Business case analysis: Learning to think like a physician

Zeda Glass Amaya

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BUSINESS CASE ANALYSIS: LEARNING TO THINK LIKE A PHYSICIAN

A Project
Presented to the
Faculty of
California State University,
San Bernardino

In Partial Fulfillment
of the Requirements for the Degree
Master of Business Administration

by
Zeda Glass Amaya
December 2006
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ABSTRACT

The task of preparing today's MBA students for the future is complex. Instructors are charged with the responsibility of preparing students for the realities of management while today's graduate must package the information for practical application. There is a large chasm between book and practical knowledge.

One bridge that successfully guides students in making the journey from concept learning to higher-level analytical cognitive skills is case study analysis. Once students grasp the concept and learn the tasks involved in performing a thorough analysis, they become proficient in applying general business concepts to arrive at deeper levels of learning as originally outlined by Bloom's Taxonomy of Learning (Bloom, 1956).

This project introduces and subsequently proposes a novel framework, based upon the medical model of diagnosis, to facilitate students' preparation of case analysis. Moreover, the paper shows students how to apply the framework in a sample case study. As a result, case instructors will find the method easy to understand and implement. Moreover, students will appreciate the simple analogies that facilitate a systematic approach to case analysis.
ACKNOWLEDGMENTS

I would like to acknowledge and express my sincere gratitude to Dr. Nabil Razzouk for inspiring this graduate project and for his assistance in its preparation. It was he who helped me to see the connection between the medical vocation that I know well and the case study analysis that I initially struggled to understand. I would also like to thank Dr. Seitz for her vital feedback and encouragement. I would also like to thank Dr. Johar for his support. Additionally, I would like to thank Tim Thelander for rescuing me from my formatting nightmare.
DEDICATION

I dedicate this project to my family who has supportively stood by me as I "borrowed time from them" to realize my dream of earning this MBA degree. Without their support and understanding, I could not have made it.

Likewise, I dedicate this project to my Heavenly Father who gives me the strength and fortitude to run this race.
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CHAPTER ONE

INTRODUCTION

Statement of the Problem

Today's MBA student is expected to graduate with a wealth of knowledge, leadership skills, and an ability to analyze and solve dynamic business problems. Case study analysis has evolved as one of the premier methods of preparing the MBA graduate to achieve corporate success (Bickerstaff, 1998).

While case study analysis has become a popular tool to prepare MBAs, there is a dearth of literature that explains what analysis really means. When analyzing case studies, students commonly restate the facts already set forth in the case, with very little (higher cognitive) analysis (Easton, 2001).

Other disciplines, namely Law and Medicine, utilize the case method of analysis extensively to successfully teach future professionals to analyze case histories and render recommendations. For example, in addition to the requisite basic sciences, physicians are taught to analyze case histories, and based upon the analysis, render treatment recommendations. Accordingly, recognizing that there are strong parallels between the human body and an
organization, it is possible to apply the medical analytical framework to business case analysis and arrive at a deep level of investigative analysis and subsequent strategic planning recommendations.

Purpose of the Project

The purpose of the current project was two fold:

1. To introduce the reader to the medical model of case analysis and draw parallels to the functional components of the living organization, and
2. To illustrate the use of this case study analysis framework.

This research will benefit Masters of Business Administration (MBA) students, particularly, by teaching them to reach the highest level of analysis as outlined in Bloom’s Taxonomy of Learning (Bloom, 1956). To demonstrate the use of the framework, a marketing case taught in an MBA program at Southwestern University will be analyzed.

Limitations of the Project

While the project does successfully illustrate the application of the model to an actual case used in an MBA program, illustration of a larger number of such case
illustrations was not possible because of time constraints.
CHAPTER TWO

THE MAKING OF A BUSINESS LEADER

Purpose of a Master of Business Administration Degree

The Masters of Business Administration (MBA) degree program is designed to instruct future business leaders in the development of critical thinking skills necessary to analyze, evaluate and solve business problems in a dynamic business environment (McNair, 1994). The MBA coursework is designed to stimulate creative thinking and a commitment to self-disciplined, self-directed learning and teamwork by maximally using available information and technologies (McNair, 1994). Furthermore, the MBA program stresses ethical choices and decision-making behavior that ultimately benefits both customers and the firm (McNair, 1994).

Therefore, the purpose of the MBA degree is not to simply amass a wealth of facts, per se, but to fully grasp all aspects of learning. From superficial to deep analytical learning, the coursework prepares MBA graduates to step into positions of management and aptly execute complex strategies that deliver value to both the customer and the firm's stakeholders (McNair, 1994).
Qualities of Today’s Manager

A properly prepared MBA graduate has been groomed to feel more comfortable in evaluating and diagnosing general business problems and is able to offer realistic solutions to remedy the problem (Rondstat, 1977). A successful manager is ethical and can lead others after having grasped the meaning of dynamic issues and relationships (Rondstat, 1977). Managers are able to make sound judgments in the face of uncertainty and skillfully communicate the organization’s vision. Such skills help team members, employees, and stakeholders rally together to bring the organizational strategy into fruition, thereby creating value for the entire channel membership (Rondstat, 1977).

Today’s manager requires two major skill sets (Greiner, 2003):

1. Applied skills incorporating analytical abilities which can be used to handle common business issues, and

2. Behavioral skills that the manager uses to devise and modify strategic plans (i.e., implementation skills) vis-à-vis dynamic organizational and governmental regulations that
may pose significant roadblocks to execution of strategic plans.

