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Distilling the Essence of the McKinsey* Way: The Problem-Solving Cycle

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Abstract

Consulting projects where students are tasked to propose solutions to a client issue are a common feature in many business courses. Whether scenario-based or dealing with real clients, students engaged in consulting tasks tend to focus on solution development without giving due consideration to the underlying process by which they derive their solutions. Drawing on consulting practitioner approaches, this article presents a translation of the McKinsey approach as a six-stage structured problem-solving methodology that can be used to guide students on how to develop solutions in a systematic, logical, and evidence-based way. Prescribing a standardized methodology to students to guide their approach to consulting tasks ensures that they are able define and decompose business problems effectively and enhances the credibility of their proposed solutions.

Keywords

management consulting, problem solving, methodology, McKinsey approach, work-integrated learning

> When you strip away a lot of the high-minded language with which McKinsey dresses up its problem-solving process, it comes down to very careful, high-quality analysis of the components of the problem combined with an aggressive attitude toward fact gathering.
>
> —(Rasiel, 1999, p. 4)

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For many students, solving business problems as a consultant can be a daunting undertaking. Consulting projects often have fuzzy scope boundaries, whereby students have to work with imperfect information to arrive at well-reasoned solutions to a particular client issue (Hargadon & Bechky, 2006). Such constraints are not unique to learning tasks in business courses but realistically characterize real-world projects that management consultants frequently encounter (Block, 2011). Practitioner consultants apply problem-solving methodologies to overcome these constraints in their engagements (Friga, 2009). These methodologies empower consultants to frame, structure, and sequence project activities, in a logical and systematic way, to ensure they find the best possible recommendations to a business problem or opportunity.

This article presents a problem-solving methodology titled, "Problem-Solving Cycle" (PSC), that I have used with students working on consulting projects in an undergraduate work-integrated consulting course.[1] This article commences with a discussion of the challenges of teaching consulting and the value of using a structured problem-solving approach. It then shares some insights on the translation process before providing a step-by-step guide for implementing the PSC. The article concludes with some suggestions on how the methodology can be debriefed with students.

Structured Problem Solving and Student Learning

Consulting students often have preconceived ideas of what consulting is and ambitions to learn "secret" consulting frameworks and tools. They soon discover that consulting is neither a single technique, nor a mere collection of practices or tools; if anything, consulting is best described as a process (Schein, 1997). The process of *how* consultants conduct their work is often just as important, if not more so, than the final solution itself. Presented with a client issue, students' instinctively preempt solutions without thorough consideration of the process used to derive their solutions. However, if clients do not trust the underlying problem-solving process used, it is unlikely they will embrace the proposed solutions.

In my consulting classes, I want to equip students with the process knowledge on how to approach business problems in a logical, systematic, and evidence-based way. I believe it is important to teach students a structured approach to problem solving because: (1) it establishes a path for them to clearly define and decompose problems that leads to well-reasoned solutions; (2) it focuses their time, attention, and effort on issues that are most relevant to the key problem, and (3) adherence to a methodology enhances the credibility of the solution and gives confidence to the client.

The Translation Process: Insights and Suggestions

Within the consulting literature, variant methodologies exist that vary in their complexity, terminology used, and the number and sequencing of problem-solving stages.[2] The methodology I use in my classes is the "Problem-Solving Cycle" (PSC), a format translation of the McKinsey approach.[3] This translation is based on practitioner texts by Rasiel (1999), Rasiel and Friga (2001), and Friga (2009) and is supplemented by various publicly available resources on the McKinsey approach.[3]

Five student-centered criteria were used to guide the translation: (1) applicable, (2) comprehensible, (3) generalizable, (4) experiential, and (5) assessable. Table 1 describes each criterion and presents the underpinning rationale as well as specific examples of criterion applications. For instructors considering format translations of practitioner methodologies, Table 1 should serve as a useful guide.

The translation process was an iterative undertaking that occurred over numerous semesters of teaching. In the first semester, I taught the McKinsey approach in its original format and obtained student feedback to identify aspects of the methodology that they found challenging or confusing. Based on this feedback, the translation criteria were inductively developed and used to guide the translation of the McKinsey approach into the PSC. To ensure fidelity to the McKinsey approach, the PSC was reviewed with two experienced management consultants to verify that key consulting principles were adequately covered in the methodology.

