combining two or more options.
- Choose options for personal as well as professional benefits.

FIGURE 23.4 (Continued)

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Introduction

In today's global business climate, graduates in science and engineering face narrowing career opportunities because of "offshoring" of hi-tech jobs to low-wage countries. Government research indicates that more than two-thirds of the 40 occupations "most prone to offshoring" are in science and engineering (Bureau of Labor Statistics [BLS], 2006, p. 14). Experts Hira and Hira have suggested that the offshoring situation threatens the livelihood of some of the best-paid workers in America (2005, p. 12). University career counselor Troy Behrens offers the disturbing fact that the U.S. graduated 30,000 engineers in 2006, whereas India and China graduated 3 million (cited in Jacobs, 2007).

← Introduction identifies the problem

Given such bleak prospects, graduates might consider alternative careers. Technical marketing is one field that combines science and engineering expertise with "people skills"—those least likely to be offshored (BLS, 2006, p. 12). Engineers, for example, might seek jobs as *sales engineers*, specially trained professionals who market and sell highly technical products and services (BLS, 2009a, p. 1).

← Proposes a possible solution

What specific type of work do technical marketers perform? *The Occupational Outlook Handbook* offers this job description:

They [technical marketing specialists] possess extensive knowledge of [technologically and scientifically advanced] products, including...the components, functions, and scientific processes that make them work. They use their technical skills to explain the benefit of their products to potential customers and to demonstrate how their products are better than the products of their competitors. Often they modify and adjust products to meet customers' specific needs (BLS, 2009a, p.1).

← Definition

(For a more detailed job description, refer to "The Technical Marketing Process," on page 2.)

Undergraduates interested in technical marketing need answers to the following basic questions:

← Clear purpose statement leads into the body of the report

- *Is this the right career for me?*
- *If so, how do I enter the field?*

To help answer these questions, this report analyzes information gathered from professionals as well as from the literature. After defining *technical marketing*, the analysis examines employment outlook, required skills and personal qualities, career benefits and drawbacks, and entry options.

FIGURE 23.4 (Continued)

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Data Section

Key Factors in a Technical Marketing Career

Anyone considering technical marketing needs to assess whether this career fits his or her interests, abilities, and aspirations.

The technical marketing process. The classic process (identifying, reaching, and selling to customers) entails six key activities (Cornelius & Lewis, 1983, p. 44):

1. *Market research:* assessing size and character of the target market.
2. *Product development and management:* producing the goods to fill a need.
3. *Cost determination and pricing:* measuring every expense in the product's production, distribution, advertising, and sales to determine its price.
4. *Advertising and promotion:* developing strategies for reaching customers.
5. *Product distribution:* coordinating all elements of a technical product or service, from conception through final delivery to the customer.
6. *Sales and technical support:* creating and maintaining customer accounts, and servicing and upgrading products.

Engaged in all these activities, the technical marketing professional gains detailed understanding of the industry, the product, and the customer's needs (Figure 1).

