

The Pharmaceutical Industry: Access to Information

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INTRODUCTION

Undergraduate library experience is frequently limited to the use of textbooks and assigned readings placed on reserve. Often it is not until the student is in the later stages of his or her pharmacy education that much emphasis is placed on the exploration of the myriad resources available. Today's students will graduate into a world of rapidly changing and expanding technology; this world will require them, at the least, to be aware of the multitude of resources that may be available beyond the confines of assigned readings. This report describes a method employed by the Ohio State University College of Pharmacy to make undergraduate students aware of the resources available for researching the pharmaceutical industry.

PHARMACEUTICAL MANUFACTURER PROJECT

Pharmacy 515: Pharmaceutical Distribution and Health Care Systems is a required course for all pharmacy students during their third

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professional year. The course introduces students to the overall pharmaceutical distribution system, with emphasis on the institutions involved and their interrelationships in the distribution of drug products. Exchange flows (product, use right, information, payment) that occur in the distribution system, as well as public policy issues related to each exchange flow, are discussed. Lectures and classroom discussion are handled primarily by the instructor with a two-hour session each week devoted to guest lectures by individuals involved in various aspects of the pharmaceutical distribution system.

The graded components of the course include two examinations and a major project. Groups of five students are assigned major pharmaceutical manufacturers. Each group is required to provide a report at the end of the ten-week quarter describing various aspects of the assigned company. The report consists of five major topics: overview of the manufacturer, product management, financial situation, pricing, and promotion/advertising.

The major objectives of the project are to provide the student with an understanding of the pharmaceutical industry, to introduce the student to the published and computerized resources available in the library, and to allow the student to make decisions about the appropriate resources and information needed to complete the project. Relevant materials may be found in at least two of the university's departmental libraries, the pharmacy library and the business library. A list of resources that may be useful is provided to each student. It is suggested that each section of the project be completed as each topic is discussed in the classroom.

Throughout their work on the project, students may wish to contact the appropriate individual in the pharmaceutical company to obtain specific or more detailed information on a particular topic. Students are encouraged to read two weekly publications throughout the quarter to obtain current information about the pharmaceutical industry. *Scrip* contains up-to-the-minute news and information on worldwide pharmaceutical companies and their respective products (1). *FDC Reports* ("The Pink Sheet") provides information on ethical and OTC pharmaceutical products and the manufacturers that produce those products (2).

Overview of the Manufacturer

For this opening section of their papers, students are asked to provide the name of the parent company and any subsidiaries. A brief history of the firm as well as any current developments should be discussed. Students should indicate the major areas of research and development with information regarding specific entities currently under investigation.

Various resources are available to gather the information needed for this section of the project. The OSU pharmacy library maintains a file of the annual reports for most major pharmaceutical firms. As a starting point, students are told to consult the annual report of their company for the previous year. The annual report contains general information about the firm, research developments during the past year, plans for future research, and financial statements and sales analysis for the previous year.

Product Management

Information required for the product management section of the project includes the major therapeutic categories for which the company produces or distributes products, with a list of the pharmaceutical products in these categories (ethical and OTC). Students must also determine the sales policy (direct sales, wholesale sales only) and the returned goods policy of the firm. Various sources are available to determine much of this information; however, the student may wish to contact the manufacturer for additional or specific information.

Financial Situation

An assessment of the financial situation of the assigned manufacturer is required to complete the project. This analysis includes the calculation and interpretation of several financial indicators, such as net margin, return on assets, return on investment, and an analysis of sales trends for the firm. The financial profile of the manufacturer should be compared to other major manufacturers, industry standards, and the overall pharmaceutical industry.

Pricing Strategies

Students are asked to provide prices of the pharmaceutical products currently marketed and distributed in the United States by their assigned manufacturers. They also must compare the prices of their manufacturers' off-patent drugs with the prices of currently available generic equivalents.

Students are required to choose one of the manufacturer's products and develop either a product positioning map or a brand positioning map for that product. The product positioning map plots various products that satisfy the same general need of the manufacturer's product, with the action, activity, or other specific characteristic on one axis and price on the other axis. The brand positioning map plots products by brand/generic status and price. To complete this exercise, the students must use pricing data as well as information obtained in the previous sections of the project.

Promotion/Advertising

To familiarize the students with the various types of advertising, including content and appeal, examples of current advertisements of the company's products (ethical and OTC) are required for the project. Students are encouraged to peruse various journals and periodicals. Consumer magazines directed to the general public are also suggested as a possible source of OTC advertisements. Students must provide a discussion, including the type of advertisement (e.g., information, argument, command, imitation, brand familiarization, etc.) and the type of appeal used in the advertisement (e.g., rational, emotional, fear, humorous, participation, etc.).

