Feasibility Analysis of a Career in Technical Marketing

for
Professor J. M. Lannon
Technical Writing Instructor
University of Massachusetts
North Dartmouth, Massachusetts

by
Richard B. Larkin, Jr.
English 266 Student

May 1, 20XX
Dear Mr. Fitton:

Here is my analysis of the feasibility of a career in technical marketing and sales. In preparing my report, I’ve learned a great deal about the requirements and modes of access to this career, and I believe my information will help other students as well.

Although committed to their specialities, some technical and science graduates seem interested in careers in which they can apply their technical knowledge to customer and business problems. Technical marketing may be an attractive choice of career for those who know their field, who can relate to different personalities, and who are good communicators.

Technical marketing is competitive and demanding, but highly rewarding. In fact, it is an excellent route to upper-management and executive positions. Specifically, marketing work enables one to develop a sound technical knowledge of a company’s products, to understand how these products fit into the marketplace, and to perfect sales techniques and interpersonal skills. This is precisely the kind of background that paves the way to top-level jobs.

I’ve enjoyed my work on this project, and would be happy to answer any questions.

Sincerely,

Richard B. Larkin, Jr.
## CONTENTS

<table>
<thead>
<tr>
<th>Section</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>LETTER OF TRANSMITTAL</td>
<td>ii</td>
</tr>
<tr>
<td>FIGURES AND TABLES</td>
<td>iv</td>
</tr>
<tr>
<td>ABSTRACT</td>
<td>v</td>
</tr>
<tr>
<td>INTRODUCTION</td>
<td>1</td>
</tr>
<tr>
<td>COLLECTED DATA</td>
<td>2</td>
</tr>
<tr>
<td><strong>Key Factors in Technical Marketing as a Career</strong></td>
<td>2</td>
</tr>
<tr>
<td>The Technical Marketing Process</td>
<td>2</td>
</tr>
<tr>
<td>Employment Outlook and Requirements</td>
<td>3</td>
</tr>
<tr>
<td>Advantages of the Career</td>
<td>5</td>
</tr>
<tr>
<td>Drawbacks of the Career</td>
<td>5</td>
</tr>
<tr>
<td><strong>A Comparison of Entry Options</strong></td>
<td>5</td>
</tr>
<tr>
<td>Option 1: Entry-Level Marketing with On-the-job Training</td>
<td>6</td>
</tr>
<tr>
<td>Option 2: Marketing and Sales Training Program</td>
<td>6</td>
</tr>
<tr>
<td>Option 3: Prior Experience in One’s Technical Specialty</td>
<td>6</td>
</tr>
<tr>
<td>Option 4: Graduate Program</td>
<td>7</td>
</tr>
<tr>
<td>An Overall Comparison by Relative Advantages</td>
<td>7</td>
</tr>
<tr>
<td>CONCLUSION</td>
<td>8</td>
</tr>
<tr>
<td><strong>Summary of Findings</strong></td>
<td>8</td>
</tr>
<tr>
<td>Interpretation of Findings</td>
<td>8</td>
</tr>
<tr>
<td>Recommendations</td>
<td>8</td>
</tr>
<tr>
<td>REFERENCES</td>
<td>8</td>
</tr>
</tbody>
</table>
TABLES AND FIGURES

Figure 1  The Technical Marketing Process ........................................ 2
Figure 2  The Employment Outlook for Technical Marketing............... 3
Figure 3  Requirements for a Technical Marketing Career ..................... 4
Table 1  Relative Advantages among Four Technical Marketing Entry Options ................................................................. 7
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.
Feasibility Analysis of a Career in Technical Marketing

INTRODUCTION

The escalating cutbacks in aerospace, defense-related, and other goods-producing industries have narrowed career opportunities for many of today's science and engineering graduates. With the notable exception of computer engineering, employment in all engineering specialties will grow at rates ranging from average to far below average to near static through the year 2006. In some specialties (e.g., mining and petroleum engineering), employment will actually decline ("Occupational Employment," 1998, p. 16).

Given such bleak employment prospects, recent graduates might consider alternative careers in which they could apply their technical training. One especially attractive field that combines science and engineering expertise with "people" skills is that of sales engineer, a specially trained professional who markets and sells highly technical products and services.

In the growing field of technical marketing, sales engineers are in high demand, with steady increases in employment predicted through 2008 by the U.S. Department of Labor (Nelson, 2001). Employment listings for recent graduates show countless major companies offering positions in technical marketing and sales (College Placement Council, 2001, p. 417).

