A Solution Matrix White Paper

Business Case Essentials

A Guide to Structure and Content

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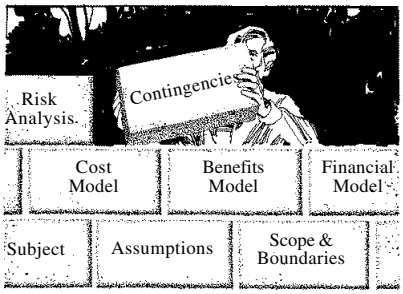
Business Case Essentials

A Guide to Structure and Content

When is a business case complete? What makes it compelling and credible? A business case is similar in some ways to a legal case presented in court. The trial attorney and the business case developer both have a lot of freedom to structure arguments, select and ignore evidence, and package the formal presentation. Whether or not the result is effective depends on their ability to tell a convincing story with compelling logic and facts. This can usually be done in many different ways: there is no single "right" outline, format, or content list.



Looking beyond superficialities, however, it is clear that good cases have many elements and characteristics in common. Good business cases, for instance, always present (in one way or another) rules for deciding which data belong in the case and which do not. They stipulate, that is, the *boundaries of the analysis*. Readers need this information in order to know confidently that the case reflects *all* costs and benefits that are relevant, but only those that are relevant. When fundamental information of that sort is missing or unclear, intelligent readers sense the lack instinctively and credibility suffers.

We cannot prescribe a single outline or template for all cases, but we *can* identify "building blocks" of this kind that are essential to building a logical structure that will stand up to stand up to critical scrutiny, serve as a useful guide to management, and predict what actually happens. Essential building blocks appear in five general categories:

A. Introduction and Overview
B. Assumptions and Methods
C. Business Impacts
D. Sensitivity, Risks and Contingencies
E. Conclusions and Recommendations

This list represents a very natural order for presenting the elements of your reasoning, evidence, and analysis, and it is hard to imagine a successful business case that does not include at least one "building block" from each category. Within categories, however, some elements are essential in some kinds of cases but not others (the *disclaimer*, for instance).

The content of this paper is covered in detail in the book "The Business Case Guide" (ISBN 1-929500-00-9). For ordering information, visit the Solution Matrix web site at www.solutionmatrix.com.

Solution Matrix Ltd. also provides professional training on these topics and a range of consulting services. For more information on Solution Matrix products and services see page 24.

Building Blocks A: Introduction and Overview

These parts of the case are usually written last but read first by the audience. Some of the audience may read only *these parts. Obviously these "building blocks" need to represent the entire case in terms that are terse, clear, and accurate.*

Title & Subtitle

Readers expect the case **title** to identify—briefly—the proposed action and the general nature of the analysis. For example:

"Proposed Computer System Modernization: Total Cost of Ownership Analysis"

or

"Cost/Benefit Study of Planned Employee Recreation Facility"

Other terms for the general nature of the case might include:

- Business impact study
- Return on investment analysis
- Feasibility study
- Prototype analysis
- Projected cash flow impacts
- Business benefits analysis

Readers expect the title to identify the proposed action and the nature of the analysis.

A title is essential, of course, but you may also have the option of adding a **subtitle** to let readers know more precisely what the case is about. A subtitle can add interest and clarity by identifying up front such things as

- The time period analyzed
  "Projections for fiscal years 1998 - 2003"
- The specific action is being analyzed (when several similar actions have been proposed).
  "October 1997 upgrade proposals from IBM"
- Special characteristics of the method
  "Five year projections based on historical data from 1993-1997"

Subtitles should cover no more than one or two lines—otherwise they begin to take over the role of Executive Summary. Note that business case subtitles are not like the "tag lines" after titles in magazine or newspaper articles. There, authors create interest by revealing conclusions or making editorial comments ("*Read the fine print before you sign a service contract*"). For the formal business case, however, conclusions or editorials in the title or subtitle would strike most readers as unprofessional.

Address & Author

Some cases need **address** statements with both "To:" and "From:" headers, as on a formal memo. Other cases need only show the **author(s)**.

An address with both "To" and "From" is especially appropriate if the case is prepared by consultants, sales people, or anyone outside the receiving company or organization. "To" may address an individual—in which case title and company (or organization) should be included:

To: Mr. Arnold Willows, President
The Rochester Manufacturing Company

Or, the report may be "To" (or "Prepared for" or "Submitted to") a committee or group (*"Capital Review Board, Whitney Financial Services, Inc." or "Project 2000 Steering Committee, Acme Diesel Corp."*).