The purpose of translation was to ensure that the methodology was presented in an accessible way for students.[4] Practitioner content is often written and presented without a pedagogical focus. Hence, the translation process needed to be iterative and responsive to the learning needs of students. Accordingly, during the translation process it was important to obtain feedback from students regarding the usability of the methodology. It was also useful to engage practitioners during the translation who helped propose experiential activities and formative assessment tasks.

Problem-Solving Cycle: An Implementation Guide

The PSC methodology in Figure 1 can be taught in a single 2.5- to 3-hour session or modularized and covered over a number of sessions. As a teaching resource, the PSC is targeted at management educators who have some consulting experience and/or teach work-integrated learning subjects or use case-based assessments in their courses.

The PSC begins with the contextual factors surrounding a client's business problem (e.g., Why was the project commissioned? What is the client's desired outcome? How does the project relate to the organization's strategic goals?). This information may be partly ascertained from the client's project brief; however, students should also conduct further background research using secondary sources (e.g., industry databases) to understand the client's industry and operating context. Before meeting with their client, students should also prepare interview schedules comprised of questions designed to solicit information required for Stage 1 of the PSC.

Stage 1: Define the Problem

In Stage 1 students are required to devise a crisp definition of the problem in the form of a single "big" question that drives all subsequent stages of the methodology. This question should be codeveloped with their clients to establish a shared understanding of the scope and nature of the problem. Where possible, the wording of the "big" question should fulfill the SMART criteria: Specific (S), Measurable (M), Action-oriented (A), Relevant (R) to the key problem, Time-bound (T). See Appendix A for a sample learning activity.

Table 1. Format Translation Criterion.

Translation criterion	Criterion descriptor	Criterion rationale and PSC examples
Applicable	Can students easily learn and apply the methodology to their client projects?	When working on real client projects, students are already confronted with complexity and information overload. The class-based methodology needs to be easily recallable and implementable and should not exceed students' cognitive load limits. *Example*: The 7-stage McKinsey method has been reduced into a 6-stage method. Stage labels have also been simplified in the PSC to enhance the ease-of-recall of the various stages.
Comprehensible	Are the terms and principles in the methodology intuitive to understand?	Consulting methodologies use a lot of jargon and profession-specific phrasing. Many specific tools and frameworks are also embedded throughout practitioner methodologies. The class-based methodology should not be unnecessarily complex and should have a parsimonious focus on the process (not the tools) of problem solving. *Example*: Jargon in the McKinsey method has been removed (e.g., "Rapid Cycles") and various tools (e.g., 5 whys, work breakdown structures, risk management plans, FMEA) have been stripped from the original methodology for the PSC.
Generalizable	Can the methodology be applied to solve non–context-specific project problems?	The McKinsey methodology is most relevant to strategy projects. A class-based methodology needs to be generally applicable to all types of business problems (e.g., operational problems, thought-leadership work). This is particularly important in work-integrated learning subjects where students could be assigned to work on nonstrategy projects that span different functional areas. *Example*: The PSC is less strategy-orientated and has a stronger focus on general problem solving. For instructors, strategy example problems should be balanced with general problems (see Figure B1) when teaching the PSC.

(continued)

Table 1. (continued)

Translation criterion	Criterion descriptor	Criterion rationale and PSC examples
Experiential	Are the various stages of the methodology amenable to experiential activities that support student learning?	Students do not have a repertoire of practical experiences to contextualize their learning of industry-based methodologies. Hence, a classroom-based methodology must be amenable to experiential activities that support student learning of good practice consulting principles. *Example*: Each stage of the PSC methodology lends itself to specific experiential activities to help students contextualize their learning. Rather than asking students to relate the methodology to prior work experience, students can progressively experiment with the application of the methodology to their projects under the guidance of an instructor.
Assessable	Are the stages of the methodology amenable to formative and summative feedback?	When applying the McKinsey methodology in practice, junior consultants typically do so under the supervision of more senior consultants and receive ongoing feedback. The classroom-based methodology needs to preserve the feedback features of the McKinsey approach. *Example*: Each stage of the PSC methodology can align with formative or summative assessments depending the learning objectives that an instructor has set out for a subject. For instance, formative and summative assessments can be used for Stages 1, 3, and 5 and 2, 4, and 6, respectively (see Figure 1).