It becomes clear, therefore, that in the real world analytical ability without the ability to successfully implement raw knowledge is futile (Greiner, 2003).
CHAPTER THREE
RELEVANT LITERATURE

Analysis

What exactly is analysis? Analysis, in general terms, is the decomposition of an entity, behavior or task into its most elemental components (Task Analysis, 2006). Analysis is a complex mental analytical skill that requires a higher level of cognitive ability (Task Analysis, 2006).

The process of dissecting and investigating component parts can be taught, practiced, and perfected to the point that students become proficient analysts. Thus, one of the charges of an MBA education is to teach MBA students to become masters of business analysis (McNair, 1994).

Developing competency in analysis requires that students learn how to systematically break down material into smaller parts and investigate the significant ramifications, relationships, and meanings of those individual parts (Kreber, 2001). Case analysis, therefore, can be viewed as a mental, verbal, and written exercise consisting of decomposing the written exposition of a case to arrive at a more profound comprehension of the organization’s current business situation (Herried, 2006).
Clarke (1999) discusses the concept of cognitive task analysis that consists of understanding the steps or tasks required to carry out higher order analytical thought processing. He outlines five steps that constitute cognitive analysis:

1. Map out the task to be analyzed that is accomplished through formulating outlines and referring to examples,
2. Note the vital decision points,
3. Aggregate and link the critical decision points,
4. Rank the importance of the decision points, and
5. Diagnose and evaluate the decision options (Clark, 1999).

Therefore, understanding the tasks to be performed in case analysis facilitates the identification of the skill set that students must possess to complete higher order analytic tasks (Clark, 1999).

Ushering Students to the Highest Level of Learning: Understanding Bloom’s Taxonomy of Learning

Cognitive psychologists categorize learning as a type of problem solving task and suggest that there are different depths of learning (Crittenden, 1999). Analyzing a case, for example, is a far more complex problem solving
process than mere summarization of information (Crittenden, 1999).

Benjamin Bloom et al. (1956) outlined three classifications of learning domains:

1. Cognitive,
2. Affective, and
3. Psychomotor.

Each category is further divided into hierarchal levels of knowledge acquisition. The cognitive domain is the one referred to most often when discussing the depth of knowledge acquisition. Bloom's Taxonomy (1956) of learning is also referred to as the KCAASE method. The word "KCAASE" is the acronym for the six levels of learning: Knowledge, Comprehension, Application, Analysis, Synthesis, and Evaluation skills (Bloom, 1956).

Bloom's Taxonomy (1956) is based on hierarchal task accomplishments, with each step up the ladder building upon the level below it. The highest level represents the most complex learning task achievable (Bloom, 1956).

Crittenden et al. (1999) extol the case study method as a effective and efficient method of teaching students to reach the highest level of learning and critical thinking skills as outlined by Bloom et al. (1956). Crittenden et al. (1999) especially espouse the
student-led case presentation format versus the instructor-led format because the student has a greater opportunity to actively participate, and thereby achieve a higher degree of learning and evaluative skills.

Figure 1 is a pictorial presentation of the three hierarchal learning domains as set forth by Bloom et al. (1956) and the levels that lead to the highest order of learning for each particular domain.

<table>
<thead>
<tr>
<th>Cognitive</th>
<th>Affective</th>
<th>Psychomotor</th>
</tr>
</thead>
<tbody>
<tr>
<td>Evaluation</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Synthesis</td>
<td>Internalization</td>
<td>Origination and Creativity of New Patterns</td>
</tr>
<tr>
<td>Analysis</td>
<td>Organization</td>
<td>Adaptation to Special Circumstances</td>
</tr>
<tr>
<td>Application</td>
<td>Valuation</td>
<td>Complex Automatic Response</td>
</tr>
<tr>
<td>Comprehension</td>
<td>Response</td>
<td>Mechanistic Response</td>
</tr>
<tr>
<td>Knowledge</td>
<td>Reception</td>
<td>Guided Response</td>
</tr>
</tbody>
</table>

Figure 1. Bloom's Taxonomy of Hierarchal Levels of Learning

Kolb's Experiential Learning Cycle: Another Way to Classify Depth of Learning

Closely related to Bloom's Taxonomy (1956) is Kolb's (1984) Experiential Learning Cycle. Kolb describes four hierarchal levels of knowledge acquisition (Kolb, 1984):
1. Divergent knowledge that is acquired by comprehension and reflective observation,
2. Assimilative knowledge that is acquired by apprehension and active experimentation,
3. Accommodative knowledge that is acquired by active experimentation, and,
4. Convergent knowledge that is acquired by comprehension and active experimentation.

Kolb’s premise (1984), (and those whose work he expanded upon) is that true learning transpires when an individual intentionally reflects upon the information or actively manipulates or experiences the newly acquired knowledge. Further, Kreber (1984) concludes that case study teaching aids students’ progression through Kolb’s four stages of experiential learning.

The Link Between Hierarchal Learning and the Preparation of Master of Business Administration Graduates for the Real World

Beyond the foundational didactic knowledge required to progress to deeper application of knowledge, there are several ways to accomplish the complex task of preparing MBA graduates for the challenging roads that await them in their career journey. One way to put knowledge into practice prior to becoming accountable for one’s actions
and decisions is an internship (Greiner, 2003). A business internship—much like a medical internship—allows business students to learn under the watchful apprenticeship of an experienced teacher (Greiner, 2003). The main drawback, however, is that students may only be able to participate on a limited basis. A second way to practice knowledge prior to facing real-life consequences is to learn from role-playing grounded in real-life business situations (Greiner, 2003). Case study learning affords the student such an experience (Greiner, 2003).
History

Harvard is generally credited with pioneering the case study method (Garvin, 2003). Christopher Columbus Langdell, a Harvard Law School graduate, excelled at research and writing law briefs (Garvin, 2003). In 1870 he was appointed professor and later Dean of the Law School. It is he who is credited with being the father of the case study method (Garvin, 2003).