One of the primary techniques used by pharmaceutical companies to promote their products is personal selling. Students should comment on the extent to which their assigned manufacturers use such methods. Data may include the size of the sales force and the expenditures on the sales force.

Many manufacturers use other forms of promotion to sell their products, including drug exhibits, continuing education programs, interaction with colleges of various health professions, scholarships, buying and advertising allowances, and rebates. To obtain information regarding these types of promotion, it may be neces-

sary for the student to contact the appropriate individual in the organization.

PUBLISHED SOURCES

The following published sources of information, although by no means an exhaustive list, are recommended to the students for the completion of this project:

- *The Medical and Healthcare Marketplace Guide* lists over 5,000 companies operating in the U.S. medical and health care marketplace, together with subsidiaries and divisions, number of employees, sales figures, products and services, and a brief business history (3).
- *Pharmaceutical Manufacturers of the United States* provides basic information on divisions and subsidiaries and sales figures of leading pharmaceutical manufacturers (4).
- *PMD: Pharmaceutical Marketers Directory* lists the personnel at pharmaceutical companies with their telephone numbers (5).
- *Drug Companies and Products World Wide* lists pharmaceutical companies and their products with the date of each drug's introduction (6).
- *NDA Pipeline*, in its "New Drug Activity by Company" section, provides a company-by-company picture of new drug activity—both NDA approvals and research products projects. For some products, in-depth profiles are included. An address and telephone index are also provided (7).
- *PDR: Physicians' Desk Reference* contains a U.S. manufacturers index with addresses and telephone numbers, including toll-free numbers and a partial list of available products (8).
- *World Pharmaceutical Directory* provides a worldwide listing of pharmaceutical companies and their major products (9).
- *Pharmaceutical Company Histories* provides the histories of 13 U.S. pharmaceutical companies (10).
- *Scrip Yearbook*—This publication is divided into five main sections:

1. Overview of the major issues facing the pharmaceutical industry worldwide, such as patent concerns, generics, AIDS vaccines
 2. Key facts and figures on pharmaceutical markets, such as market data on major companies
 3. Data on selected therapeutic categories
 4. Data on 22 major countries and areas
 5. Data on specific companies, such as sales figures and products in research (11).
- *Med-tech Directory* provides brief financial and operating profiles of 900 publicly owned health care companies (12).
 - *PMA Annual Survey Report*, compiled by the Pharmaceutical Manufacturers Association, provides aggregate financial data for all PMA member firms, including expenditures and sales for research and development (13).
 - *American Druggist Blue Book* and *Drug Topics Red Book* give the prices of currently available drugs and provide a list of pharmaceutical companies and their telephone numbers (14, 15).
 - *Moody's Complete Corporate Index* contains information on publicly owned companies, including financial information (e.g., income statements, balance sheets, operating ratios) and a description of the business with a list of subsidiaries (16).
 - *Standard and Poor's Register of Corporations* lists about 45,000 businesses, with names of officers, law firms, stock exchange, annual sales, number of employees, and divisions (17).
 - *Directory of Corporate Affiliations* provides acquisition and merger information for major U.S. corporations and their divisions, both public and private (18).
 - *Ad \$ Summary* lists the advertising expenditures in six types of media by brand names. Special tables list 5-year industry totals and totals for the top 1000 companies that are leading national advertisers (19).
 - *Forbes*, in its "Annual Report on American Industry" (January issue), ranks industries and companies by profitability (return on equity and total capital), growth (sales and earnings per share), and stock market performance (20).

- *Predicast's Basebook* measures market size and includes a time series to show cyclical activity of various products and industries (21).
- *Fortune* "500 Directories," a special issue of the monthly magazine, lists the largest U.S. industrial corporations. Other information includes rank, sales, assets, net income as a percentage of sales, equity, earnings per share, and total return to investors (22).