Note. PSC = problem-solving cycle.

Stage 2: Structure Before Data

Stage 2 entails constructing an issue tree that decomposes the "big" question into its component parts.[5] The issue tree, as illustrated in Figure 2, is a tool used to disaggregate the problem into core subissues that need to be addressed in order to answer the "big" question. Each subissue branch should be *mutually exclusive* (i.e., should not overlap) and, when taken together, the issue tree should be *collectively exhaustive* (i.e., subissues should aggregate to fully answer the key question). This way of organizing information is known as the "MECE" (pronounced "me-see") principle.

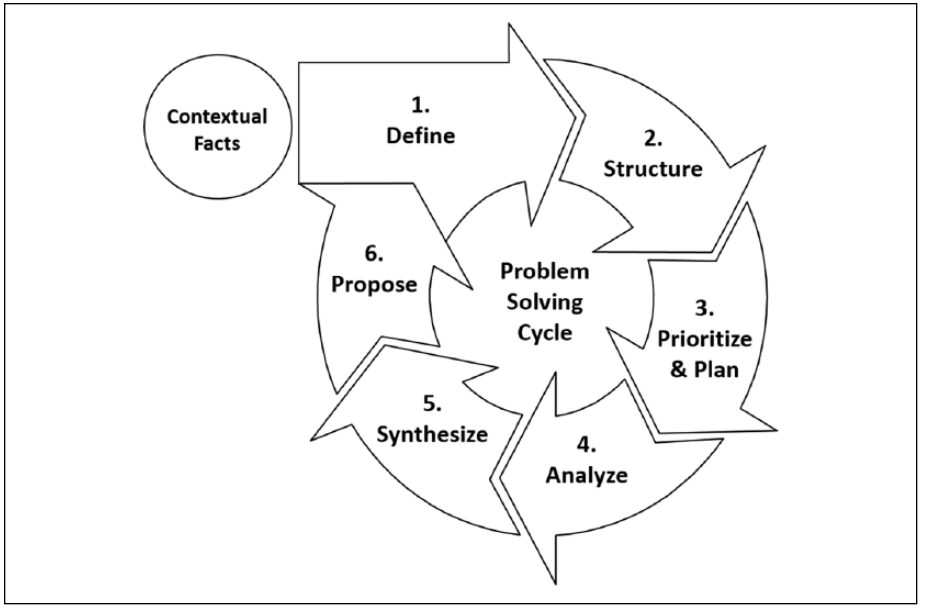

Figure 1. Problem-solving cycle methodology.

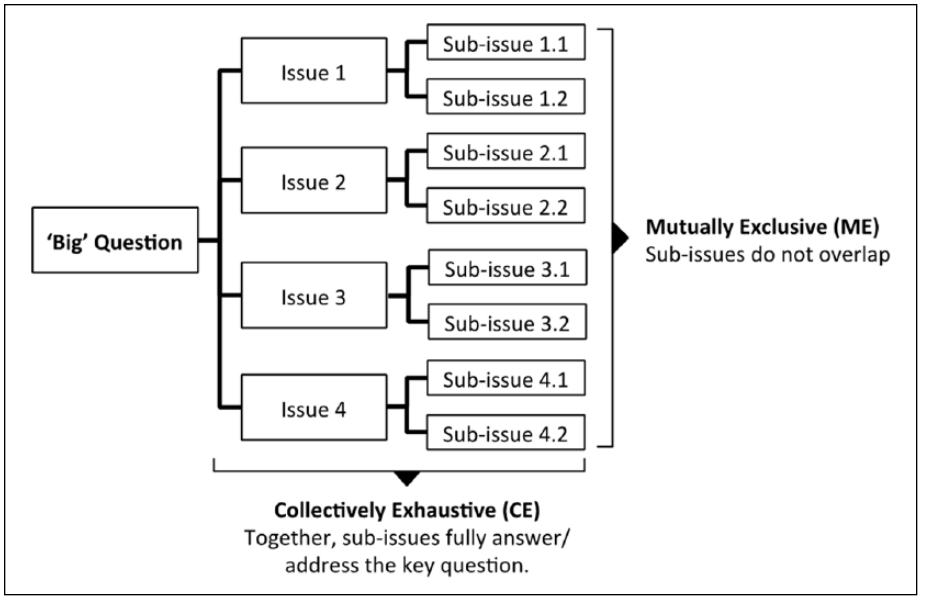

Figure 2. Structure of an issue tree.