Building upon the case study method already underway at Harvard Law School, the Business School developed the business case study method. Lacking institutional textbooks to teach business cases, professors decided to interview managers of prominent businesses and write in-depth accounts of their experiences (Garvin, 2003). The students were instructed to read these case write-ups and come to class prepared to analyze them——thus the birth of the business case analysis (Garvin, 2003). The vision of the first Dean of Harvard Business School, Edwin F. Gay, was to create a learning environment where students would think like lawyers and would actively discuss
critical issues encountered in business administration (Garvin, 2003).

After Edwin Gay, Dean Wallace P. Dunham (also a Harvard Law School Graduate) continued the use of the case study method in the Business School. With the help of marketing professor Melvin Copeland, they published a compilation of business dilemmas. They introduced the first published casebook in September 1920 (Garvin, 2003). By 1921, the Harvard Business School collectively expressed strong commitment to the case method of teaching (Garvin, 2003) that remains the foundation of teaching at Harvard Business School today. By the time Harvard MBA students graduate, they will have averaged approximately 500 case study analysis during the two-year course of study (Garvin, 2003). That is 500 chances to have virtually walked in management shoes under diverse circumstances and practiced making decisions much like those in the real world.

Value of the Case Study Method

There are several advantages of the case study method of teaching. According to Powell Niland (McNair, 1994), case studies are more interesting than straight lectures since students are put into the role of managers
experiencing real dilemmas and realistic scenarios that require resolution (McNair, 1994).

For example, as managers of the case, should students make recommendations to halt the production of a product? Or, as CEOs, should they take the company global? During the course of the case study, students take an active role in making decisions, either individually, or more commonly, as a team member. This type of decision-making facilitates a profound type of learning greater than that which can be obtained from mere memorization of theoretical facts (McNair, 1994).

Additionally, students enter the MBA program with varying degrees of work experience. Case analysis provides them with a good dose of realism and exposes them to various roles that they may assume after graduation (McNair, 1994). Moreover, case study analysis helps students formulate career choices (McNair, 1994).

A second key value of the case study method is that it teaches business students how to become comfortable with making decisions within a limited time frame (McNair, 1994). This task, too, simulates real world experiences because many times managerial decisions must be made during a short time frame (McNair, 1994).
A third value of the case study method is that by assuming the role of a manager, students become adept at constructively analyzing a myriad of business scenarios (McNair, 1994). By learning how to analyze situations and becoming comfortable at doing so, students sharpen their analytical skills that lead to more productive recommendations (McNair, 1994).

Additional Benefits of Case Analysis

Edge and Coleman (1986), describe eight additional benefits of case analysis that can foster the transformation of book knowledge to applied knowledge. First, the authors assert that case study analysis teaches students the ability to “think clearly in complex, ambiguous situations (Edge and Coleman, p.23).” Students new to case analysis find it difficult to transition from the habit of looking for one correct answer to a problem to defending complex, ambiguous issues without a single answer.

Second, case study analysis helps students to acquire skills necessary to synthesize consistently sound strategies and to think beyond the obvious (Edge and Coleman, 1986). Third, case analysis gives students practice in using the quantitative knowledge learned in
MBA courses like statistics, finance and accounting to render realistic case recommendations (Edge and Coleman, 1986).

Fourth, case study analysis aids students in sorting out relevant and irrelevant information. Fifth, students learn to fill in knowledge gaps by learning the case study method. Some cases purposefully omit relevant information so that students learn to fill in the knowledge gaps necessary to make sound managerial recommendations (Edge and Coleman, 1986).

Sixth, case analysis is an excellent forum for students to sharpen their managerial communication skills, both in receptive and expressive verbal language (Edge and Coleman, 1986). Seventh, similar to number six above, case analysis facilitates the development of students' written skills, since they are submitted in written form for evaluation (Edge and Coleman, 1986). Lastly, many case studies require students to examine themselves to determine where they stand on relevant moral and ethical business issues (Edge and Coleman, 1986).

Limitations of Case Study Method

While the case study method has some undeniable advantages over pure memorization of facts, using this
methodology has some drawbacks. According to Powel Niland (McNair, 1994), students may hasten to reach a solution, any solution, without putting forth their best effort. The earlier in the curriculum the student is introduced to the case method, the more foreign and challenging the work may be, prompting the student to give in to superficial, poorly thought-out responses (Shapiro, 1988).

Another problem is that students may veer off track with the subject matter, and unless the case instructor is adept at keeping the conversation focused the intended learning objectives may not be met for the given case study (Shapiro, 1988). However, rather than talk about an irrelevant topic some students may hold back while a few dominate the conversation. This scenario reduces the educational benefits of active participation to be derived from the case method (Shapiro, 1988). Moreover, some students complain that instructors do not direct the discussion well, and, so, some students talk too much while others do not (Edge & Coleman, 1986).

Additionally, students complain that taking notes on issues raised during case study presentations is difficult (Edge & Coleman, 1986). However, one of the most criticized aspects of case study analysis is that the write-up oversimplifies the true nature of a volatile,
dynamic business situation (David, 2003). Critics say that it is not possible for a case, though conscientiously and professionally written, to fully represent a multidimensional problem in several pages of written material (Volpe, 2001). Further, case studies are only snapshots in time and not a dynamic processes, hence, case managers are not taught the back and forth dynamics of follow-up and feedback on decisions (Edge and Coleman, 1986).