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

They usually sell products whose installation and optimal use requires a great deal of technical expertise and support. [. . .] Additionally, they provide information on their firm's products, help prospective and current buyers with technical problems, recommend improved materials and machinery [. . .], design plans of proposed machinery layouts, estimate cost savings, and suggest training schedules for employees. (Manufacturers' and wholesale sales representatives, 2000)

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

Undergraduates interested in a technical marketing career need answers to these basic questions:

- 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 following analysis examines the field's employment outlook, required skills and personal qualities, career benefits and drawbacks, and various entry options.
COLLECTED DATA

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. Although the terms marketing and sales are often used interchangeably, technical marketing traditionally has involved far more than sales work. The process itself (identifying, reaching, and selling to customers) entails six major activities (Cornelius & Lewis, 1983, p. 44):

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

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

Figure 1  The Technical Marketing Process
<www.technology-marketing.com>
For graduates with the right combination of technical and personal qualifications, the employment outlook for technical marketing appears excellent. While engineering jobs will increase at barely one half the average growth rate for jobs requiring a Bachelor’s degree, marketing jobs will exceed the average growth rate (Figure 2).

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.** Computer networks, interactive media, and multimedia will increasingly influence the way products are advertised and sold. Also, marketing representatives increasingly work from a “virtual” office. Using laptop computers, fax networks, and personal digital assistants, representatives in the field have real-time access to electronic catalogs of product lines, multimedia presentations, pricing for customized products, inventory data, product distribution, and customized sales contacts (Tolland, 2002).

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.

**OTHER SKILLS AND QUALITIES REQUIRED.** In marketing and sales, not even the most sophisticated information can substitute for the “human factor”: the ability to connect with customers on a person-to-person level (Young, 1995, p. 95). One senior sales engineer praises the efficiency of
her automated sales system, but thinks that automation will “get in the way” of direct customer contact. Other technical marketing professionals express similar views about the continued importance of human interaction (94).

Besides a strong technical background, marketing requires a generous blend of those traits summarized in Figure 3.

**Figure 3** Requirements for a Technical Marketing Career

Motivation is essential for marketing work. 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, who can manage their time, and who have no fear of hard work (personal interview, February 11, 2002). Leadership potential, as demonstrated by extracurricular activities, is an asset.

Motivation alone provides no guarantee of success. Marketing professionals are paid to communicate the virtues of their products or services. This career therefore requires skill in communication, both written and oral. Documents for readers outside the organization include advertising copy, product descriptions, sales proposals, sales letters, and user manuals and online help. In-house writing includes recommendation reports, feasibility studies, progress reports, memos, and email correspondence (U.S. Department of Labor, 1997, p. 8).

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 possible light (personal interview, February 11, 2002). Sales presentations often involve public speaking at conventions, trade shows, and other similar forums.
Beyond motivation and communication skills, interpersonal skills are the ultimate requirement for success in marketing (Nelson, 2001). Consumers are more likely to buy a product or service when they like the person selling it. Marketing professionals are extroverted, friendly, and diplomatic; they can motivate people without alienating them.

**ADVANTAGES OF THE CAREER.** As shown in Figure 1, technical marketing offers diverse 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 countless upper-management positions.

In fact, sales engineers with solid experience often open their own businesses as freelance “manufacturers’ agents” representing a variety of companies. These agents represent products for companies who have no marketing staff of their own. In effect their own bosses, manufacturers’ agents are free to choose, from among many offers, the products they wish to represent (Tolland, 2002).

Another career benefit is the attractive salary. In addition to typically receiving a base pay plus commissions from their employer, marketing professionals are reimbursed for all business expenses. Other employee benefits often include health insurance, a pension plan, and a company car. In 1998, the median annual earnings of sales engineers ranged from $48,900 for machinery and equipment sales to $62,800 for computer and data processing services (Manufacturers’ and wholesale sales representatives, 2000). Top earnings for successful freelance agents can reach well into six figures.

Technical marketing is especially attractive for its geographic and job mobility. Companies nationwide seek recent graduates, but especially in the Southeast and on the east and west coasts (“Electronic sales,” 1999, pp. 1141–43). In addition, the types of interpersonal and communication skills that marketing professionals develop are highly portable. This is especially important in our current, rapidly shifting economy, in which job security is disappearing in the face of more and more temporary positions (Jones, 1997, p. 51).