A "big" question can often be decomposed in multiple ways. Students will rarely produce a fully MECE tree on their first attempt and should work collaboratively in teams to iterate and refine their issue trees. Depending on project complexity, this step could take anywhere from 15 minutes to a couple of hours. The role of the instructor is to identify possible breaches of the MECE principle and to encourage students to justify their decomposition logic. Learning activities are provided in Appendix B.

Stage 3: Prioritize Issues and Plan

In Stage 3, students prioritize identified issues (i.e., tree branches) to determine focal drivers of the problem. Prioritization is based on the Pareto principle (i.e., 80/20 rule), whereby students assess which issues are most important in answering the "big" question (Rasiel, 1999). The premise is that about 80% of the problem can be accounted for by about 20% of the issues identified. Prioritization can be based on simple analytical techniques, such as simple ratios, benchmarking, sensitivity analysis, and/or qualitative stakeholder input (Baaij, 2014). A more systematic approach includes determining and applying prioritization criteria to eliminate issues. For instance, using two decision criteria, students can plot issues on a two-by-two matrix (e.g., the two axes of a matrix feature "urgency" and "impact"). Once issues have been prioritized, students prepare a data collection plan (see Appendix C) to ensure data are collected in a planned and deliberate fashion.

Stage 4: Analyze to Derive Findings

Analysis aims to reveal relationships and patterns in the data, which can be achieved with various analytical techniques. The type of analysis depends on what answers students are trying to ascertain, and the kind of data that have been collected (e.g., primary vs. secondary, qualitative vs. quantitative). For quantitative data sets, various charts and graphs can be used to uncover patterns, aided by software such as Excel, Tableu, Minitab, and SPSS. For qualitative data sets, students can conduct thematic analyses of textual data or use data visualization tools, such as word clouds. Students should ensure that the analytical technique employed is aligned with the issue tree and "big" question (see Appendix D). In my consulting course, most enrolled students have already learnt various analysis frameworks and techniques in other courses that they incorporate into Stage 4.

Stage 5: Synthesize Findings Into Insights

Synthesis refers to the art of storytelling and is regarded as the most challenging element of the methodology. A common source of client frustration is when student consultants provide a summary of facts rather than offering considered insights inferred from the facts. As shown in Figure 3, synthesis requires students to translate facts into insights and to craft a threading narrative that concisely connects insights to the "big"

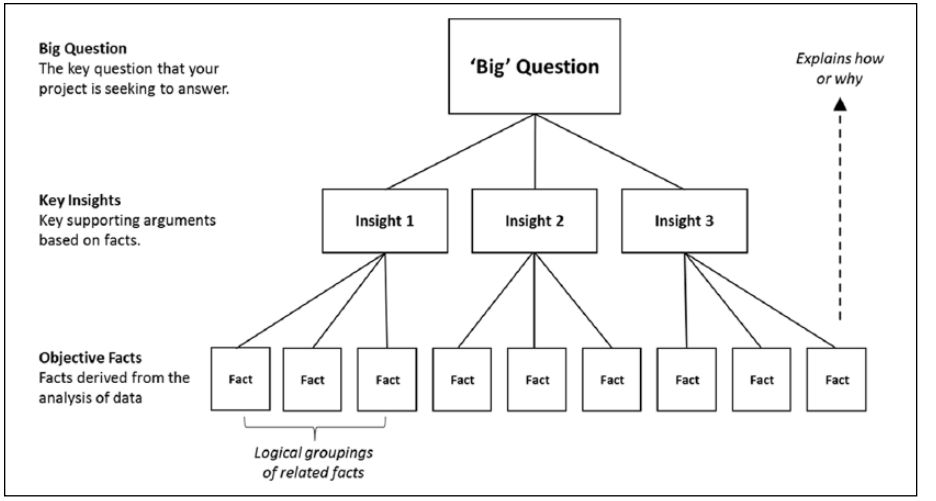

Figure 3. Synthesizing facts into insights.