**Perfecting Case Analysis**

Charles Gragg (1951) notes to become a wise manager, wisdom must stem from practical experience. Gragg (1951) describes three phases that students typically experience as they progress through the case study method of learning:

1. Students realize that they do not consider all the options their fellow students consider (McNair, 1994),

2. Students despair when they realize that classmates analyze the case more fully then they do. Subsequently, students realize the benefit of teamwork (McNair, 1994).
3. Students mature and realize that they offer answers or suggestions, that supported by sound argument, can be just as insightful as the teacher's (McNair, 1994).

Gragg (1991) points out that natural progress to independent analytical thinking is severely hindered, if the teacher/case leader acts in an authoritarian way, only accepting and encouraging his/her analysis as correct. Further, a research survey conducted among faculty at the top twenty business schools found that instructors still tend to lecture about theories and then occasionally supplement with case studies that support the theories. They further note that even when case studies are used, instructors tend to figuratively guide students by the hand, innocently or unintentionally, to responses that support the theory being taught (Greiner, 2003). Instead of allowing students to inductively analyze and make open-ended conclusions, professors use deductive reasoning to reinforce their teaching lessons (Greiner, 2003).
CHAPTER FIVE
UNDERSTANDING KEY PARALLELS BETWEEN HUMAN
AND ORGANIZATIONAL LIVING ENTITIES

Introduction

Early scientists formulated cellular doctrine that states that all living things consist of one or more cells (Kapitt et al., 1987). Furthermore, "each cell can live independently of the rest, and cells can arise only from other cells (Kapitt et al., p. 1)." Both human physiology and business analysis concern themselves with how living entities work together for the proper functioning of the organism or organization as a whole (Kapitt, 1987).

Arie de Geus, (1997) purports that organizations are superhuman living systems. In his interview with Claus Scharmer (1999), de Geus chronicles the ideas that led to the conclusion that organizations are a part of a hierarchy of living systems. One of his mentors and ideological influencers was Stern who stated that the evolving hierarchy consists of (from simple to complex) humans—families—village community (Scharmer, 1999). De Geus (2002) later expanded the original view by adding trade unions and business firms in this evolving hierarchy. He stated (2002) that being one of thousands of
Shell’s employees, he was a “cell” in that living system. However, it was at this point that the parallels he attempted to draw between humans and companies as living entities began to breakdown.

De Geus maintained that as a cell in the Shell organization, he was also a cell in his profession, Church, and trade union. While the analogy of him being a cell in his company is understandable, the cell analogy should stop there. It was confusing and incorrect, biologically speaking, to extend the cell analogy as he had done from cell function in a work environment to that same cell working in a totally separate organization. Cells are unique, elemental, and specialized units that do not perform several functions in various organ systems (Kapitt, 1987). For example, a brain cell is unique from a kidney or liver cell, and medical science does not support that one cell functions in another organ (Kapitt, 1987). For example, cells from a brain do not function in a kidney (Kapitt, 1987).

De Geus (2002) further states that Shell is one of many tribe companies, much like Union and University tribes. Returning to the Shell example, de Geus (2002) states that within the Shell tribe are thousands of cellular employees and that these cells organize to form
divisions. The divisions unite to create a local operating company that becomes a regional branch of the firm.

If this were the case in human living organisms, we would have limbs and other body parts existing on their own and later (randomly) coming together to form the body as a whole. Where is the head in the analogy? Who is the creator or chief organizer? Without a head organizer and other vital functioning units designed to maintain the organization, there was no doubt that organizations would experience high premature death rates (Scharmer, 1999).

However, de Geus (2002) asserts that his studies of a living evolution are not just metaphors, but reality, and that humans are evolving into living companies (Scharmer, 2002). Perhaps, with time, he and other evolutionists can make the picture of change, as they see it, clearer to those who don't quite understand.

Notwithstanding, one of the premises of the current project is that the company is a living entity. Incorporated firms have their own tax identification number, and realizing that metaphorically companies are living entities, their functioning parts can be examined. Subsequently, understanding how the parts work in times of good health and in disorder aids diagnosticians and managers to restore health to the company.
Similarities Between Organizations and Humans as Living Organisms

Physicians solve cases throughout the typical course of a day. They restore health and teach patients to prevent disease through what is known as 'anticipatory guidance' (Cutler, 1998). While it is admittedly short-sighted and unrealistic to propose that complex medical diagnosis can be taught in a single paper or even in a quarter or semester of study, it is realistic to be able to teach the basic framework used by physicians to arrive at medical diagnosis. In short, it is possible to draw important parallels between a firm and a human as living entities to the extent that a remarkably similar framework can be used to aid business students in learning to think like physicians, diagnose business ills, and make recommendations to restore the health of the company.

The Anatomy of an Illustrative Business Organization

It is widely appreciated that not all businesses are organized in the same manner and that they differ in their organizational structure or---to begin the analogy---their business anatomy. Realizing that the anatomical analogy cannot correlate perfectly between humans and
firms, it does correlate sufficiently to set forth a useful analytical framework.

Organisms, simple and complex, share similar functioning organ systems (Kapitt, 1987). The organ systems are master created to serve specific functions or duties for the body (Kapitt, 1987). If that specific organ system breaks down, the body as a whole can feel its ill effects. The general categories of organ systems shared between the two entities are outlined below in Figure 2.