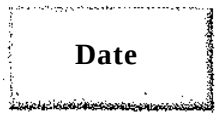
Business cases tend to be shaped significantly by the identity and needs of the intended audience. Subsequent readers of all kinds will know better how to evaluate the case if they also know who this was.

Even if the *audience* is not identified explicitly, the *author(s)* should be. Authorship may be indicated by "From," "Prepared by," or "Submitted by." This is another way that business cases differ from standard accounting reports or budgets, where authorship may or may not be known and where credibility is rarely in issue. Readers probably do not care specifically which accountant put the final touches on the income statement, or which senior executive made the final adjustment to the capital budget ceiling. Everyone knows, however, that business cases reflect arbitrary and subjective judgements, that projections are uncertain, and that no two analysts are likely to produce exactly the same case results. For credibility reasons alone, it is necessary to show who is responsible for the report: a purely anonymous business case would be less than compelling in most settings, no matter how good the content. Also, if the case serves later as a management tool or model for other cases, users may want to contact the author(s) for elaboration or explanation.

A purely anonymous business case would be less than compelling in most settings.

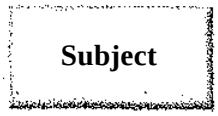
Authorship is often attributed to committees or groups (*"Submitted by the Project 2000 Study Committee"*), which is fine, if the actual individuals can be identified elsewhere in the report, perhaps in a footnote or appendix.

The address/authorship statement can also serve to show at the outset that a number of people contributed to the content. As the head of a study group or project team, it can be important to remind readers that contributions came from individuals across many functional areas—maybe including finance, human resources, marketing, strategic planning, line management, and so on. As an outside consultant or sales person, it is important to register the involvement of any contributors *inside* the company or organization.



The cover page of the case report should show the **date(s)** completed and submitted. Business cases are often revised and reissued through several cycles. Completion and submission dates on the first page make it easy to find the latest version.

Other text in the body should indicate when the data were gathered or developed. (*"Cost estimates reflect vendor prices in effect during August, 1997,"* or "*Estimated expenses are based on customer service request patterns for the years 1996 and 1997*"). This is important because cases use sources that change: business plan estimates, price quotes, salary and staffing data—all change over time and all may contribute to case results. Conditions under which measurements and estimates are made also change. Dating the source data this way lets the audience know exactly which data were used, avoiding potential confusion later.



Every business case needs an explicit **subject** statement, describing what the case is about. The statement is critically important because it helps define or shape almost everything else in the case. The subject may have a text section of its own or it may appear in other building blocks, such as "Background" or "Introduction."

Two good analysts can work independently on the same subject and arrive at different business case results, but they should be very *similar* results if the subject has been defined *fully, concretely, and precisely.* If the subject is defined incompletely, vaguely, or imprecisely, they may arrive at quite different results. To a certain extent, the results are determined (but not yet visible) when the subject is stated properly.

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The starting point for identifying the case subject is usually a proposed or planned action, but the subject of the case should ultimately be defined in terms of *objectives*. Here, for instance, are some proposed actions that might prompt a request for business case analysis:

- An acquisition or replacement
- A construction project
- An investment in new capabilities or capacity
- A change in organization, operations, or product offerings
- A move into a new market

As suggested, the title should briefly identify the proposed action (*"Proposed Computer System Modernization" or "Planned Employee Recreation Facility").* However, the subject statement itself needs to describe the primary action and related actions more fully and precisely. The subject statement should contain, in kernel form, the scope and objectives behind the action.

Reaching objectives has financial and other business value that can be made tangible.

This may require several sentences. A *"Reservation System Enhancement"* in the title might appear like this in a subject statement:

> *"This case examines the likely costs and benefits of doubling the daily transaction capacity of Acme Corporation's reservation system, as proposed by Solution Systems, Inc., in August 1997. This will require several major actions, including an upgrade of Acme's four Model 900 computer systems to Model 1200 systems, migration from the VVS operating system to UNIX, acquisition of an additional thirty phone lines, and professional training for the sixty current reservation agents. The analysis covers the expected costs and benefit consequences of these actions, as they impact Acme's Resorts Division during fiscal years 1998 through 2001."*

Good subject statements are built around objectives—business objectives, financial objectives, functional objectives, or operational objectives (in this case, *"doubling the daily transaction capacity of the reservation system"*). Why move the focus from action to objective? Reaching objectives has financial and other business value that can be made tangible. The value of an action that is unrelated to an objective (*"Upgrading a Model 900 system to Model 1200"*) is much harder to quantify in a compelling way.

The appropriate subject for the business case is the full range of resources and actions required to reach an objective.