question. Mastering the art of synthesis requires students to iteratively draft their writing and to receive ongoing feedback from instructors.[6]

Stage 6: Propose Solutions

In the final stage, students develop solutions that answer the key question. The quality of solutions hinges on whether students have correctly identified the root drivers/causes in Stage 2 and their ability to think logically and innovatively. As Baaij (2014) proposes, solutions can be developed using three approaches: (1) exploit collective experience (i.e., draw on tacit knowledge from similar projects), (2) exploit public domain knowledge (e.g., publicly available frameworks, comparator case studies), and (3) explore new solutions (e.g., blue-sky thinking, structured brainstorming). Beyond just describing the solutions, students should also be asked to propose implementation plans for their clients.

Debriefing the Exercise

Although the PSC is presented in a linear sequence, students should be advised that its application in practice is iterative and requires moving back and forth between the various stages. Specific instructions for debriefing each stage of the PSC are included in the corresponding appendices. In teaching the PSC, the role of the instructor is to encourage persistence among students and to facilitate students' experimentation with the methodology (particularly in Stage 2). Practitioners are able to apply the methodology efficiently because they possess a repertoire of project experience to identify and eliminate issues quickly (Liedtka, 2006). For students lacking this experience, the

only way to learn the methodology and understand its value is by practicing and persisting with its application. One of my students noted in course feedback: "Although following the consulting methodology was very annoying and tedious, it did help our team formulate the project in a better way and forced us to learn the consulting process effectively." As a debriefing exercise, I also invite professional consultants from top consulting firms to present case studies on how they've approached problem solving, all of which closely resemble the PSC. Students have found this debriefing exercise useful in reinforcing their understanding of the practical value of structured problem-solving approaches.

Conclusion

Consulting is an applied discipline and students enrolled in consulting often expect to learn the trade-skills of the profession. However, practitioner insights on consulting practice are often disseminated in public materials and popular books that need to be translated for student audiences. Drawing on the consulting practice literature, this article has demonstrated how the McKinsey approach has been translated into the PSC to guide students in learning structured problem solving, which is a fundamental skill in consulting. Instructors who teach consulting may look to the practitioner literature and translate applied practices to the classroom to supplement or enhance their current courses to provide students with more authentic learning experiences and equip them with employment-ready skills.

Appendix A

Activity on Writing a "Big" Question

This basic activity gives students an opportunity to practice writing a "big" question that fulfills the SMART criteria. Get students to work in small groups of 3 to 4 and allocate about 10 minutes to phrase their "big" question and 5 minutes for debriefing.

Instruction

1. Present the following scenario to students to commence the activity:

   > Kaltex—a large multinational oil refinery—is seeking to improve its profitability by $40 million per year as part of its 5-year strategic plan. Although the company's revenue has increased year on year, the company's overall profitability has remained relatively stagnant. The company's management team has enlisted your consulting firm to assist them in achieving their financial targets.

2. Ask students to prepare a "big" question based on the contextual facts provided. Students should be asked to write down their initial question and constantly refine it to fit the SMART criteria. If appropriate, student teams can present their question to the rest of the class, and the instructor can facilitate peer critiques.

Debriefing. There will be variations in the way students have phrased their questions. Some examples of poorly worded questions written by students are presented below:

- "Kaltex is suffering from poor profitability despite strong revenues." (Critique: This is a statement of fact and has not been phrased as a question).
- "Should Kaltex improve its deteriorating position?" (Critique: This question is not disputable).
- "Can Kaltex be managed differently to increase profitability?" (Critique: This question is too general).

Based on the contextual facts, astute students would identify that the profitability problem is the result of a cost issue rather than a revenue issue. Thus, to improve profitability, the focus of the "big" question should be on how to reduce the company's cost base. An example of a good "big" question that fulfills the SMART criteria is as follows:

> What opportunities exist for Kaltex to improve profitability by $40 million per year through overhead rationalization, operational improvements, or restricting non-core assets?