<table>
<thead>
<tr>
<th>Human</th>
<th>Firm</th>
<th>Departmental Function</th>
</tr>
</thead>
<tbody>
<tr>
<td>Head</td>
<td>CEO</td>
<td>Thinks, plans, devises corporate strategy</td>
</tr>
<tr>
<td>Eyes &amp; ears</td>
<td>Marketing</td>
<td>Serves as eyes and ears of the firm via public relations, advertising</td>
</tr>
<tr>
<td>Respiratory</td>
<td>R &amp; D</td>
<td>Breathes new life into firm via development of new product</td>
</tr>
<tr>
<td>Circulatory</td>
<td>Accounting &amp;</td>
<td>Ensures sufficient cash flow; liquidity. Disperses firm's assets budget guidelines</td>
</tr>
<tr>
<td></td>
<td>Finance</td>
<td></td>
</tr>
<tr>
<td>Gastrointestinal</td>
<td>Distribution</td>
<td>Ensures movement of finished product to end user/customer</td>
</tr>
<tr>
<td>Musculoskeletal</td>
<td>Productions/</td>
<td>Functions as backbone of the firm, moves product through production life cycle</td>
</tr>
<tr>
<td></td>
<td>Operations</td>
<td></td>
</tr>
<tr>
<td>Central Nervous System</td>
<td>Information</td>
<td>Receives raw data and integrates information; provides business intelligence,</td>
</tr>
<tr>
<td></td>
<td>Technology</td>
<td></td>
</tr>
</tbody>
</table>

Figure 2. Parallels Between Human and Organizational Functional Units
Medical Diagnostic Model

Physicians use a comprehensive framework for diagnosing illnesses. The framework is a tool that helps them collect all the necessary information and external data that will result in the correct diagnosis and treatment plan.

There are four categories that comprise the medical model framework:

1. "Subjective" information section, as recounted by the patient,
2. "Objective" information section,
3. The clinician's "assessment" and,
4. The "treatment" plan.

The four categories are referred to by the acronym SOAP, which stands for subjective information, objective information, assessment of the problem, and plan of action (Bair, 1980). For an example of a SOAP note, please see Appendix A.

Components of the "subjective" section include assessment of the reason for the patient's office visit. This can include other pertinent body system review of the heart, lungs, and digestive system, for example. It also includes an assessment of allergies, previous illnesses or social circumstances that impact compliance with the
treatment regimen or that have led to the current problem. It is also important to note family history of illnesses (Bair, 1980).

Components of the “objective” section include the vital signs, the physical examination, and any pertinent laboratory diagnostic data (Bair, 1980). The “assessment” section of the diagnostic framework contains the clinician’s impression, given the elicited subjective and objective data (Bair, 1980). The clinician lists, usually in descending order of severity, the diagnoses that are responsible for the patient’s symptoms.

The “plan” section provides the recommendations to remedy the assessed set of problems. This section discusses any advice given to the patient and plans for follow up assessment of treatment response, or additional, subsequent intervention (Bair, 1980).

Traditional Framework Used to Solve Business Cases

Edge and Coleman (1986) outline a seven step process for case study analysis. The steps are as follows:

1. Understand the problem situation,
2. Identify the problem areas,
3. List the problems,
4. List solution alternatives for the problem,
5. Balance pros and cons for each alternative,
6. Select the best alternative, and
7. Implement the plan.

Edge and Coleman’s (1986) framework share some features of the medical model, namely steps 3, 4, and 7. Their framework, while useful, is very broad and vague, especially in steps 1 and 2. For instance, how do you teach students to understand the situation or identify problem areas on a practical level? The hypothesis of the current project is that by viewing the organization metaphorically as a living entity with basic anatomy and functions much like a human being, the medical diagnostic framework can be applied to aid in case study diagnosis and strategy recommendations.
CHAPTER SIX
APPLICATION OF MEDICAL FRAMEWORK
TO CASE ANALYSIS

Introduction to Thinking Like A Physician

Case analysis starts with a thorough reading of the case write-up. Note that the reading must be thoughtful if the student is to move to Bloom's (1951) upper tier of comprehension. Preferably, students read the case at least two or three times prior to suggesting strategic recommendations since multiple readings allow them to pick up additional insights not gained on the initial reading. This first step will allow students to articulate the chief complaint/ chief concern or antecedent to the decision situation.

Subjective Component

Viewing the company in the case as a viable organization with vital sustaining functions required to survive, the students can begin to systematically gather all the historical facts of the company presented. Students are to outline the subjective information verbalized by the case protagonists and note known particular company aversions ("allergies") or prior failures of strategy implementation.
Next, students specifically inquire about additional symptoms relating to the various functional departments. For example, how are the Marketing, Accounting, or Productions departments doing? Are those particular organizational departments showing any signs of distress that is contributing to the chief complaint? Students then delve into the company’s past ("medical") history and determine if the company has suffered from any previous ills that might contribute to the current problem.

Subsequently, students obtain family history information, meaning history concerning supply chain members or ills affecting other companies who share the same business model in the industry. For example, are suppliers experiencing any ills that maybe contributing to the current problem the company is facing? What about other family members/competitors in the industry? Finally, students elicit social history regarding events in the microenvironment (war, terrorism, recession, political unrest, natural resources, changes in technology, etc.) that may be contributing to the company’s chief complaint.

Objective Component

In the medical model, the clinician begins the objective assessment component by gleaning an overall,
general impression of how the patient looks at the time of presentation. For example, the physician may write in the record, "Tommy is an ill-appearing six years old male noted to breathe with obvious difficulty."

Business students note the general appearance of the company: Does the company look healthy overall or does it look critically ill? Paramount to determining the general appearance of the patient is assessing the vital statistics: heart rate, respiratory rate, blood pressure, weight, and height. Business students must examine the company's vital statistics such as market share, overall sales trend, profit/loss statements and profit ratios, customer satisfaction, new products, and new customer groups.