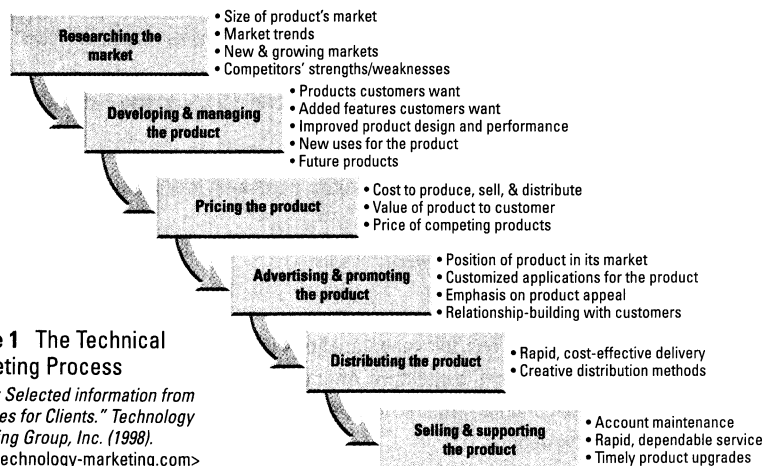


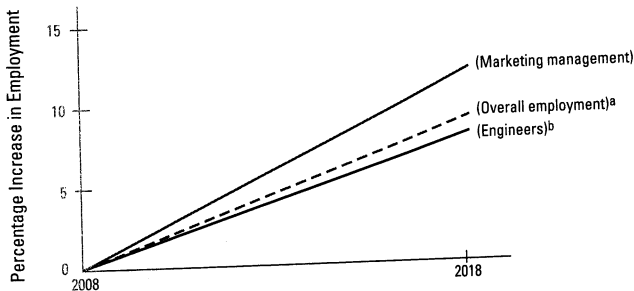
Figure 1 The Technical Marketing Process

Source: Selected information from "Services for Clients." Technology Marketing Group, Inc. (1998).
<www.technology-marketing.com>

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Employment outlook. For graduates with the right combination of technical and personal qualifications, the outlook for technical marketing (and management) is excellent. Most engineering jobs will increase at less than average for jobs requiring a Bachelor's degree, while marketing and marketing management jobs will exceed the average rate (Figure 2).



Visual provides instant comparison

Figure 2 The Employment Outlook for Technical Marketing

^aJobs requiring a Bachelor's degree.

^bExcluding outlying rates for specialties at the positive end of the spectrum (environmental engineers: +31%; biomedical: +72%; civil: +24%; petroleum: +18%).

Source: Data from U.S. Department of Labor. Bureau of Labor Statistics. (2009).

<http://www.bls.gov/oco/ocos027.htm>

Although highly competitive, these marketing positions call for the very kinds of technical, analytical, and problem-solving skills that engineers can offer—especially in an automated environment.

Technical skills required. Interactive Web sites and social media marketing will increasingly influence the way products are advertised and sold. Also marketing representatives increasingly work from a "virtual office." Using laptops, smartphones, and other such devices, representatives out in the field have real-time access to digital catalogs of product lines, multimedia presentations, pricing for customized products, inventory data, product distribution channels, and sales contacts (Tolland, 2010).

With their rich background in computer, technical, and problem-solving skills, engineering graduates are ideally suited for (a) working in automated environments, and (b) implementing and troubleshooting these complex and often sensitive electronic systems.

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Other skills and qualities required. *Business Week's* Peter Coy offers this distinction between routine versus non routine work:

The jobs that will pay well in the future will be ones that are hard to reduce to a recipe. These attractive jobs—from factory floor management to sales to teaching to the professions—require flexibility, creativity, and lifelong learning. They generally also require subtle and frequent interactions with other people, often face to face. (2004, p. 50)

Technical marketing is just such a job: it involves few “cookbook-type” tasks and requires “people skills.” Besides a strong technical background, success in this field calls for a generous blend of those traits summarized in Figure 3.

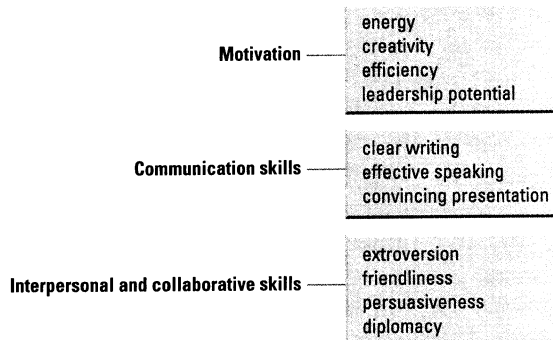


Figure 3 Required People Skills for a Technical Marketing Career

Motivation is essential in marketing. Professionals must be energetic and able to function with minimal supervision. Career counselor Phil Hawkins describes the ideal candidates as people who can plan and program their own tasks, can manage their time, and have no fear of hard work (personal interview, February 11, 2010). Leadership potential, as demonstrated by extracurricular activities, is an asset.

