Teaching critical-thinking skills: a strategic-management class project

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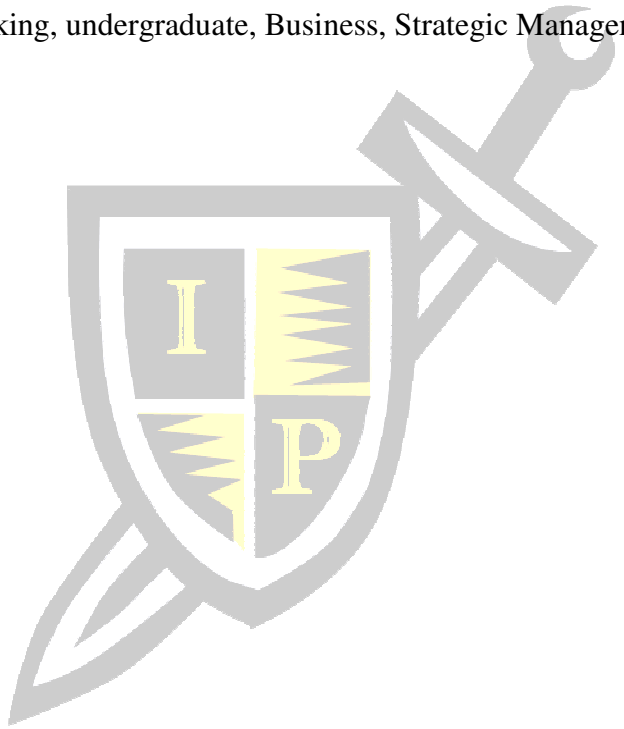
ABSTRACT

A report on an innovative, semester-long class project designed to strengthen the critical-thinking skills of undergraduate Business students. Includes step-by-step instructions, including templates and an assessment rubric. Assessment data confirms student success at one critical stage of the project.

Keywords: critical thinking, undergraduate, Business, Strategic Management, project, teaching.



INTRODUCTION

There are countless things college educators want their students to know before graduation. Most fundamentally, however, educators want their students to be able to think. As Facione (2015) writes: "Teach people to make good decisions and you equip them to improve their own futures and become contributing members of society…"

Thus, one of the most important student skills to be nurtured is critical thinking, defined by Huitt (1998) as "the disciplined mental activity of evaluating arguments or propositions and making judgments that can guide the development of beliefs and taking action."

The value of critical-thinking skills is reinforced by employers, who frequently cite such skills as one of the key abilities they are looking for in new employees (Kavanaugh, 2017, March 6).

Yet, recent results from a standardized test of reasoning ability at colleges across the United States showed that "At more than half of schools, at least a third of seniors were unable to make a cohesive argument…" (Belkin, 2017, June 5).

This paper reports on an innovative semester-long project used successfully for several years at a Midwestern public university with senior-level undergraduate Business students. The project strengthens critical-thinking skills within the context of discipline-specific content, as Huitt (1998) advises, rather than attempting to teach such skills in isolation.

The project, called the Strategic Review, fits well as a team assignment in a Strategic Management class. Each team selects a company and, following a step-by-step approach, produces a well-reasoned recommendation for its company's future direction.

The paper begins with an overview of the Strategic Review. The paper then describes in detail how vital critical-thinking skills are developed throughout the project, as well as how faculty can maximize student learning while keeping their own workload manageable. Finally, a helpful assessment rubric is presented, followed by assessment data from students' work on one stage of the project.

PROJECT OVERVIEW

Effective instructors push their students beyond their comfort zones, but also provide support and encouragement. The Strategic Review is therefore designed to be challenging but not overwhelming for students. The project takes what would otherwise be a daunting undertaking and breaks it down into a series of manageable tasks. Students will struggle with some of the ambiguous facets of the project but ultimately feel a sense of accomplishment upon its completion.

