Business, Marketing, and Management Principles for IT and Engineering

Dimitris N. Chorafas

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Preface

In a globalized economy, the management of an enterprise requires depth, horizon, and skills beyond those commonly available. This is true of all companies, and most particularly of those at the edge of technology.

Corporate growth and survival call for the appreciation of strategic crossroads and application of knowledge to reach goals that in the past were often reserved for fiction. Challenges are associated with products, processes, and markets—as well as new business opportunities and risks that go along with them.

Written for business practitioners in engineering and technology as well as for graduate students in colleges and universities, this book presents the *principles*, *policies*, and *practices of management* by the best companies, as well as the way they develop and implement them. As a rule, these firms pay a great deal of attention to matters of efficiency, productivity, and rationality that are

- Distilled into management principles, and
- Demonstrated by means of daily activities, as documented by the case studies included in this text

Case studies are of prime importance because they identify the critical issues confronting people engaged in business. They also demonstrate in a matter-of-fact way how the leaders of industry select and set strategic criteria to guide their decisions toward success undertakings.

In the background of the management principles, policies, and practices—that the reader will find organized in 16 chapters—lies the fact that no organization can survive in the longer term without being ahead of the curve. Successful managers are imaginative and flexible, adaptable to developing circumstances. Practical decisions rather than theories hold the upper ground.

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The text divides into five parts. Part One concentrates on the important *strategic* issues guiding the mind and hand of decision makers who have the salt of the Earth. Chapter 1 discusses the components of a business strategy—from human resources to marketing, product innovation, financial, and general management. A successful strategy positions the company against market forces in a way guaranteeing its profitability and survival.

Chapters 2 and 3 address themselves, respectively, to the *principles* and *functions* of management. Management is an art, not a science; but an art, too, has its rules. These are explained by way of six most important functions: forecasting, planning, organizing, staffing, directing, and controlling. The aim is to provide leadership, which—charisma aside—is a matter of conceptual skills, analytical detail, quality of decisions, and concentration in areas of strength.

Part Two elaborates in greater depth the management function, offering to the reader plenty of case studies to better explain what is being said. The subject of Chapter 4 is *forecasting*, which primarily focuses on the future impact of current decisions, and on future events in the sense of analyzing their aftermath. Because it makes projections, considers expectations, and evaluates likely adverse forces, forecasting is a prerequisite to sound planning.

Planning and forecasting are twins. "The plan is nothing," Dwight Eisenhower once said, "Planning is everything." Far-out planning aims to answer the queries: What will our company be in the next 10 to 15 years? From where will its earnings come? Under the time perspective come long-range planning (5 to 7 years), medium-range planning (2 to 4 years), and the next year's plan—of which the budget is the financial framework.

Organization and *structure* are discussed in Chapter 5. Management's ability to run the organization is based on its span of control, span of knowledge, span of support (including IT services), and span of attention to detail. Structural choices aim to promote those abilities by delineating the line of command—describing proper relationships, establishing positional qualifications, and making available measures of performance.

The theme of Chapter 6 is that a company's most important assets are *people* and *people*—people its employees, and people its clients. Challenges include not only leading, but also recruiting qualified personnel, assigning competent people to each position, countering human obsolescence through lifelong training, and steadily improving productivity—which is a cornerstone issue in this chapter.

Chapter 7 provides the reader with the sense of *management control*—most particularly internal control. Management control ensures adherence to plans by watching over progress toward objectives commensurate with goals and time plans being established. Therefore, a basic prerequisite is the existence of financial plans, market plans, product plans, and human resources plans. Successful management control always leads to corrective action.

Marketing and sales are the overriding subjects of Part Three. As Chapter 8 points out, the first decision in establishing a marketing strategy focuses on the specific market(s) to which the company wants to appeal. The next is the building of human resources able to be in charge. The third is the share of the market and market rank the company wishes to achieve. Should we aim to be No. 1 or No. 2? Such decisions condition innovation, product planning, sales network, and the ability of the firm's salespeople to channel its products to the market.

The market's conquest is decided through actions, not through words. The Bloomberg, ITT, Cisco, and Microsoft case studies in Chapter 9 provide irrefutable evidence to this fact. Imaginative ideas that have not yet been tried by competitors can give *our* company a head start, but the market's conquest must be approached through a coordinated program, and this is provided by the marketing plan.

Chapter 10 concentrates on sales tactics and on sales proper. The marketing functions must be detailed by means of practical steps promoting the sales effort. Sales efficiency and control of the sales network's deliverables are part of these steps. In addition, a properly trained sales force is a valuable asset.