Appendix B

Creating Issue Trees

Practice and exposure are the best ways for students to learn how to create issue trees. It is one of the more challenging stages in the methodology for students, and it is important that they have opportunities to experiment with the technique. To train students, I first introduce them to the MECE principle by reviewing Figure 2. Before asking students to use MECE on their project/case problems, I have found it useful to get students to first apply the principle to simple problems so they understand how the technique can be applied to broad range of problems. Exercises 1 and 2 below are quick and simple activities designed to familiarize students with the technique. For both exercises, it is helpful for students to work in small groups and to draw their issue trees on whiteboards or butchers paper.

Example/Exercise 1: Reducing Monthly Expenditure. In this exercise, students are asked to apply the issue tree principle to structure a problem of reducing personal expenditure. To implement this activity:

1. Break the class up into groups of 3 to 4 and allocate 10 minutes for all groups to prepare an initial issue tree. Assign all groups the following problem:
2. "Your brother is in his final semester of his tertiary studies, and he is planning to celebrate the completion of his degree at the end of the year by going on an overseas trip. However, in order to afford the trip, he realizes that he needs to

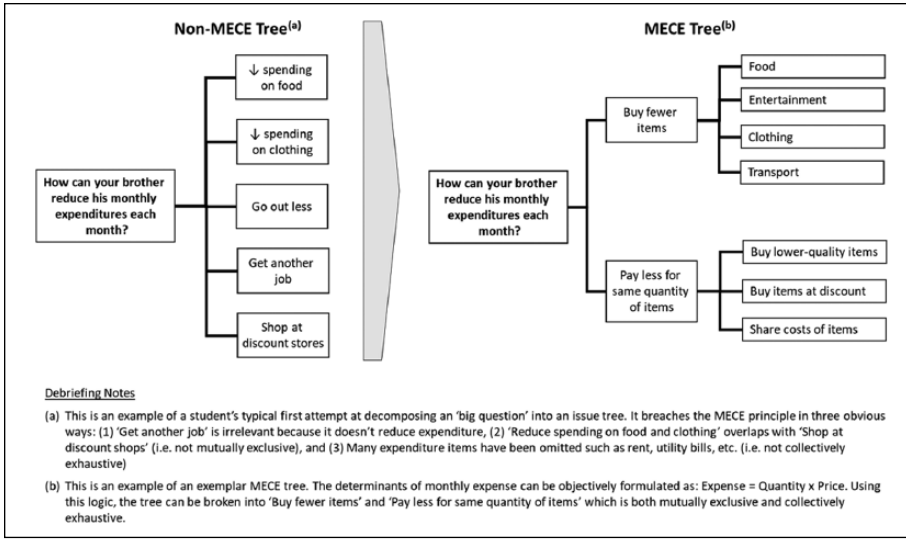

Figure B1. Issue tree example: Reducing personal expenditure.

reduce his monthly expenditures and has turned to you for some advice." How can your brother reduce his expenditures each month? Use an issue tree to break the problem down systematically."

3. Debrief the activity by highlighting the multiple ways to deconstruct a problem. The left tree, in Figure B1, is a typical student response which is not MECE (e.g., the first and second branch overlap with the fifth branch, and the fourth branch is not relevant to the key question). Highlight the MECE breaches to students so they understand where they have gone wrong. Instructors can present students with an exemplar MECE tree, as shown on the right in Figure B1.

Example/Exercise 2: Improving Profitability. In this exercise, students are asked to apply the issue tree principle to structure a profit problem. Unlike the preceding exercise, profit problems have a single correct issue tree because they are based on an equation (i.e., Profit = (Unit Price × Quantity Sold) − (Fixed cost + Variable Cost). To implement the activity:

1. Break the class up into groups of 3 to 4 and allocate 10 minutes for all groups to prepare an initial issue tree. Assign all groups the following problem:

   CrashStar—an automobile dealership—is experiencing a decline in profits.

   The owner is interested in understanding why profitability is declining.

   Develop an issue tree to identify the factors behind the decline of profit at CrashStar.