The students complete the project in five stages, receiving feedback at multiple points along the way:

- An External-Environment Report due at the end of Week 6 of the semester. Students research and report on the most important current trends and competitive pressures impacting their respective firms.
- An Internal-Environment Report due at the end of Week 10. Students research and report on how the internal resources and capabilities of their respective firms compare to those of the firm's competitors.

- A "Pitch" in class during Week 12. Students present, to their instructor and peers, an outline of the argument they have developed to evaluate three feasible strategic recommendations for their respective firms.
- A Presentation in class during Weeks 14 or 15. Students present to guest reviewers from the local business community.
- A Final Report due at the end of Week 15. Students report on all of their research and analysis, incorporating feedback from all of the previous stages.

A key advantage of the Strategic Review is its flexibility. Faculty can adjust the above components to create a class project of the right complexity and format to meet their course objectives. Some ways in which the project may be adjusted include:

- The faculty member can assign all teams to analyze a single company, thereby simplifying the grading and feedback process.
- The students can write their reports in an informal, bulleted style rather than a professional/narrative style.
- The students can submit their pitches in writing instead of presenting them, thus saving class time.
- The presentations may be omitted if time is short and/or class size is large.

PROJECT STAGES

Incorporating a Strategic Review into one's course is not the simplest nor easiest curriculum-design choice. Giving timely, constructive feedback to multiple teams can take significant effort. With proper planning, however, faculty can streamline their workloads while also producing substantial student learning--including improvement of key critical-thinking skills. Below, details of how to successfully implement a Strategic Review within a semester-long Business course are provided, from preparation through final-report stages.

Preparation

Both faculty and students will benefit from spending a little time at the beginning of the Strategic Review laying the foundation for the important work that lies ahead.

When first introducing the Strategic Review to students, it is helpful to present an overview of the semester-long flow of the project. Students, typically having little experience with lengthy projects, will benefit from seeing how the project components fit together and produce the final report. Figure 1 (Appendix) presents the project in template form, a very useful device for visual learners. Students can fill in the project template as the semester unfolds, thus tracking their progress.

Students' first major challenge will be selecting a company. On this point, faculty should strive to balance encouraging students' independence against protecting students from making regrettable choices. Some general guidelines to consider:

- Publicly-traded companies offer the advantage of the disclosure of standard information (e.g., 10-K forms)
- Larger companies are more likely to have had some press coverage.
- Companies that are relatively focused within a single industry will be easier to analyze.
- Companies facing serious threats or disruptions will be more interesting to study.

- If students research companies relevant to their career interests, they will be more engaged and will acquire useful industry knowledge.

After robust discussion of possible companies, students and faculty must come to agreement on company selections. It is not an exaggeration to say that a poor choice of company can doom a team to a very difficult semester. It is imperative that faculty be very clear with their students about the risks of choosing lesser-known or somewhat unconventional companies.

The External-Environment Report

With their companies selected, students begin their research by preparing a report on the current trends and competitive pressures affecting their companies.

Students should be encouraged to broadly scan the environment for many types of trends, including demographic, sociocultural, political/legal, technological, economic and global (Dess, Lumpkin, Eisner & McNamera, 2016). Students should both describe the trends and assess their potential impact on their respective companies. Faculty will often need to nudge students to consider more than just the most obvious trends and to seek out both positive and negative trends.

Students can then proceed to use Porter's (1980) framework (commonly called the Five Forces model) to assess their respective firm's competitive environment, including the pressures from buyers, suppliers, substitute products, current competitors and potential new entrants. Advanced students can be challenged to do an in-depth analysis of the structural factors determining the overall strength of each of the forces as well as to assess "the sixth force" of complementary goods (Dess et al., 2016).

As they compile and assess their evidence on the trends and competitive forces affecting their respective firms, the students will be honing their critical-thinking skills of gathering evidence and evaluating sources.