In brief, when a proposed action supports an objective (and all proposed actions do, in a rational environment), the appropriate subject for the business case is the full range of resources and actions required to reach the objective.

Purpose

The title may suggest the general approach (*"Total cost of Ownership Analysis"*), and it may point to the central action (*"Computer System Modernization"*) but it will probably not mention the **purpose** of the case itself, directly. The purpose may be stated explicitly in one of the introductory building blocks, or elsewhere, or it may be omitted entirely. Nevertheless, this building block is essential in the sense that the purpose must be known and understood alike by the case developer and audience.

The developer needs to know specifically what the case will be used for and how it will be used.

The general purpose may be to support decision making and planning but the developer needs to know specifically what the case will be used for and how it will be used. For instance, the case *purpose* may be to

- Help decide the timing of a planned action/acquisition
- Help choose between proposed capital acquisitions
- Support next year's budgetary planning
- Support a specific budgetary request
- Help choose financing methods or vendor

The developer should also know from the outset which financial criteria will be used to evaluate results, and what it will take in terms of these criteria achieve success (e.g., obtain funding). If the purpose is to support a proposed capital acquisition, for instance, and if the Capital Review Committee evaluates proposals with criteria such as internal rate of return (IRR), payback period, and net present value (NPV) of the cash flow stream, it is important to know that before beginning to build the case. If the Committee never funds anything with a payback period over, say, two years, it's important to know this, too. This is especially important if the case represents one of several alternative actions competing for the same funds or management attention.

Why? Because the purpose of the case and it's manner of use should influence case design and case methods in many ways. When different cases support competing proposals, for instance, the scope of cost and benefit coverage for all cases should generally be the same.

Disclaimer

Including a **disclaimer** in your case report is advisable if you are preparing the case for an audience outside your own company or organization.

The disclaimer can help set audience expectations properly, but its primary purpose is to provide defensive legal protection for the case developer. The message of the disclaimer is, in effect, something like this: "I built this case carefully and professionally, but ...

- "Don't hold me legally responsible for the accuracy of these predictions."
- "Estimates of future financial results always include some uncertainty."
- "The results depend on some factors beyond my control."
- "The results are based on information that may change."
- "The results may depend on important information I was unaware of."
- "The results depend in part upon information you furnished to me."
- "Don't mistake this business case for professional tax planning guidance."

In a real business case, of course, the phrasing is more formal and diplomatic. Here, for instance, is the disclaimer used by one IT (Information Technology) system integration consultant from the firm "Vantage Associates:"

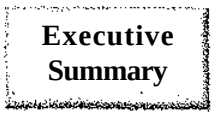
> *"This report provides approximations of important financial consequences that should be considered in decisions involving the purchase, installation, and configuration of computing hardware and software. The analysis is based on information which was provided by you as well as information believed by Vantage Associates to be accurate. Price information is subject to change at any time. We recommend that you use this analysis only as an aid to develop your own cost and benefit analyses. The actual tax impact can only be determined accurately by consultation with tax advisors.*

If you even suspect that a disclaimer might be advisable in your work, then by all means check with your legal department or find a qualified lawyer who can discuss your potential responsibilities, vulnerabilities, and liabilities from a legal standpoint. Also verify that your disclaimer text is appropriate from a legal standpoint.

The disclaimer provides some protection against a client or customer who later makes unfair claims.

When you use a disclaimer, either give it a text section of its own early in the report or set it off from other text in some unmistakable way (e.g., with a different typeface or indentation). Also be sure to bring it to the attention of your audience at least once. Do not bury it in the footnotes or appendixes.

Of course, a disclaimer will not fully protect you from the legal consequences of incompetent work, misrepresenting your qualifications, or misusing case results. However, if you do your best in good faith, it *can* provide some protection against a client or customer who later makes unfair claims against you or your organization.



Readers expect to find an executive summary very early in the report. This is most useful if it contains both text and numbers:

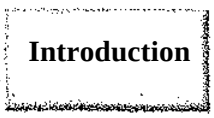
- A short narrative paragraph tersely identifying the subject, scope, methods of analysis, and major results
- A list or table of financial metrics from the analysis (e.g., Net cash flow total, discounted cash flow total, payback period, internal rate of return, or total cost of ownership)

Even those who read carefully and completely want to know the essence of the whole case from the outset.

The executive summary deserves careful preparation and formatting. Some of your audience will probably read *only* the executive summary. The summary is your one chance to reach this part of the audience.

Other members of your audience will read some or all of the case report, but miss the main conclusions, misunderstand the subject and scope, or otherwise misinterpret your case—unless you make these elements crystal clear in the executive summary.