COMPUTERIZED SOURCES

As a requirement, students must provide the output obtained from at least one computerized source of information. They have access to a number of appropriate data bases, either on-line or on CD-ROM. These data bases include the following:

- *Healthline* searches primarily journal articles (1975-present) related to nonclinical aspects of health care delivery.
- *Medline* searches approximately 3,200 biomedical journals (1966-present) and contains all citations published in *Index Medicus*.
- *Pharmaceutical News Index (PNI)* contains current information about pharmaceuticals, cosmetics, medical devices, and related industries. Subject areas include health legislation and policy, pharmaceutical research, market analyses, corporate financial data, and advertising campaigns.
- *Biobusiness* data base contains abstracts and references pertinent to life science-related business. Items included pertain to the relationship between science and business. Pharmaceutical information includes drug manufacturing, processing, packaging, sales, and advances in drug delivery.
- *ABI/INFORM* includes abstracts from nearly 800 business and management periodicals and is updated every 2 months.
- *Compact Disclosure* contains information on more than 12,000 public companies extracted from 10Ks, 10Qs, annual reports, and proxy statements. Information includes two-year comparisons of balance sheets, three-year comparisons of in-

come statements, five-year summary for operating income, sales, and earnings per share.

- *CD International* contains profiles of nearly 5,000 industrial companies from 18 industries and 24 countries. Six-year histories of fundamental financial data, financial and investment ratios, and summary of accounting practices is provided. The data base contains country averages, industry averages, company rankings worldwide, and company rankings within country and within industry.
- *Dow Jones New Retrieval* allows the user to access Dow Jones information and includes analyst's reports, foreign exchange rates, and indexing of the *Wall Street Journal*.
- *The Business Connection* provides market share data, analyst's reports, corporate financial information, and sales information.

CONCLUSION

The list of resources provided in this paper is limited. There are many other possible sources that may be available to students. Students should be encouraged to use their own initiative to locate other sources of information and not to limit their search to the suggested resources.

While students may cringe at the initial thought of a term paper, the general consensus following completion of the project has been positive. Exposure to the library and its vast resources provides students with valuable sources of information that they may not realize exist. The project forces students to gather information from a variety of sources and to make decisions regarding the appropriate information needed to answer drug information questions and to interact with various manufacturers in the pharmaceutical industry.

LIST OF PUBLISHED SOURCES

1. *Scrip (World Pharmaceutical News)*. London: PJB Publications, Ltd. Published twice weekly.
2. *FDC Reports*. Chevy Chase, MD: FDC Reports, Inc. Weekly.
3. *The Medical and Healthcare Marketplace Guide: An Annual Compreh-*

sive Guide to the U.S. Medical and Healthcare Marketplace. Adeline B. Hale and Arthur B. Hale, eds. Philadelphia: BioMedical Information Service. Annual.

4. *Pharmaceutical Manufacturers of the United States*. D. J. DeRenzo, ed. 4th ed. Park Ridge, NJ: Noyes Data Corporation, 1987.

5. *PMD: Pharmaceutical Marketers Directory*. 1989 ed. Boca Raton, FL: CPS Communications. Annual.

6. *Drug Companies and Products World Wide*. Marshall Sittig and Janne S. Kowalski, eds. Kingston, NJ: Sittig and Noyes, 1988.

7. *NDA Pipeline*. Ethel Clarke, ed. Chevy Chase, MD: FDC Development Corporation. Annual.

8. *PDR: Physicians Desk Reference*. 43rd ed. Oradell, NJ: Medical Economics, 1989.

9. *World Pharmaceutical Directory/1988*. Chatham, NJ: Unlisted Drugs, 1988.

10. *Pharmaceutical Company Histories*. vol. 1. Gary L. Nelson, ed. Bismarck, ND: Woodbine Publishing, 1980.

11. *Scrip Yearbook*. 4th ed. Richmond, Surrey, United Kingdom: PJB Publications, 1988.

12. *Med-tech Directory*. 5th ed. Jules L. Marx and Andrew Sisti. New York: Med-Tech Services, 1987.

13. *PMA Annual Survey Report*. Washington: Pharmaceutical Manufacturers Association. Annual.

14. *American Druggist Blue Book*. New York: Hearst Corporation. Annual.

15. *Drug Topics Red Book*. Oradell, NJ: Medical Economics. Annual.

16. *Moody's Complete Corporate Index*. New York: Moody's Investor's Service. Annual.

17. *Standard and Poor's Register of Corporations*. New York: Standard and Poor's Corp. Annual.

18. *Directory of Corporate Affiliations*. Skokie, IL: National Register Publishing Co. Annual.

19. *Ad \$ Summary*. New York: Leading National Advertisers. Annual.

20. *Forbes*. New York: Forbes, Inc. Biweekly.

21. *Predicast's Basebook*. Cleveland: Predicasts, Inc. Annual.

22. *Fortune*. New York: Time, Inc. Biweekly.