In the conclusions to their External Environment Reports, students will exercise more advanced critical-thinking skills. Here, students should categorize each trend and competitive force, relative to the other trends and competitive forces, as being either "of no concern," "of some concern" or "a top concern." (Informally, the categories can be referred to as "green," "yellow" and "red," respectively.) This important step prompts the students to discuss as a group how to prioritize their findings; i.e., if a student wants to suggest that a particular trend or competitive force is a "top concern," he/she must build an argument for its relative importance that will persuade his/her teammates. Since everything cannot be a "top concern" the best arguments will carry the day.

In preparation for later work, students should record these findings in an Analysis-Summary Table; see Figure 2 (Appendix). The Analysis-Summary Table provides a handy recap of the research completed so far.

Faculty should collect the External-Environment Reports and return the reports with feedback on how to improve the analysis. Students should make needed revisions to the External-Environment Reports and submit the revisions at the same time as the upcoming Internal-Environment Reports.

The Internal-Environment Report

Having completed a thorough review of their selected company's external environment, students should next move to researching its internal resources and capabilities. The firm's resources (tangible and intangible possessions) and its capabilities (things the firm can do) will become the foundations for its strategy and, it is hoped, its competitive advantage.

Faculty should be sure that students understand that while firm resources and capabilities are closely related, they are somewhat different. As an example, consider a firm that has a well-trained workforce (a resource); possessing this resource gives the firm the capability of quickly responding to customer requests (a capability).

Grant (2016) provides a straightforward and practical method for analyzing a firm's resources and capabilities:

1. Identify a reasonable number (about ten) of key resources and capabilities. Focus on those resources and capabilities that will be most critical in building a winning strategy; it is not necessary to list all of a firm's required resources and capabilities.
2. On a scale of one to ten, with five being average, give each resource and capability a ranking for its relative importance to a firm's industry.
3. On a scale of one to ten, with five being comparable to competitors, rank how each of a firm's resources and capabilities compares to those of its key competitors.

Again following Grant (2016), the above process allows us to classify a firm's resources and capabilities into four categories:

- Key strengths are resources/capabilities which are important to the industry and which a firm has/does better than its competitors.
- Key weaknesses are resources/capabilities which are important to the industry and which a firm has/does worse than its competitors.
- Superfluous strengths are resources/capabilities which are relatively less important to the industry and which a firm has/does better than its competitors.
- Irrelevant factors are resources/capabilities which are relatively less important to the industry and which a firm does worse than its competitors.

Students may initially underestimate the amount of research required to complete their Internal-Environment Reports. They will need evidence of not only how their selected firm is doing, but also similar evidence of how their firm's top competitors are doing. If students are required to include two competitors in their analysis, then their workload has essentially tripled compared to analyzing just their firm.

As with their External-Environment Reports, students will be honing their critical-thinking skills as they gather and assess the credibility of evidence on their respective firm's and its competitors' resources and capabilities.

Also similarly to the External-Environment Reports, students should conclude their Internal-Environment Reports by recording each resource and capability as either being of "no concern," "some concern" or "a top concern" in the Analysis-Summary Table; see Figure 2 (Appendix). Again, this step ensures information sharing and discussion amongst the team members.

Students should submit their External-Environment Reports (including necessary revisions) plus their newly-completed Internal-Environment Reports for grading. The inclusion of time to "close the loop" on the External-Environment Reports (i.e., act on feedback) adds significant value to the students' learning experience. To ensure similar learning occurs with the

Internal-Environment Reports, faculty should specify revisions that will be due when the Final Reports are due.

The "Pitch"

Students will now be ready to prepare for a critical stage in the Strategic Review project: the "Pitch." The Pitch is a low-stakes venue for teams to explore ideas before later presenting and submitting full-blown analyses. Each team will present to the class and instructor a ten-minute overview of its diagnosis, three feasible strategies and final recommendation for its selected firm. The team will then receive on-the-spot feedback focused on improving the logic and hence persuasiveness of its arguments. Note that the Pitch deliberately emphasizes only content; presentation design and delivery are temporarily ignored.