**DRAWBACKS OF THE CAREER.** Technical marketing is by no means a career for every engineer. 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 is stressful because of constant pressure to meet sales quotas (phone interview, February 8, 2002). Anyone considering this career should be able to work and thrive in a highly competitive environment.

Also, as in any small business, striking out on one’s own as a freelance manufacturer’s agent can be risky. Marketing expert Ken Benjamin (2001) advises newly independent agents to have a realistic sense of the financial and human costs involved, such as the “lack of a steady paycheck” and the “long hours away from home.” Anyone contemplating a freelance career should be sure to get help from the experts.
A Comparison of Entry Options

Engineers and other technical graduates enter technical marketing 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 have a good possibility for rapid advancement (personal interview, February 10, 2002). 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, 2002).

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

OPTION 2: A MARKETING AND SALES TRAINING PROGRAM. Formal training programs offer the most popular entry into sales and marketing. Large to mid-size companies typically 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 2. Programs last from weeks to months.

Former trainees Roger Cayer, of Allied Products, and Bill Collins, of Intrex, speak of the diversity and satisfaction such programs offer: specifically, solid preparation in all phases of marketing, diverse interaction with company personnel, and broad knowledge of various product lines (phone interviews, February 8, 2002).

Like direct entry, this option offers the advantage of immediate income and early promotion. With no chance to practice in their technical 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, 2002).

Although this option delays a candidate’s 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 degree 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, 2002).

In general, jobseekers with an MBA have a distinct competitive advantage. More significantly, 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 job 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 Cosmic Systems, sees the MS/MBA combination as ideal preparation for technical marketing (2002).

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>
<thead>
<tr>
<th>Relative Advantages Among Four Technical-Marketing Entry Options</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Option</strong></td>
</tr>
<tr>
<td>Entry level, no experience</td>
</tr>
<tr>
<td>Training program</td>
</tr>
<tr>
<td>Practical experience</td>
</tr>
<tr>
<td>Graduate program</td>
</tr>
</tbody>
</table>
CONCLUSION

Summary of Findings
Technical marketing and sales involves identifying, reaching, and selling the customer a product or service. Besides a solid technical background, the field requires motivation, communication skills, and interpersonal skills. This career offers job diversity and excellent income potential, balanced against hard work and relentless pressure to perform.

College graduates interested in this field confront four entry options: (1) direct entry with on-the-job training, (2) a formal training program, (3) prior experience in a technical specialty, 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 a strong technical background and the right skills and motivation, technical marketing offers attractive career prospects. Anyone contemplating this field, however, needs to be able to enjoy customer contact and thrive in a highly competitive environment.

Those who decide that technical marketing is for them can choose various entry options:
- For hands-on experience, direct entry is the logical option.
- For sophisticated 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. To get 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 or the Manufacturers’ Representatives Educational Research Foundation at www.mrerf.org.

2. Before settling on an entry option, consider all its advantages and disadvantages and decide whether this option best coincides with your career goals. (Of course, you can always combine options during your professional life.)

3. When making any career decision, consider career counselor Phil Hawkins’ advice: “Listen to your brain and your heart” (personal interview, February 11, 2002). Choose an option or options that offer not only professional advancement but also personal satisfaction.
References


1. Center the References title at the top of the page. Use 1-inch margins. Number reference pages consecutively with text pages. Include only recoverable data (material that readers could retrieve for themselves); cite personal interviews, unpublished lectures, email, and other personal correspondence parenthetically in the text only. See also item 8 in this list.

2. Double-space entries and order them alphabetically by author’s last name (excluding A, An, or The). List initials only for authors' first and middle names. Write out names of all months. In student papers, indent the second and subsequent lines of an entry five spaces. In papers submitted for publication in an APA journal, the first line is indented instead.

3. Do not enclose article titles in quotation marks. Italicize periodical titles. Capitalize the first word in article or book titles and subtitles, and any proper nouns. Capitalize all key words in magazine or journal titles.

4. For more than one author or editor, use ampersands instead of spelling out “and.”

5. Use the first key word in the title to alphabetize works whose author is not named.

6. Use italics or a continuous underline for a journal article’s title, volume number, and the comma. Give the issue number in parentheses only if each issue begins on page 1. Do not include “p.” or “pp.” before journal page numbers (only before page numbers from a newspaper).

7. Omit punctuation from the end of an electronic address.

8. Treat an unpublished conference presentation as a recoverable source; include it in your list of references instead of only citing it parenthetically in your text.