Motivation alone, however, provides no guarantee of success. Marketing professionals are paid to communicate the value of their products and services, orally, online, on paper, and face to face. They routinely prepare such documents as sales proposals, product descriptions, and user manuals. Successful job candidates typically have taken courses in advertising, public speaking, technical communication, and—increasingly—foreign language (BLS, 2009a, pp. 2-3).

For emphasis,
select sources
are quoted
directly

Report is based
on primary as
well as secondary
research

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Skilled oral presentation is vital to any sales effort, as Phil Hawkins points out. Technical marketing professionals need to speak confidently and persuasively—to represent their products and services in the best light (personal interview, February 11, 2010). Sales presentations often involve public speaking at conventions and trade shows.

The ultimate requirement for success in marketing is interpersonal and collaborative skills: “tact, good judgement, and exceptional ability to establish and maintain relationships with supervisory and professional staff and client firms” (BLS, 2009b, p. 4).

Advantages of the career. As shown in Figure 1, technical marketing offers experience in every phase of a company’s operation, from a product’s design to its sales and service. Such broad exposure provides excellent preparation for upper-management positions. In fact, experienced sales engineers often open their own businesses as freelance “manufacturers’ agents” representing a variety of companies who have no marketing staff. In effect their own bosses, manufacturers’ agents are free to choose, from among many offers, the products they wish to represent (Tolland, 2010).

Another career benefit is the attractive salary. In addition to typically receiving a base pay plus commissions, marketing professionals are reimbursed for business expenses. Other employee benefits often include health insurance, a pension plan, and a company car. In 2008, the median annual earnings for sales engineers was \$83,100. The highest 10 percent earned more than \$136,000 annually (BLS, 2008, p.1).

The interpersonal and communication skills that marketing professionals develop are highly portable. This is vital in our rapidly shifting economy, in which job security is disappearing in the face of more and more temporary positions (Tolland, 2010).

Drawbacks of the career. Technical marketing is by no means a career for every engineer or technology professional. Sales engineer Roger Cayer cautions that personnel might spend most of their time traveling to meet potential customers. Success requires hard work over long hours, evenings, and occasional weekends. Above all, the job entails constant pressure to meet sales quotas (phone interview, February 8, 2010). Anyone considering this career should be able to work and thrive in a competitive environment. The Bureau of Labor Statistics (2009a, p. 2) adds that the expanding global economy means that “international travel, to secure contracts with foreign customers, is becoming more common”—placing more pressure on an already hectic schedule.

← Offers balanced coverage: advantages versus drawbacks (below)

← Provides a realistic view

FIGURE 23.4 (Continued)

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A Comparison of Entry Options

Engineers and other technical graduates enter this field through one of four options. Some join small companies and learn their trade directly on the job. Others join companies that offer formal training programs. Some begin by getting experience in their technical specialty. Others earn a graduate degree beforehand. These options are compared below.

Option 1: Entry-level marketing with on-the-job training. Smaller manufacturers offer marketing positions in which people learn on the job. Elaine Carto, president of ABCO Electronics, believes small companies offer a unique opportunity; entry-level salespersons learn about all facets of an organization, and often enjoy rapid advancement (personal interview, February 10, 2010). Career counselor Phil Hawkins says, "It's all a matter of whether you prefer to be a big fish in a small pond or a small fish in a big pond" (personal interview, February 11, 2010).

Entry-level marketing offers immediate income and a chance for early promotion. But one disadvantage might be the loss of any technical edge acquired in college.

Option 2: A marketing and sales training program. Formal training programs offer the most popular entry. Larger companies offer two formats: (a) a product-specific program, focused on a particular product or product line, or (b) a rotational program, in which trainees learn about an array of products and work in the various positions outlined in Figure 1. Programs last from weeks to months. Intel Corporation, for example, offers 30-month training programs titled "Sales and Marketing Rotation," to prepare new graduates for positions as technical sales engineer, marketing technical engineer, and technical applications engineer.