Each team prepares a pitch consisting of three slides and approximately a ten-minute presentation with the following:

- Analysis-Summary Table: shows the team's assessment of the relative importance of the internal and external factors affecting their selected company. This table quickly brings the rest of the class up to speed on the team's research.
- Diagnosis Statement: succinctly states the team's diagnosis of the most critical issue(s) facing their selected company.
- Strategy-Evaluation Matrix: compares the pros/cons of three feasible strategies addressing the company's diagnosed problem(s).

The students will find formulating their diagnosis to be a significant challenge. As Rumelt (2011) helpfully explains: "A good diagnosis simplifies the often overwhelming complexity of reality by identifying certain aspects of the situation as critical" (p. 77). In drafting their diagnosis, the students must interpret the available facts and surmise the fundamental, underlying forces at work. Students typically tend to want to jump ahead to what they see as the more exciting work of developing strategies, but that makes no sense unless they know the problem(s) to be solved.

This stage of the Strategic Review can be frustrating for students as they grapple with the inherent ambiguity of formulating a diagnosis. Most challenging (and hence interesting) situations are "ill-structured," meaning that "no one [can] be sure how to define the problem." Instead of discovering a single, correct answer, one must make "an educated guess as to what [is] going on in the situation" (Rumelt, 2011, p. 81). In the Strategic Review, students are guided towards a diagnosis by focusing on the "top concerns" or "red" elements in the Analysis-Summary Table; see Figure 2 (Appendix).

The diagnosis then leads directly to the definition of a feasible strategy: a strategy which, at minimum, addresses all of the top concerns in the Strategy-Analysis Table. If a strategy is not addressing the firm's top concerns, then it cannot be considered a realistic alternative for the firm. Emphasizing this simple yet fundamental logic saves students from discussing strategies that might sound exciting but are, unfortunately, solving a different problem than the one deemed most critical.

It is important that students generate multiple ideas (feasible strategies) for solving a particular problem, rather than simply settling on the first solution that comes to mind. Here, students will need to draw upon their creativity skills; for instance, they might think about applying an approach that has worked in a different industry to the situation facing their firm.

Note that the other items in the Analysis-Summary Table should not be ignored while formulating strategies. The items of "some concern" ("yellow" elements) may well be addressed by some of the feasible strategies; the distinction is that the "some concern" items are not required to be mitigated. Likewise, the items of "no concern" ("green" elements) will likely be strengths upon which feasible strategies will be built; again, the difference is that feasible strategies are not mandated to use one strength or another.

In preparing for their pitches, students should also be identifying the criteria they will use to evaluate the strategies. Typically, about five criteria will suffice to distinguish between the strategies. Students should be coached to identify criteria that will tease out the differences between the strategies. Specifying the criteria will ensure that students compare all feasible strategies along the same dimensions ("compare apples to apples").

Students should present a summary of their evaluation of their strategies in a Strategy-Evaluation Matrix; see Figure 3 (Appendix). To further deepen their analysis, students may add (and explain) relative weights for the criteria. Students could also be challenged to provide numerical scores for the strategies.

Using their Strategy-Evaluation Matrix, students should be able to clearly articulate their recommended (most highly ranked) strategy.

One challenge with the Pitch stage of the Strategic Review is ensuring that students do enough preparation that useful feedback may be given, while at the same time not requiring students to do excess preparation that ends up being discarded if significant revisions are needed. A balance of potential penalties (e.g., no credit for incomplete Pitches) and specific guidelines (e.g., pre-approval of diagnoses before the Pitches) is recommended.

Typically, students have substantial difficulty with at least one element of their Pitches. They may be unclear with their problem definition, propose strategies that are not feasible or apply criteria inconsistently. To focus students' attention on the primary goal of the Pitches (improvement) over concerns about grades, it is advised that credit for Pitches be given based on effort rather than quality of the analysis.