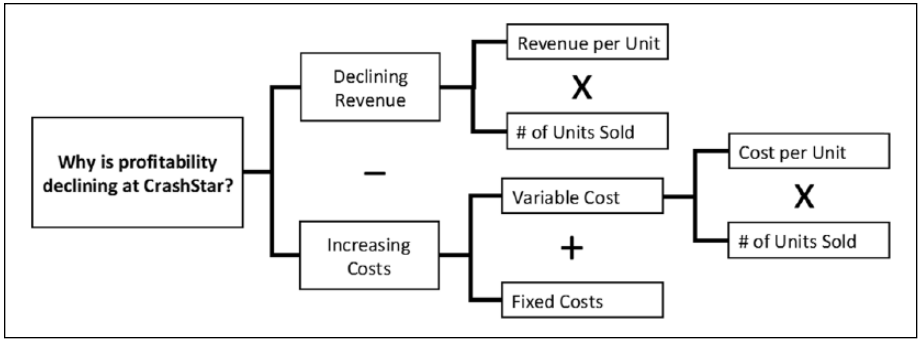

Figure B2. Issue tree example: Profitability problem.

2. Debrief the activity by introducing the profit equation and state that, logically, there are only two reasons why CrashStar's profit is declining: (a) declining revenue, or (b) increasing costs. The instructor should then draw up the issue tree shown in Figure B2.

Appendix C

Preparing a Data Collection Plan

After students have created an issue tree and prioritized the issues, they prepare a data collection plan (see Figure C1). The data collection plan should be based on priority issues that are clearly linked back to the "big" question. The purpose of the data collection plan is to ensure that students do not "boil the ocean" (Rasiel, 1999); that is, they do not collect unnecessary data that do not link back to their "big" question, and they show that there is clear intent for why they are collecting data.

In the absence of a data collection plan, I have found that students tend to (1) privilege primary data over secondary data, and/or (2) collect a huge amount of primary

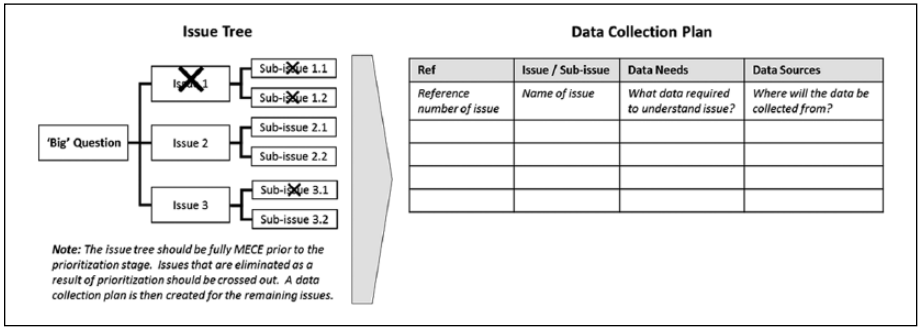

Figure C1. Creating a data collection plan.

data they will not use. A data collection plan ensures that students use secondary data when it is appropriate and available rather than unnecessarily collecting and analyzing their own primary data. In many instances, students may successfully complete entire projects using desk research. Where primary data are collected, the data collection plan ensures that clients, who have busy schedules, are only pulling data that will be used by the students.

Appendix D

Analytical Approaches, Tools, and Techniques

The focus of this article is on the overarching methodology of problem solving rather than specific applications of analytical tools and techniques. The type of analysis required for a given project is highly context specific. Students are required to make reasoned judgments on the appropriateness of analytical approaches and their relevance to the "big" question. Where appropriate, instructors may find it useful to provide students with a list of software vendors who provide trial versions of computer-aided analysis and data visualization tools, such as Tableau (https://www.tableau.com) and Minitab (http://www.minitab.com). However, not all projects will require such software.

Table D1 provides a snapshot of consulting projects where the PSC has been applied; it does not exhaustively capture all subissues, data sources, or analytical techniques. Table D1 highlights that the analytical technique employed depends largely on the client problem being addressed and the type of data that is collected. There is no single analytical technique or framework that is relevant for all projects. Depending on the nature of the project and client preferences, students may draw entirely on secondary data when completing their projects (e.g., Bank Y and Firm Z).

Table D1. Sample Consulting Projects and Analysis Used.