Next, the physician performs a physical examination of the patient, noting both normal and abnormal findings. Likewise, at this juncture, business students should recall the anatomy of the living firm as outlined in Figure 2 and the corresponding business anatomy, noting both positive and negative pertinent findings found in the examination.

The last component of the "objective" section is the evaluation of any appropriate diagnostic data. This is ordered when history indicates that additional objective
information is required to "rule in or rule out" suspected preliminary diagnoses. Included in this section of the medical model would be such lab tests as blood work, X-Rays and biopsies. The equivalent studies in case analysis would be customer analysis studies, market research studies, test marketing, GAANT charts, financial ratio analysis, break-even analysis, and process maps.

Assessment Component

This step is one step below the highest tier of Bloom's (1951) hierarchy of cognitive learning skills. It requires a synthesis of the data that has been collected thus far to arrive at a list of potential diagnoses. In essence the diagnostician puts together all the clues or pieces of the puzzle to arrive at a list of possible causes for the presenting problem (that is why it is critical to have done a thorough collection of pertinent information, so that the clinician can arrive at the truth of the situation). For example, in the medical diagnostic model the physician at this stage may record an assessment as follows: Tommy is a six-year-old male with a runny nose, low-grade temperature, and a scratchy throat. The assessment is that he has an upper respiratory infection (a cold in layman's terms).
Students preparing a case study presentation may similarly analyze a case and render an assessment similar to the following: The Widget Company is a business experiencing decreasing stock prices despite turning a profit in a favorable economic climate. The assessment is that the problem stems from internal process issues, poor customer service and public brand image coupled with a poor corporate culture.

The assessment stage is where the diagnostician/analyst summarizes the findings and commits to a working diagnosis that will serve as the basis for subsequent recommendations and implementation.

Making a Diagnosis

Medical clinicians are trained to realize that there may be more than one particular diagnosis that is responsible for the constellation of symptoms that the patient experiences (Cutler, 1998). Likewise, businesses may suffer from more than one ill that is causing the problems. Moreover, illness is not static. So, it is possible that at the time of patient presentation, or business consultation, the symptoms, history, and examination suggest a particular diagnosis. Later,
however, as the illness evolves, a clearer picture of the true diagnosis may become apparent.

Additionally, labeling a symptom as a diagnosis must be avoided. A symptom, such as a fever, is not a diagnosis, but it is a clue that something else is going on. That “something” may or may not be harmful to the organism. Hence, the symptom is not the problem; it is the signal that a problem may exist. Symptoms are what patients see or feel; it is not the actual diagnosis. So a patient may go to the doctor complaining of a fever (a symptom), but the doctor does not record a diagnosis of “fever;” he or she records the diagnosis as an “ear infection,” or “pneumonia” depending on the diagnosis that is responsible for causing the symptom. Hence, the diagnosis accounts for or explains the reason for the symptom.

Similarly, a case study’s protagonist may complain of declining sales. However, that is a symptom of the actual problem or diagnosis. After proper assessment, the manager may discover that the diagnosis that accounts for the symptom of “declining sales” stems from a weak distribution system or a backlog problem. Thus, declining sales are a symptom of the company’s true underlying disorder.
More importantly, symptoms are the tips of icebergs that are observable. Underneath the surface is the true underlying problem. So, case study analysts are encouraged to look beyond symptoms to discover true diagnoses when analyzing case studies (Garvin, 2003).

The Role of Heuristics and Algorithms as Assessment Aids

Heuristics are general rules of thumb that help make complex decisions (Rubin, 1993). Usually these rules have developed over time as a result of cumulative work experiences. Professionals, including physicians, use heuristics to help solve complex and uncertain problems. Physicians may use heuristics, for example, when there is an emergency that precludes the systematic procurement and evaluation of information (Klein, 2005). In such circumstances, the use of a general rule of thumb (heuristic), based on prior knowledge and experience, shortens the assessment time considerably.

Using Heuristics

Klein (2005) warns of five pitfalls inherent in the use of heuristics when making diagnostic assessments that include:
1. Thinking that the heuristic is representative of all similar cases,
2. Making illusory correlations (error in cause and effect relationships),
3. Assuming information will be readily recalled,
4. Being overconfident in knowledge when there are major knowledge gaps, and,
5. Limiting questions to ones that confirm preconceived assessments (Klein, 2005).

While very helpful with assessments (and occasionally necessary in an emergency situation), the major drawback with heuristic shortcuts to decision making is that it can lead the diagnostician astray—-with dire consequences (Klein, 2005). Likewise, business managers are not immune to such consequences if they use heuristics to conduct managerial assessments.

Algorithms

Algorithms are tools consisting of a set of moves or steps to arrive at a diagnosis (Knowledge Engineering, 2006). They are printed decision trees that start with a symptom and then branch out in several directions (Knowledge Engineering, 2006). Following one branch or path to its terminal point leads to a plausible diagnostic
conclusion. Algorithms in medicine are common; there are books used by medical students and practicing clinicians to help make diagnoses (Patow, 2005).

However, algorithms in business appear to be scarce in the literature and they should be developed to aid students in case analysis. For example, the diagnosis of the underlying symptom of "decreased revenues" could be aided by the use of professionally designed algorithms based upon expert knowledge. To progress towards the recommendation, a cross functional team consisting of Information Neural Network specialists, Management clinicians, business professors, and students would collaborate to develop algorithms to help "diagnose" management problems and develop corresponding strategies. Development of algorithms could prove helpful to MBA students to aid the diagnosis of symptoms found in cases, similar to what is done in medicine (Patow, 2005).