Following these guidelines should ensure lively and productive discussions on "Pitch Day." Students at a Midwestern public university have reported that this stage of the Strategic Review, while somewhat stressful, is extremely helpful and prevents many potential disasters (i.e., poorly constructed arguments). Students should leave the Pitch with valuable feedback to incorporate into their upcoming Presentations and Final Reports.

The Presentation

Once students have had time to process their Pitch feedback, they should be ready to present their research and recommendations to an audience.

If students have had sufficient prior experience with oral presentations, they should be ready to face the challenge of presenting to senior members of the local business community.

The business executives can add to the business-like nature of the presentations by playing the roles of senior managers or board members at the students' selected companies. They can ask the students follow-up questions and then vote on whether they would accept the students' recommendations.

Giving students guidance on preparing and delivering their Strategic Review Presentations is not the main focus of this report; hence just a handful of particularly useful sources will be mentioned:

- Munter and Hamilton (2013) offer excellent advice on preparing presentations, such as keeping slides brief yet descriptive and including "trackers" to denote sections.
- Gallo (2014) mentions many practical tips for designing presentations, including working on an attention-grabbing "holy-smokes moment" and using humor effectively.
- Kahneman, Lovallo and Sibony (2011) provide a list of twelve questions for evaluating proposals, which may help students anticipate audience questions.

By the time of the Strategic Review Presentations, both students and faculty have invested much time and energy in preparation. Their investments pay off handsomely once the presentations are underway. The students can confidently deliver strong presentations because they have built well-researched, persuasive arguments.

The Final Report

The Strategic Review concludes with the submission of the students' Final Reports. The Final Reports include all the research and analysis conducted throughout the semester, including revisions based on feedback on the External- and Internal-Environments Reports. To encourage effort and maintain motivation, it is recommended that the Final Reports be weighted more heavily and/or that earlier report grades be revised upwards when corrections are made. Given the amount of feedback provided to the students throughout the process, the Final Reports should be relatively professional analyses of the selected firms and their strategies.

ASSESSMENT

Faculty have the opportunity to assess their students' progress at each stage of the Strategic Review, thereby gathering useful information on what their students are mastering and what they are struggling to accomplish.

Out of all of the assessment opportunities within the Strategic Review, however, the Pitch stands out for two reasons. First, faculty may be less confident in assessing the Pitch because it is neither a typical paper nor a typical presentation. Second, the Pitch's sole focus is critical thinking. If students cannot think in-depth about "what is the right problem to solve" (the diagnosis) and "what are reasonable solutions to the problem" (the feasible strategies), they will not do well on the Pitch.

Therefore, the focus here is on first developing a structured approach for assessing Pitches and then presenting and interpreting data from students' attempts to successfully complete the Pitch.

Approach

As discussed above, the three Pitch components and their key characteristics are as follows:

- Analysis-Summary Table: lists all previously researched internal and external factors, sorted by level of importance.
- Diagnosis: identifies the fundamental issue(s) facing the selected company.
- Strategy-Evaluation Matrix: summarizes the rankings of three feasible strategies across five criteria.

A good assessment tool is clear, complete and systematic. Rubrics are becoming an increasingly common assessment tool in higher education. As Wolf and Stevens (2007) explain, "rubrics improve teaching, [and] contribute to sound assessment". Rubrics help faculty think about and communicate objectives for an assignment, as well as to give quality feedback once the assignment is completed.

Table 1 (Appendix) shows the assessment rubric for the Pitch in which a two-step approach is taken. First, each of the three Pitch components is assessed in terms of how close it comes to the relevant objectives; then, an overall assessment of each Pitch is given, taking into account the performance on all three components.

If faculty provide this rubric to students in advance, the quality of the student performances should improve as students focus their efforts on the right objectives. In addition, students should feel more satisfied with the feedback they later receive and have a better idea of how they could improve on future assignments.