Client profile	Project aim	Subissues	Data sources	Analysis
Org W is a not-for-profit organization that redistributes surplus fresh food to community programs around Australia	Develop a business case to create a subsidiary social enterprise that converts misshaped fruit into juices sold via juice trucks	Does *Org W* have the capability to launch a juice product and compete?	Internal stakeholder interviews Industry databases (e.g., IBIS World, Company 360)	SWOT analysis Gap analysis of capabilities
		Where can *Org W* sell its juice *products*?	List of events that host food trucks Historical attendance records	Demand analysis and forecasting
Company X is a global animation studio that has produced many mainstream popular feature films	Develop "go to market" marketing initiatives to build *Company X*'s brand affinity with Australian Millennials	How do Millennials typically consume entertainment?	Trade publications (e.g., *McKinsey Quarterly*) Australian Bureau of Statistics (ABS)	Correlational analysis of consumer preferences
		What lifestyle factors influence millennials when purchasing lifestyle brands?	Focus groups Surveys	Thematic analysis of qualitative responses Psychographic analysis (i.e., segmentation)
Bank Y is one of the largest financial institutions in Australia and offers a range of financial products and services	Assess whether *Bank Y* should expand its offerings of self-managed super fund (SMSF) products in Australia	What are the proposed regulatory changes that affect SMSFs?	Government websites and reports (e.g., Department of Treasury and Finance) News articles from the financial press	Descriptive statistical analysis and forecasting of trends
		What is the growth trend of SMSF as a proportion of the overall superannuation market?	Whitepapers from industry bodies (e.g., Association of Superannuation Funds of Australia)	
Firm Z is one of the world's largest professional services firms in the areas of tax, audit, and advisory	Assess which industries in Australia are likely to be positively or negatively affected by the sharing economy	Which Australian industries are subject to prohibitive restrictions on the exchange of goods and services?	Regulatory information from industry databases (i.e., IBIS World, MarketLine) and Legal Information Institutes (e.g., Australasian Legal Information Institute)	Five forces analysis
		For identified industries, to what extent (a) is there an economic inefficiency? and (b) do users have underutilized resources?	Analyst reports by industry think tanks (e.g., Deloitte Access Economics, Grattan Institute) News sources (e.g., Factiva)	Benchmarking

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Notes

1. Work-integrated learning (also known as "work-based learning") refers to learning that is embedded in the experience of work (Gribble, Blackmore, & Rahimi, 2015). In my course, students are placed in client organizations to work on real consulting projects over 10 weeks. Students are also required to attend workshops and lectures where they learn and practice various consulting skills and methodologies.
2. While problem-solving methodologies vary between consulting firms, they all subscribe to the basic principles of the scientific method (Liedtka, 2006). Other publicly accessible methodologies and resources useful for teaching are Paul Friga's (2009) TEAM FOCUS framework, as well as the chapters on structured problem diagnosis and structured solution development in Marc Baaij's (2014) book, *An Introduction to Management Consultancy*.
3. While the McKinsey methodology has not been officially disseminated through official publishing channels, the firm's methodology is widely known by consulting practitioners and those interested in consulting practice. McKinsey consultants frequently and openly share their problem-solving methodology with university students at career seminars and case competition workshops. A keyword search of "McKinsey's 7-Step Problem Solving Approach" will return countless resources and diagrams on the McKinsey methodology. The PSC methodology has been developed based on publicly available practitioner resources related to the McKinsey approach.
4. The PSC is a fit-for-purpose methodology (i.e., a translation), and its purpose is to developmentally expose and teach students to use structured problem-solving approaches in consulting projects. The PSC has a pedagogical focus and does not seek to replicate the McKinsey approach. Thus, the PSC has deliberately omitted many techniques and tools (e.g., SCQA framing, Minto pyramids, differential applications of structured problem solving to "knowledge" and "performance" gaps) that may be found in the McKinsey approach.
5. Unlike some other methodologies, the Problem Solving Cycle refers to tree branches as issues, rather than hypotheses. In the hypothesis-based approach, each branch needs to be phrased as another question or hypothesis statement; Liedtka (2006) provides some good technical guidance on this. In an issue-based approach, each branch is phrased as an issue statement or category label. I have found that the issue-based approach is more accessible and learnable for students. Furthermore, the issue-based approach applies broadly, to all business problems, whereas the application of the hypothesis-based approach may be more restricted.
6. The following supplementary resources may be useful for instructors and students wanting to learn a broader range of techniques and approaches relevant to the synthesis stage:

structure and tone of writing (see Bierck, 1998, 2002), pyramid principles (see Minto, 2009), and storyboarding (see Duarte, 2012).

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