Like direct entry, this option offers the advantage of immediate income and early promotion. With no chance to practice in their specialty, however, trainees might eventually find their technical expertise compromised.

Option 3: Prior experience in one's technical specialty. Instead of directly entering marketing, some candidates first gain experience in their specialty. This option combines direct exposure to the workplace with the chance to sharpen technical skills in practical applications. In addition, some companies, such as Roger Cayer's, will offer marketing and sales positions to outstanding staff engineers as a step toward upper management (phone interview, February 8, 2010).

Each option in the comparison is previewed

Here and below, interpretations clarify the pros and cons of each entry option

FIGURE 23.4 (Continued)

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Although the prior-experience option delays entry into technical marketing, industry experts consider direct workplace and technical experience key assets for career growth in any field. Also, work experience becomes an asset for applicants to top MBA programs (Shelley, 1997, pp. 30–31).

Option 4: Graduate program. Instead of direct entry, some people choose to pursue an MS in their specialty or an MBA. According to engineering professor Mary McClane, MS degrees are usually unnecessary for technical marketing unless the particular products are highly complex (personal interview, April 2, 210).

In general, jobseekers with an MBA have a competitive advantage. Also, new MBAs with a technical bachelor's degree and one to two years of experience command salaries from 10 to 30 percent higher than MBAs who lack work experience and a technical bachelor's degree. In fact, no more than 3 percent of candidates offer a "techno-MBA" specialty, making this unique group highly desirable to employers (Shelley, 1997, p. 30). A motivated student might combine graduate degrees. Dora Anson, president of Susimo Systems, sees the MS/MBA combination as ideal preparation for technical marketing (2010).

One disadvantage of a full-time graduate program is lost salary, compounded by school expenses. These costs must be weighed against the prospect of promotion and monetary rewards later in one's career.

An overall comparison by relative advantage. Table 1 compares the four entry options on the basis of three criteria: immediate income, rate of advancement, and long-term potential.

Table 1 Relative Advantages Among Four Technical-Marketing Entry Options

Option	Relative Advantages		
	Early, immediate income	Greatest advancement in marketing	Long-term potential
Entry level, no experience	yes	yes	no
Training program	yes	yes	no
Practical experience	yes	no	yes
Graduate program	no	no	yes

← Interprets evidence impartially

← Table summarizes the prior information for instant comparisons

Summary accurately and concisely reflects the report's body section

Overall interpretation explains what the findings mean

Recommendations are clear about what the audience should think and do

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Conclusion

Summary of Findings

Technical marketing and sales requires solid technical background, motivation, communication skills, and interpersonal skills. This career offers job diversity and excellent income potential, balanced against relentless pressure to perform.

Graduates interested in this field confront four entry options: (1) direct entry with on-the-job training, (2) a formal training program, (3) prior technical experience, and (4) graduate programs. Each option has benefits and drawbacks based on immediacy of income, rate of advancement, and long-term potential.

Interpretation of Findings

For graduates with strong technical backgrounds and the right skills and motivation, technical marketing offers attractive prospects. Anyone contemplating this career, however, needs to enjoy customer contact and thrive in a competitive environment.

Those who decide that technical marketing is for them have various entry options:

- For hands-on experience, direct entry is the logical option.
- For intensive sales training, a formal program with a large company is best.
- For sharpening technical skills, prior work in one's specialty is invaluable.
- If immediate income is not vital, graduate school is an attractive option.

Recommendations

If your interests and abilities match the requirements, consider these suggestions:

1. For a firsthand view, seek the advice and opinions of people in the field. You might begin by contacting professional organizations such as the Manufacturers' Agents National Association at www.manaonline.org
2. Before settling on an entry option, consider its benefits and drawbacks and decide whether this option best coincides with your career goals.
3. When making any career decision, consider career counselor Phil Hawkins' advice: "Listen to your brain and your heart" (personal interview, February 11, 2010). Seek not only professional advancement but also personal satisfaction.

References

[The complete list of references is shown and discussed on pages 708, 709.]

FIGURE 23.4 (Continued)