Results and Interpretation

Using the assessment rubric in Table 1 (Appendix 1), the performance of students at the Pitch stage of the Strategic Review at a Midwestern public university was assessed during 2017.

The results are encouraging ; see Table 2 (Appendix). Nearly all students either met or exceeded expectations, with only seven percent not meeting expectations. Thus, the results show strong performance in terms of critical thinking.

The results are based on Pitches developed by student teams for their respective companies. There were sixteen student teams in total; one team did not meet expectations and one team exceeded expectations.

Based on observations and discussions with the teams, an interpretation of why one team did not meet expectations for the Pitch can be offered. First, the under-performing team fundamentally misinterpreted the assignment; i.e., they were aiming for the wrong objectives. The team confirmed this by reporting that they knew they were off-track once they heard the other teams' Pitches. Second, it is unlikely that all members of the under-performing team were equally confused; rather, the team probably took a "divide and conquer" approach to the Pitch and no one took overall leadership of the assignment.

CONCLUSION

College educators must strive to find engaging and effective ways of building students' critical-thinking skills. The Strategic Review class project, described here with step-by-step guidance, can help build students' critical-thinking abilities and thus can be a valuable addition to an undergraduate Business curriculum.

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APPENDIX

Figure 1: Strategic Review Template

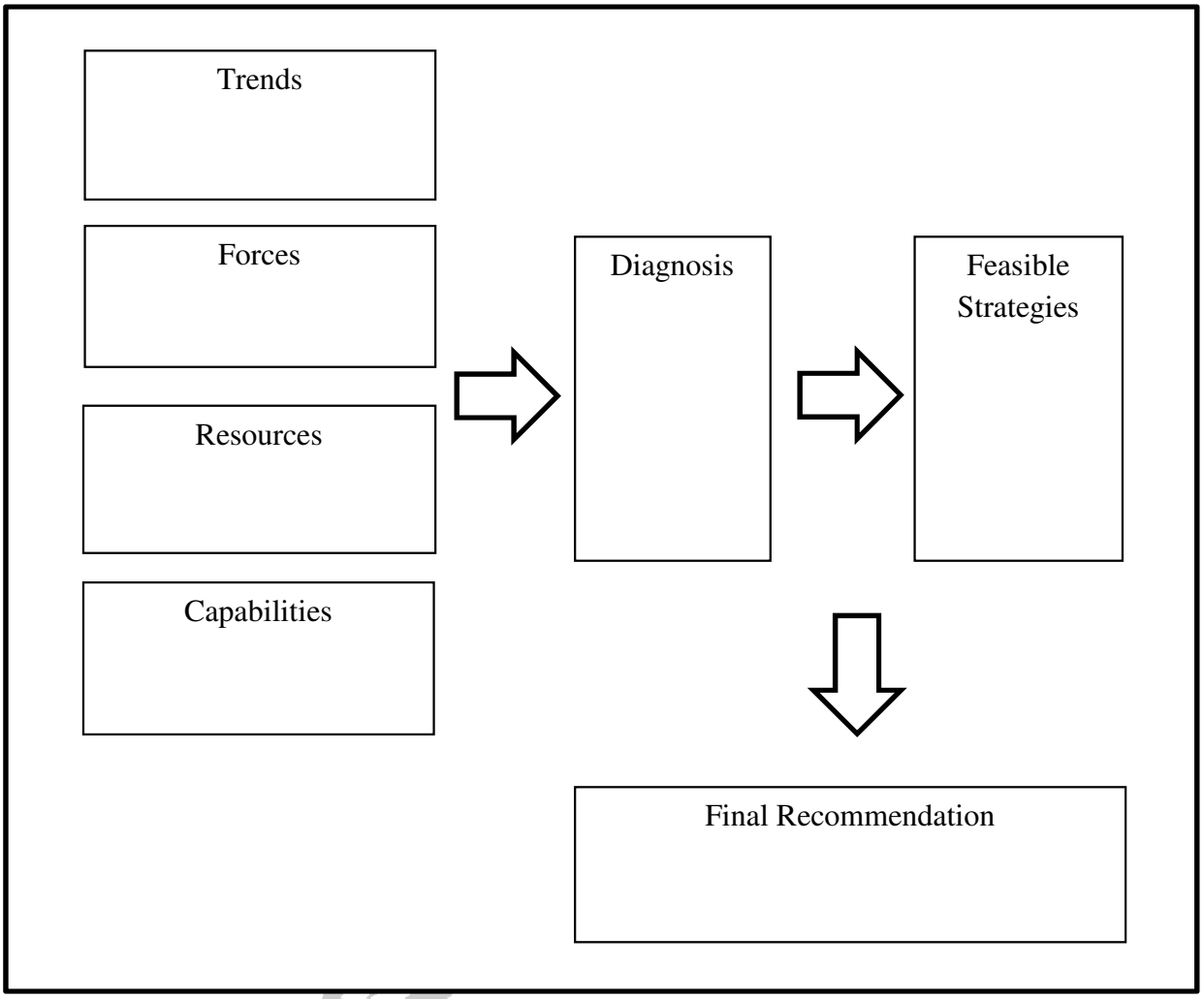

Figure 2: Analysis-Summary Table

No Concern "Green"	Some Concern "Yellow"	Top Concerns "Red"

Figure 3: Sample Strategy-Evaluation Matrix

	Top Concern #1	Top Concern #2	Time	Cost	Risk
Strategy 1	meets	meets	Low	High	High
Strategy 2	meets	meets	Medium	Medium	Medium
Strategy 3	meets	meets	High	Low	Low

Table 1: Assessment Rubric for the "Pitch"

PITCH COMPONENTS		
Analysis-Summary Table	Diagnosis	Strategy-Evaluation Matrix