**Action Plan Component**

Formulation of a plan of action (given the subjective, objective, and assessment of the presenting problem) constitutes the final stage in the diagnostic framework. Here physicians outline, problem by problem, the proposed treatment regimen. Also listed here are any
prescription medications and further diagnostic testing or recommended specialty consultations. This stage also notes any patient education and when the follow-up visit is to occur.

Similarly, business students conclude case analysis with action plans or implementation plans. Included in this stage are specific details for correcting the problem or curing the company ill(s). A sample action plan may state:

- Vertically integrate by acquiring our competitor, Widget, Inc., and/or,
- Expand personal sales representative sales territory to Arizona, where market research suggests a 10% growth opportunity.
CHAPTER SEVEN

IMPLEMENTING THE FRAMEWORK: A SAMPLE ANALYSIS

Introduction

The case to be analyzed using the medical model framework is the Calambra Olive Oil (A) case prepared by Clyman and Pfeifer (2000). This case is brief, interesting, and can be applied to the framework of the medical model. In the case, Frank Lockfield is the protagonist and an entrepreneur who, on a whim and with the strong urging of his friends, starts an olive oil business. After moving to California, he planted two olive trees. When the trees began to bear fruit, his interest in producing his own olive oil was piqued; however, the first attempt at producing oil was a culinary failure. The oil was too bitter, and Frank wanted to know why.

Subsequently, Frank met Gino Ambrano who came from a long lineage of successful Sicilian olive oil producers. After taste testing some of Ambrano’s extra virgin oil, Frank was bent on starting his own business, so he contracted with Ambrano in 1992 to produce the oil. The next step was to bottle it. Frank initially wanted to have a bottler bottle the oil; however, due to the costs and a significant amount of waste inherent in the bottling
process, it was decided to bottle 800 bottles of oil, with the help of his friends over a weekend.

Frank envisioned Calambra oil (which is a combination of the words California and Ambrano) as being a high quality, specialty oil that would be a cut above the rest already existing in the market. Furthermore, he wanted Calambra Oil and fine wine to go hand in hand in the customer's mind. The oil was bottled in award winning packaging that won several accolades and write-ups in magazines. Furthermore, the oil was dated to support the quality image. The quality taste of the oil enjoyed recognition as number one ranking in several tasting contests.

The case authors state that Frank was experiencing a quantity decision dilemma because he needed to decide the quantity of gallons of oil needed for the following year, 1994. Ambrano was pressuring Frank to commit to a production quantity at an early stage. What made the decision difficult for him was that sales of his 800 test bottles had been very disappointing. How could he decide so early in this experiment how many more bottles to contract for when he had not established any significant sales yet?
The case authors include Calambra oil recipes, pricing cost per case charts, projected profit and loss statements for 1993-1997, Taste test data, a chart of Calambra Oil accolades, and a copy of the contract agreement to be signed for the next production batch. At the conclusion of the case, Frank is surrounded by his supporters who are trying to forecast how many cases of oil to contract for. Frank’s dilemma is determining how many bottles of the 800 already in existence that could be sold. If they did not sell the bottles of oil, he would conclude that the attempt was a failure and they should sell the excess to a discounter such as Trader Joe’s warehouse.

Sample Write-up Applying the Medical Framework: Subjective

- **Chief complaint:** "Sales have been disappointing. It’s too early in the business, and I am being forced to decide how many gallons of olive oil to order for next year (Clyman and Pfeifer, p. 140)."

- **History of the Present Illness/Problem:** Frank Lockfield is a transportation consultant living in Northern California. Shortly after arriving in the USA from London, Frank planted two olive
trees. After the trees began to bear fruit, he became fascinated with the idea of producing his own olive oil. The initial batch was not very savory, so Frank met up with an independent businessman, Gino Ambrano, who had lots of experience with producing fine olive oil. Lockfield bought some of Ambrano's oil and invited his friends to a taste test of the oil. Frank's friends unanimously urged him to start an olive oil business. Deciding to listen to his friends, Frank contracted with Ambrano for an April 1993 delivery of 800 gallons of oil @ $22/gallon. Frank marketed the business in his spare time, yet now Ambrano is compelling him to make a purchase quantity decision.

- **Past History:** Frank has no past job or business experience in the olive oil industry; however, he is a connoisseur of the product. Frank's supply chain partner and producer, Ambrano, has extensive experience in producing the product.

- **Allergies/Aversions/Past strategic failures:**
  None known
• Social/Environmental history  
  (opportunities/threats): No subjective information provided (the case does not state that Frank has done an external analysis)

• Family History/Internal Analysis: The Company is run as a sole proprietorship. Exhibit 4 of the case lists 18 olive oil retailers in the industry against whom Calambra oil has competed in taste tests. The list suggests that the market is saturated. Moreover, Ambrano has other clients, and he is willing to press limited amounts of the oil for Frank. Ambrano’s inflexibility causes much stress for the owner, and the alliance is weakening to an imminent severance. Frank lacks a safety net should the two part; yet, he receives ample support from his friends and family. Frank has some disposable cash that he used for the business’ upstart but the case does not state whether he has strong financial backing or large cash reserves. The financials show a projected profit; however, current sales volume, suggest otherwise.
• **Review of Systems:** There is a lack of market and industry research, lack of assessment of the customer value chain, lack of business plan, and lack of strong marketing plan.

**Objective**

• **Vital signs:** Start up, no profits.

• **General:** Calambra oil is a sole proprietorship, start-up company, struggling to make sales.