Part Four centers on product development and innovation. Chapter 11 explains what is meant by *technology* as a generic term. No innovation nor no new process is anything if it does not create value to the company and to its customers. Quality, added value, and cost effectiveness are cornerstones all the way from product planning to marketing decisions. They are also highly dependent on how management links technology to markets.

Chapter 12 concentrates on *product planning* and *pricing*—which is never made in the abstract but reflects a pragmatic view of product features, customer drives, market dynamics, and competition. To a substantial extent, product pricing is conditioned by whether a company is a leader or follower in its market, as well as by the nature of this market: mass, unique product, or niche. Product pricing is also dependent on the cost structure decided at the time of product design and upheld during production, distribution, and maintenance.

Price wars in the computer industry, a wholesome case study, is the subject of Chapter 13. As far as computers, their makers, and their customers are concerned, the price wars of late 1970s have been a strategic inflection point, akin to the break-up of AT&T by the decision of Judge Green in the 1980s. Until then, IBM was by far the dominant decider of computer design and of prices. Other computer companies read IBM's price list and tried to do a little better.

But the late 1970s computer industry price wars turned this comfortable price leadership on its head, unleashing a wave of competition. This has been followed by a forward leap in technology and by the switch to Vaxes, PCs, LANs, client-servers, database machines, supercomputers at affordable cost and, more recently, cloud computing.

The theme of Part Five is the financial aspects of enterprising. Chapter 14 concentrates on *financial management*, and most particularly on budgeting: the short-term financial plan. Contrary to what is generally thought, a budget is no authorization to spend money. It is a plan matching spending needs—including operational costs and investments—with financial resources. Budgets must be flexible and adaptable, alternative budgets being one option; and they should be carefully controlled.

A company's *cash flow*, the other subject of Chapter 14 comes from sale of its products and services, depreciation, amortization, retained earnings, and sale of assets. A sustainable cash flow commensurate to the company's assets and plans of operation underpins financial staying power. Cash flows are reduced by servicing debt that raises the argument of management's equity versus debt decisions.

Costs matter. Chapter 15 is dedicated to profit centers and cost control. Profit centers are income earners; cost centers survive through budgetary allocations. Therefore, organizational structure based on the former is the preferred solution. A neat profit center organization must be supported through standard costs, with plenty of attention paid to effective control over expenditures.

Chapter 16 concludes this book by bringing the reader's attention to longer-range financial planning, management accounting, and reliable financial reporting. The most advanced information technology should be used to promote management's ability to be in charge of financial matters. Virtual balance sheets are an example.

Successful management is never based on vagueness. The 16 themes treated in an equal number of chapters and their case studies provide evidence to this statement. Only profitable firms can survive in the longer run, but profitability can never be taken for granted. Even the best analysis of future income can be misleading because of inaccurate, delayed, or outright false financial data, or by drift often beset by management whose time is almost up.

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In each of the themes to which it addresses itself, the text examines the principles of management and how they can be put into practice in a pragmatic way. It also brings to the reader's attention the positive and negative aspects of different policies and whether or not current practices related to forecasting, planning, organizing, staffing, directing, and controlling have been producing the required synergy.

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Part Two Management Principles

Part One

Business Strategy

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Strategy

1.1 BUSINESS STRATEGY DEFINED

By *strategy* we understand the art of conquest by means of a master plan. A strategy may be personal, corporate, or national, or it may be civilian, cultural, religious, or military. Buddha said, "Between him who conquered in war millions of men, and him who conquered himself, the greater victor is the latter." The conquest of oneself is the supreme strategy.

Some strategies prove to be brilliant; others are dumb or outright disastrous. The error, however, is not always in the master plan. "The value of a strategy is that of the people who apply it," said Jack Welch, the former chief executive officer (CEO) of General Electric (GE). His dictum applies in the dual sense of

- successes, and
- failures

"Once we have learned our lesson from a failure, we must again assume the risk commensurate to the job we are doing," Walt Disney once suggested. In the opinion of Bernard Arnault, of LVMH and Christian Dior, "errors are inevitable—but properly used they can serve in forming one's mind." What should be avoided is falling into the abyss. Therefore the master plan should be dynamic, adaptable, with a "Plan B" for fallback.

Business strategy achieves its aims through a plan (Chapter 4) consisting of tactical moves that concern the execution of operations under the master plan. *Tactics* are a vital ingredient of strategy, but they