



James J. Farley

# The Executive MBA for Engineers and Scientists



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# The Executive MBA for Engineers and Scientists

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To Marilyn, an extraordinary person, my wife.



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## Preface

This book is written primarily for the aspiring technical manager on the way up the ladder. This technical manager may be brilliant in chemistry, physics, biology, or engineering; however, this person will—as he or she climbs the ladder—find that business skills are needed. He or she does not need buzz words; they will not suffice. At this point in a career, for the good of the person and for the good of the company, business savvy (not business jargon) is what is needed.

Business today represents the merging of technological developments with market demand and, hence, a knowledge of technology and the business principles (and their actual applications) is needed in order to maximize profits. The phrase “maximize profits” will be mentioned frequently in this book because that’s what business is all about—to make a profit and to make the highest possible profit within the realms of time, economics, and ethics.

In the preparation of this text, I have tried to adhere strictly to the title and describe those business principles and applications that are most important for the technical manager to understand. This book is not meant to be a compilation of textbooks on each of the individual subjects of marketing, economics, etc. If the reader wants to buy a textbook about any of the individual chapter headings or topics, a sufficient number of good ones are available. Rather, this book is intended to be what I believe may be *the first book of its kind* that

touches on “just enough” of each of the topics to give the reader an adequate understanding.

Parts I and II describe business and the technical functions along with their individual elements or topics. Part III shows the integration of these elements to achieve the goal of selling a company’s product or service, hopefully at a price greater than the cost to produce, to generate a profit for the company. Once in a while a company sells a product at a price below the cost to produce. This results in a loss. On rare occasions such sales are deliberate, to allow another product line to profit directly or indirectly. Sometimes, however, the loss is not realized until after the fact and rapid adjustments must be made. Part IV is called Planning Ahead and the chapters discuss planning and moving ahead in your career as a company person or as the owner of your own business.

This book is meant to be a *practical* guide and is based on my true-to-life experiences and observations. Since my career is in the pharmaceutical industry, including work with the Food and Drug Administration, many of the examples in the text are from pharmaceutical situations. However, similar situations occur in all the other industries. Problems in other industries are identified and solved with the same techniques.

Throughout this book, a product or service will be referred to as a product to avoid overuse of verbiage. If your company provides a service, the same considerations apply. In most situations the “he” or “his” pronoun is used. Continually referring to “he or she” or “he/she” would be distracting, so the male pronoun is used most of the time. We all know that women are as capable as men and have no need to prove it here by complicating the text. You, reader, may see various places where a particular topic could have been treated in a different chapter. Several topics apply to more than one chapter. They overlap various subjects and the selection of the chapters in which they were placed was on a *best fit* basis.

A review of the content of this book will show that it is more than a book for the technical manager who wants to master business subjects. It is also intended to serve as a very good reference for business persons on the move upward in sales, marketing, manufacturing, and other areas, who must learn about technological functions. In fact, I believe that if both business managers and technical staff read this

book, they can attend meetings that will be much shorter, achieve greater communication, and feel a sense of accomplishment upon leaving those meetings.

The reader can use this book as a reference in communicating and negotiating with people in other areas within and outside of the company. This text will enable the reader to know more about the overall integrated functions of a company, be more productive to the company, and progress up the ladder to find personal achievement and reward.

People skills and communication are emphasized throughout this book. Despite all the newest technology available today, communications innovations like e-mail, smart phones, and the like are tools; we should use such tools properly, not let the tools use us. Ultimately, we deal with people who use both our products and other people's products. While many business factors have changed in recent years, people have not. They remain the same. They are the most variable on an individual basis, yet collectively remain the same. They can be frustrating to deal with, and they can be immensely gratifying to deal with. They can be steady or capricious. The more you know about them and yourself, the more fascinating and rewarding life and your career can be.

This is written as an *easy-to-read* book discussing principles that are of *immediate and practical application*. Sit back and enjoy. Hopefully you will have the feeling that I am sitting at a table with you and, maybe over coffee, talking directly to you. Practice the skills and techniques presented here and watch good things happen.

JAMES J. FARLEY





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## Acknowledgments

There are several persons whose assistance should be recognized. They helped me directly, over the phone, or through correspondence and by sending me encouraging notes during the writing of this book.

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Thank you all for your encouragement and information.



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## Author

**Jim Farley** has worked in the pharmaceutical and pharmaceutical packaging industries for more than 40 years. His industry, academic, federal government, and consulting experiences combine to provide a unique background and view that Jim utilizes in his everyday business and technical activities. He has managed a quality control laboratory and a technical service department, and formed and directed a research and development laboratory in industry.

Jim was employed as Director of the Science Branch of the Philadelphia District of the U.S. Food and Drug Administration before starting his own business, Cardinal Consulting and Training, which assists pharmaceutical and biotechnology firms in the technical, regulatory, and business aspects of bringing their new drugs to the market.

Jim has an MS in physical chemistry and an MBA in marketing and finance and uses that dual background to teach the symbiosis of the technical and business areas in training seminars for clients and for several professional training organizations.

Jim was an adjunct instructor at two of The Pennsylvania State University's Philadelphia area campuses, where he instructed various management subjects. He also taught physical chemistry at Rosemont College, finance and marketing at Cabrini College, and physical chemistry at St. Joseph's University in Philadelphia. He was an instructor

in the graduate school of Temple University in Philadelphia, teaching specific courses related to FDA regulatory affairs.

Jim currently resides in Savannah, Georgia, where he directs the activities of Cardinal Consulting and Training.

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**PART I**  
**THE ELEMENTS**



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# 1

## BUSINESS

### An Overview

A business is formed and exists so that its owners can produce and sell a product or service to yield proceeds of more value than the costs to produce and sell it. This leads to what is called a profit.

Some firms don't do this. They sell at a figure below their costs to produce and deliver the items. Some firms sell below cost deliberately and call the product a "loss leader"—it is sold at a loss on the premise that purchasing customers will see other items sold by the same firm and buy them with a resulting net profit to the firm. Some, however, sell at a loss and don't realize it until it's too late. Obviously not good!

Before this happens to you, let's look at the fundamental principle of business, the reason it exists, the *raison d'être* (pronounced *rā zōn dēt'ṛə*). You should understand the very basic tenets of business before going any further. After we master the core idea, we will then go on to the interrelationships of the various business areas.

**Fundamental principle of business:** A person who wants money offers to provide a service or product for a person who has the money. They agree, and upon completion of the transfer of the service or product, the person who has the money gives it to the person who wants the money. This way both parties are satisfied.

Keep in mind that "the person having the money calls the shots" before giving the money to the person who wants the money. It's that simple!

Let's look at the steps of the transaction. Person P provides a product or service (he is also called the provider). Person C wants the product or service and has the money (he is also called a client or customer). Person P agrees to provide the product or service to Person C in exchange for the money. Person C agrees to the terms of the



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