The FORT Matrix: A Pedagogical Tool for Strategic Management Case Analysis

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ABSTRACT

In this paper we present a pedagogical tool, the FORT Matrix, designed for improving the teaching of Strategic Management (SM) case analysis. The underlying logic and analytical power of the FORT Matrix in terms of four types of knowledge are discussed. We also provide a simple example to demonstrate how to use this tool and offer some suggestions for its further refinement.

INTRODUCTION

Strategic Management (SM) is a capstone course included in a typical undergraduate business or MBA curriculum. Although different business schools may give this course a different name (e.g., Business Policy, Policy Formulation and Administration, or Competitive Strategy), all of their undergraduate or MBA students are required to take it without exception. The teaching of SM usually entails some combination of lectures and case studies, and sometimes computer simulation games. Most SM instructors primarily rely on the use of case analysis to help teach the application of the core concepts and theories related to strategy and competition. It is also widely believed that SM case analysis provides a highly effective and comprehensive means of integrating the knowledge that students learn from business functional courses such as Organizational Behavior, Marketing, Operations, Finance, and Accounting. To be sure, there exist different approaches to teaching SM case analysis. Each has its own merits and may be particularly favored by an instructor who subscribes to a certain teaching philosophy. However, from the standpoint of enhancing student learning, the development and use of effective pedagogical tools are two worthy goals to pursue for those teaching an important capstone course like SM. In this paper, we will first present a general scheme for the construction of a pedagogical tool, the FORT Matrix, designed to aid in the teaching of SM case analysis. After discussing the underlying logic and analytical power of the FORT Matrix, we will provide an illustrative example to highlight its pedagogical benefits. The paper will end with some concluding remarks about possible refinement of the FORT Matrix and its implications for improving business education as a whole.
STRUCTURE OF THE FORT MATRIX

The basic structural format of the FORT Matrix consists of a table of four cells. As shown in Table 1, Cell I, Cell II, Cell III, and Cell IV are sequentially labeled Facts, Opinions, Relations, and Techniques.

<table>
<thead>
<tr>
<th>Facts</th>
<th>Opinions</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cell I</td>
<td>Cell II</td>
</tr>
<tr>
<td>Relations</td>
<td>Techniques</td>
</tr>
<tr>
<td>Cell III</td>
<td>Cell IV</td>
</tr>
</tbody>
</table>

Table 1: Basic structural format of the FORT Matrix

The FORT Matrix derives its name from the first letter of each of the four cell labels. The acronym FORT makes this tool easy to remember, much in the same way as the well-known SWOT (Strengths, Weaknesses, Opportunities, Threats) Matrix. In principle, the size of each cell is not fixed. It can vary in direct proportion to the amount of information analyzed and suggests no rank ordering of importance. Thus, it will be more meaningful to think of each cell in terms of its analytical space rather than physical space.

When teaching case studies, the FORT Matrix can serve as a useful pedagogical tool for SM instructors if they encourage their students to use it for categorizing and distilling strategy-relevant information gleaned from published cases. Students will find this tool particularly helpful after the first or second reading of an assigned case. Based on the assigned case reading (and even reading beyond the assigned case like reviewing other related literature), information pertaining to objective facts and subjective opinions is to be included in the Facts Cell and
Opinions Cell separately. On the other hand, information concerning known or deduced relationships of key strategic variables is to appear in the Relationships Cell while information about analytical techniques germane to the questions being explored is to be placed in the Techniques Cell. Students should be instructed to try to generate as long a list of information as possible in each of the four cells. If used appropriately and conscientiously, the FORT Matrix will pave the way for performing additional analysis of a given SM case at a later stage, where more advanced analytical tools (e.g., value-chain analysis) can be applied to achieve a deeper understanding of the core strategic issues involved. In the next section, we will provide a more detailed discussion of the FORT Matrix with respect to its analytical logic and power.

**EPISTEMOLOGICAL RATIONALE AND BENEFITS**

As a pedagogical tool, the FORT Matrix is intended to enable students to better organize and assimilate case information in the initial stages of preparing a strategic analysis for undertaking such learning activities as participating in class discussions, making oral presentations, and submitting written reports. In developing the FORT Matrix, students will be actively engaged in a process of knowledge recognition and decomposition, through which they will gain a better appreciation of the case study method and the integrative-thinking approach emphasized in the SM course. To complete each of the four cells in the FORT Matrix requires students to identify, retrieve, and reflect on a specific type of knowledge. This may take the form of self-discovery or cooperative teamwork, depending on whether the case study assignments are individual- or group-based. There are four major types of knowledge corresponding to the four cells in the FORT Matrix:

**Factual Knowledge**

All facts including chronology, people, events, and quantitative data (e.g., population size, market share, advertising budget, inventory level, etc.) about an assigned case constitute a factual knowledge base with which students must be familiar in order to do a satisfactory job of analysis. Undeniably, no students can be expected to do any reasonable or credible analytical work without knowing the facts first. The ability to describe relevant information accurately and correctly is a sine qua non for effectively analyzing any case study with the intent of prescribing a solution to the case problem. Getting the facts straight is deceptively simple. The reality is that most students are novice case analysts, who may not fully understand that even a casually overlooked fact can create a vastly distorted scenario and result in a very different situational assessment. Thus, when students make an honest attempt to complete the Facts Cell by determining as many facts as possible about an assigned case, they also take an important first step in removing as many learning blinders as possible.

**Perceptual Knowledge**

Opinions make up a perceptual knowledge base for the case analyst. They may be expressed by a certain character described in a case, implied by the case writer, or formed by the case analyst. No case provides all the facts and hence missing links and gray areas are only to be expected. As such, interpretations, educated guesses, and assumptions often need to be made to bridge the factual knowledge gap. Working on the Opinions Cell in the FORT Matrix is a logical next step
following the completion of the Facts Cell. Disciplined intuition can complement objective facts in helping students better learn the art and science of SM case analysis. Using the FORT Matrix offers a valuable opportunity for students to hone their analytical skills through a self-conscious way of distinguishing opinions from facts, thereby heightening their awareness of the differences between art and science, perceptions and realities, as well as subjective views and objective conclusions.

**Relational Knowledge**

The result of establishing a relationship between certain (not all) known facts, identified in the Facts Cell, is relational knowledge. The relationship can be one of association or causality. In SM, the former is more common than the latter. Developing a relational knowledge base is very important for explanation and prediction of managerial phenomena. It is an intellectually demanding yet educationally rewarding process. Students are expected to spend a substantial amount of time working their way through the Relations Cell in the FORT Matrix, a step that should be taken only after both the Facts Cell and Opinions Cell are completed because of the need to avoid mixing facts with opinions at the risk of “muddying” relational knowledge. The most significant learning benefit that can be achieved from finishing the Relations Cell work is improved integrative thinking, which is at the heart of SM pedagogy (Greiner, Bhambr, & Cummings, 2003).

**Procedural Knowledge**

This type of knowledge deals with the “how” or technical aspects of case issues. It draws heavily on the procedural rules in the business functional courses (e.g., how to compute financial ratios). In completing the Techniques Cell in the FORT Matrix, students must turn to what they have learned in the pre-requisites courses in search of fundamental domain-specific analytical techniques that are most relevant for helping them gain additional insights into the crux of the case problem. A procedural knowledge base is not only essential to performing the technical analysis of an assigned case, but also vital for providing a means of linking the business functional courses in an interconnected way, which is conducive to fostering integrative thinking. Students may start working on the Techniques Cell immediately after they are done with the Relations Cell, although sometimes it makes sense to work on both of them simultaneously (or even in reverse order) if procedural knowledge helps the determination of relationships (e.g., calculation of activity ratios leads to the conclusion that under-utilization of fixed assets possibly impacts profitability).

**AN ILLUSTRATIVE APPLICATION OF THE FORT MATRIX**

To demonstrate how to apply the FORT Matrix, a simple example using a mini-case about Boeing (see Appendix), taken from a current SM textbook coauthored by three leading scholars (Ireland, Hoskisson, & Hitt, 2006) in the strategy field, is presented in Table 2. It has been suggested earlier that as many facts, opinions, relations, and techniques as possible should be included in the FORT Matrix. However, for simplicity’s sake, only three are included in each category in the example.
Facts

- Condit resigned after serving as Boeing’s CEO and Chairman for seven years
- Boeing experienced strong competitive challenge as well as performance and ethical problems under Condit’s leadership
- Boeing was banned indefinitely by the Pentagon from bidding on military satellite launches

Opinions

- Condit was a leader characterized by indecisiveness and isolation from Boeing’s operations
- Condit and his team made inappropriate contact with Pentagon officials to obtain bidding information on its major competitor, Airbus
- Condit had a questionable personal life as evidenced in four failed marriages

Relations

- Performance problems caused Condit to resign
- Ethical problems resulted in congressional subcommittee investigations and the Pentagon-imposed indefinite ban
- Boeing’s need to develop the 7E7 Dreamliner to strengthen its long-term competitive position must be balanced with its need to improve its short-term financial performance