• **Head/Owner:** Hopeful, yet poor planning efforts (no mission statement, no strategic planning); thinks of the business as an "experiment." Not well informed about the olive oil business.

• **Eyes & Ears/Marketing:** There is minimal effort (markets in "spare time"); Frank lacks awareness of who constitutes his target market and lacks knowledge of the customer's value chain. Price of product is an issue; attempting to establish image of link between fine wine and Calambra Oil to justify expensive the price.

• **Cardiovascular/ Accounting & Finance:** No distress at time of presentation; cuts costs through home bottling.
• Respiratory/Research and Development: Excellent product and packaging design (as evidenced by many accolades). Stable for now.

• Gastrointestinal/Distribution Channel: Uses trade shows and brokers, and he is attempting to sign a contract with Neiman Marcus and Williams-Sonoma.

• Nervous System/Information Technology: Not examined and not revealed in the case study.

• Musculoskeletal/Production & Operations: Home bottling okay for now given small initial batch; however, operations will be insufficient for large scale production if “experiment” succeeds.

Assessment Summary

Calambra oil is a start-up company whose owner, Frank Lockfield, is struggling to determine how many gallons of oil to contract for next year. The decision is particularly difficult in light of the fact that sales to date have been slow compared to projections. The following is a list of the assessment findings:

1. There is evidence of poor planning and impulsive actions on the founder’s part resulting in a serious lack of strategic planning.
2. There is a lack of market analysis, so, the founder is oblivious as to whom he is marketing his product or what the target market esteems as valuable. As a result, there is a mismatch between customers and the price they are willing to pay for the perceived value of the product.

3. There is a poor and tenuous relationship with Frank's sole producer, Ambrano. Frank is in serious jeopardy of not having a producer.

Plan

1. Procure the services of a qualified small business consultant to help the founder get on track. Specifically, Frank needs to develop a full business plan that includes a mission statement and a business strategy. Additionally the business consultant can aid Frank in developing a spreadsheet model to search for an optimal order quantity.

2. Procure the services of a marketing consultant (possibly a MBA student from a nearby University, under supervision of a Marketing professor) to devise a viable, affordable marketing mix consisting of optimal product
pricing, distribution and promotion mix. It is recommended that Frank continue participating in trade shows and utilizing public relations.

3. Look for a back up producer should the relationship with Ambrano disintegrate.

4. Frank has over-ordered product for his current level of sales. There is a risk of spoilage of the excess and a need to sell it to a discounter at a low price. Frank should seek assistance in analyzing whether to pursue "make-to-order" versus "make-to-inventory" production methods on a on-going basis.

5. If Frank is unwilling to remedy the company's ills, it is strongly suggested that he disband the company given the fact that he lacks critical knowledge of the olive oil business and strategic planning (brain damage), that he has a troubled distribution system (a failing gastrointestinal system), and that there are obvious signs of generalized company distress.
Educating today's MBA students is complex; yet, the task presents educators an opportunity to shape students' thinking skills as well as make a significant impact on the landscape in today's business world. To critics of the case study method as it now exits, more interactive variations on the theme are now being successfully implemented (Casing the Future, Harvard Magazine, 2003). "Multimedia cases" as they are referred to are currently available in "wired" classrooms and they permit professors to take the case method to a whole new level. Leveraging the power of Information Technology and the Internet, case studies are now in digital format, animated, and more interactive. With various levels of engagement, students reach the pinnacle of Bloom's (1956) hierarchy of learning easily. Even with the advent of newer versions of case study teaching methods, current versions have served, and continue to serve, a vital role in the education of today's MBA graduates.

Notwithstanding, some students find analyzing written cases a frustrating task. Hence, the new model presented is a straightforward, comprehensive, readily adaptable
method of analysis predicated on the medical model used for patient diagnosis. Accepting the premise that a business organization can be viewed as a viable living entity, students applying the medical framework will find it works very well. With this adopted framework, students can view the organization as a unit capable of being analyzed or dissected into its individual functional component parts while taking into consideration the impact of external forces on the organization.
APPENDIX

EXAMPLE OF A "SOAP" NOTE
EXAMPLE OF A "SOAP" NOTE

Chief Complaint: My daughter has a fever, and she does not eat like she normally does.

Subjective: Z.A. is a 15 year-old female who presented to the clinic today complaining of a fever and not eating well. She was well until 2 days prior to today’s visit when her mother noted that she felt warm to the touch. A younger brother has similar symptoms.


Past Medical History: No previous allergies to medications.

Generally healthy; no chronic medical conditions.

Family History: Family history of asthma and thyroid problems.

Social History: Non contributory; no problems

Objective: Vital Signs- Temperature 102.5, Heart Rate 98, Respiratory Rate 18, Blood Pressure 118/72.

Head-Normal

Eyes and Ears-Normal

Mouth- red, exudates (pus) present

Lungs-Normal
Heart-Normal
Abdomen-Normal
Musculoskeletal System-Normal
Nervous System- Normal
Assessment: 15-year-old female with fever, sore throat, and headache for two days duration. She has exposure to a younger sibling who is experiencing similar symptoms. The exam is essentially normal except for signs of a throat infection and a fever. The history and physical exam suggests a "Strep throat" infection.
Plan:

• Bring down the fever with a dose of fever reducer now.

• Perform a "Rapid Strep Test."

• Depending upon the results, antibiotic prescription will be provided if the test confirms a bacterial ("Strep") infection.

• Anticipatory guidance regarding fever control, suggested interim diet while recuperating, preventing spread.

• Follow up after the antibiotic course is completed (ten days) and as needed for persistent or
worsening symptoms despite antibiotics (Arnold, 2006).
REFERENCES