Meets expectations: All internal and external factors are listed and sorted into three columns: green (no concern), yellow (some concern), red (top concerns).	Meets expectations: the diagnosis addresses all red (top concern) factors in the analysis-summary table; the diagnosis addresses fundamental rather than superficial issue(s) facing the company; the diagnosis is sufficiently focused so as to solved by later strategies.	Meets expectations: the matrix lists three strategies that each address the diagnosis; the matrix lists five relevant criteria to compare the strategies; the matrix visually explains how strategies rank on the criteria.
Does not meet expectations: some internal or external factors are not included and/or internal and external factors are not sorted by level of concern.	Does not meet expectations: the diagnosis does not address all red (top concern) factors and/or the diagnosis addresses a superficial rather than fundamental issue and/or the diagnosis is too broad to allow sufficient analysis.	Does not meet expectations: the matrix lists fewer than three strategies and/or the listed strategies do not adequately address the red (top concern) factors and/or fewer than five criteria are listed and/or the ranking of the strategies is unclear.
Exceeds expectations: meets expectations and demonstrates additional creativity or insight, such as by sorting factors into more than three categories.	Exceeds expectations: meets expectations and demonstrates additional creativity or insight, such as by identifying one fundamental problem underlying multiple red (top concern) factors.	Exceeds expectations: meets expectations and demonstrates additional creativity or insight, such as by developing and explaining a weighted scoring system to assess how the strategies compare across the criteria.

OVERALL ASSESSMENT OF PITCH		
Does not meet expectations: pitch was deficient in two or more of the assignment components.	Meets expectations: pitch was deficient in at most one assignment component.	Exceeds expectations: pitch met expectations for all assignment components and was outstanding in one or more of the assignment components.

Table 2: Assessment Results—Strategic-Review Pitches

Did Not Meet Expectations	Met Expectations	Exceeded Expectations	TOTAL
6 (7%)	74 (87%)	5 (6%)	85 (100%)