Techniques

- Market segmentation studies may be worth conducting for determining potential demand for the 7E7 Dreamliner
- Organizational climate surveys could be suggested for assessing Boeing’s post-Condit corporate culture
- Breakeven analysis may be used to shed more light on the financial viability of the 7E7 Dreamliner development project

Table 2: A simple example

It should be noted that the facts listed in the Facts Cell lead to the relational statements indicated in the Relations Cell. Furthermore, making sure that the opinions displayed in the Opinions Cell are clearly separated from the facts is necessary for reduction of establishing spurious relationships, drawing speculative inferences, and jumping to premature conclusions. Finally, the techniques shown in the Techniques Cell represent three possible analytical procedures based on three different business functional courses (Marketing, Organizational Behavior, and Finance) that can be employed to examine the case issues in a more comprehensive and integrative manner.

CONCLUDING REMARKS

In a rapidly changing knowledge society such as ours, there is a pressing need for business faculty to develop innovative pedagogical tools to help educate tomorrow’s business executives,
who are expected to play the dual role of a manager and knowledge worker. That business education must keep up with the times is beyond any doubt. As a capstone course, SM is perhaps in greater need than other business courses of constant improvement in its teaching methods. The multi-disciplinary nature of this course makes the search for better pedagogical approaches particularly challenging and important. In analyzing SM cases, a solid understanding of business fundamentals is required and different sources of knowledge including factual, perceptual, relational, and procedural must be tapped in order for more effective student learning to occur. The FORT Matrix, the main focus of this paper, is a new pedagogical tool designed with these four types of knowledge in mind which we believe can significantly contribute to improving the teaching of integrative SM case analysis and positively influence the advancement of business education in a holistic way.

Further refinement of the FORT Matrix will be needed to enhance its applications. Electronic spreadsheets using Microsoft’s Excel can be created to construct this tool for easier addition or deletion of information. Moreover, information in the Facts Cell and Opinions Cell may provide a broader basis for developing the SWOT Matrix which considers both objective and subjective factors, whereas information in the Relations Cell and Techniques Cell may be incorporated into matching analysis and decision-stage analysis (David, 2005) to support strategy selection and justification.

**APPENDIX: MINI-CASE FOR PURPOSE OF ILLUSTRATION**

**Was There Strategic Leadership Failure at Boeing?**

One analyst described Boeing’s problems as a flawed strategy, lax controls, a weak board, and shortcomings in leadership. Philip Condit served as chairman and CEO of Boeing for seven years, but resigned because of Boeing’s performance problems. Condit was described as a brilliant engineer with excellent problem-solving skills and a capability to envision elegant designs. This suggests that he has good decision-making skills and is creative, both of which can be valuable in a formal leadership role. However, as CEO, Condit did not seem to display these skills.

Some described Condit as indecisive and isolated from Boeing’s operations. Condit and his management team failed to understand the determination of the firm’s major competitor, Airbus, and thus were surprised by its announced intention to build a new extra large (555-seat) passenger jet. They were even more surprised by Airbus’s ability to obtain orders for this new aircraft. In fact, Airbus began to out-compete Boeing. In 2003, Airbus had more orders for aircraft than Boeing for the first time. Condit and his team also had lapses in judgment, and their actions raised questions of unethical actions. For example, controversial allegations were made about inappropriate contact with Pentagon officials to obtain knowledge about a lower Airbus bid on a contract. In turn, the official providing the information was allegedly offered a job at Boeing. Additionally, the Pentagon placed an indefinite ban on bids by Boeing on military satellite launches because the company possessed documents about rival Lockheed’s activities, helping Boeing win contracts.
Additionally, Boeing had to fight a class-action lawsuit alleging sex discrimination by top company officials. Condit’s personal life was also questioned, with four failed marriages and a suite at Seattle’s Four Seasons hotel that had been remodeled to add a bedroom at Boeing’s expense.

Condit’s decision to diversify Boeing from its core business caused a loss of focus on competition, and the new business markets did not develop as envisioned. Of course, the ethical lapses in the defense contract business were especially harmful. The new top management team moved quickly to overcome the ethical problems and restore stakeholder confidence. But the firm still must undergo thorough examination by external parties, such as congressional subcommittee investigations of potential wrongdoing in obtaining government contracts. Boeing now has an Ethics and Business Conduct section on its Web site. Included in this section is an Ethics Challenge that employees are encouraged to take.

The new top management team also decided to develop the 7E7 Dreamliner. This new Plane is smaller (217-289 passengers) and designed to fly faster and farther (up to 8,500 nautical miles) than many competitive aircraft. So Boeing needs to balance financial controls (to improve its performance today) with strategic controls (to develop products, such as the 7E7 Dreamliner, with the potential to be successful tomorrow).


REFERENCES