The rest of your audience—even those who read the case report carefully and completely—will still want to know the essence of the whole case from the outset. It's natural to view the preliminary executive summary as a *proposition*, which the rest of the case then supports, elaborates, or proves.



The **introduction** describes the setting for the case and helps establish reader expectations for what follows. Some of the building blocks covered earlier, like the subject and purpose, fit naturally in a section explicitly called "Introduction" (or something like **Background, Overview,** or **Situation).** This is

also the place to bring in other background, history, or context that helps the audience evaluate case results and compare them to other case scenarios.

Introductory statements will often "position" the case by reminding or telling the audience of such things as:

- Objectives, needs or problems addressed by the subject of the case

  E.g., The need to lower operating expenses, problems in customer satisfaction, the need for more computing capacity, the need to improve professional selling skills, and so on.

- Other business considerations that should be in view when basing decisions on case results

  May include external factors, such as increased competition, or internal factors such as policies or management directives.

- Other important and related management plans

  E.g., Business plans, budgets, or special project or program plans.

- Important historical information

  E.g., The "track record" of previous business case analyses on this subject.

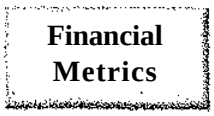
- Alternative actions

  When the case addresses a proposed action that is competing against other proposals, this is a good place to sketch briefly the alternatives that will be compared with these results.

Building Blocks B: Assumptions and Methods

The case's financial results tell the story, but case credibility and effectiveness can depend heavily on the author's ability to explain where the data and results come from. This is largely a matter of describing the assumptions and methods behind the case. Essential building blocks in this section accomplish that purpose. Where should this information appear in the case report? It can go in several places.

- *The logical first choice is just after the introductory material (Section I, above), and before the financial results and other business impacts (Section C below).*
- *If the materiel is very long, however, you may divide it into two sections: A shorter section, covering "key assumptions" and an "Overview of Methodology" (or "General Approach") can appear before the financial results, conveying just what readers need to know to make sense of the results. Then, a longer section spelling out all assumptions and methods completely can appear immediately after the financial results.*
- *Parts of this material that are long and tedious, and not essential to understanding the results, may be relegated to an appendix.*



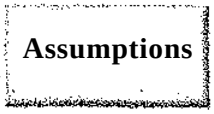
What will it take for the case to accomplish its purpose? Readers will want to know the answer before reading the full set of financial results. A large part of that answer will be stated in terms of the **financial metrics** that will be developed. It is not very helpful to state simply that the case represents an analysis of "all costs and benefits" associated with a proposal. Instead, let readers know early, that decisions and plans based on case results will be based specifically on such measures as:

- Net cash flow
- Discounted cash flow (DCF)
- Internal rate of return (IRR)
- Payback period
- Total cost of ownership (TCO)
- Return on Investment (ROI)
- Return on Assets
- Yield

Or other specific metrics such as:

- Price/performance
- Cost per employee
- Cost per transaction
- Cost per customer

If the case supports decision making, readers will also want to know early just how these measures will be used. You may indicate, for instance, that in order to obtain funding, capital proposals "must show a payback period of 2 years or less, and an IRR of 40% or more." Or , you might indicate that competing proposals will be judged primarily on the basis of "total cost of ownership."



Most cases require certain **assumptions** for one or more of these reasons:

- Prediction
- Simplification
- Clarification

Consider first *prediction*. Cases that project future financial results are based on factors that change over time: business volume, prices, salaries, the organization's cost structure and many other things. Suppose that your case anticipates purchasing fuel oil, real estate, or computer hardware several years from now. What *prices* do you enter in the case now for future purchases? You may use today's prices, or you may try to project future prices based on current trends. Whichever you choose needs to be clearly articulated as an *assumption*. Any other cases compared to this one should then be based on the same assumptions.

Record assumptions whenever you cannot take it for granted that any other analyst would make the same assumptions automatically.

Most business cases also require *simplifying* assumptions. A case may include salaries of, say, 100 clerical workers. It may be impossible or impractical to obtain the real salary figure for each person involved. A far more practical approach is to *assume* the company average for this job category, for all 100. If this not known, it may be necessary to assume an average salary level based on other sources—profession-specific salary surveys, for instance.

Finally, assumptions may be necessary for *clarification*. An assumption of this kind might state, for instance that 20% of new equipment in the proposal will be acquired by direct purchase, and the remaining 80% through capital lease. There may be many other workable financing options as well, but the author had to choose one in order to complete the case.

Assumptions of any kind, no matter how necessary, obvious, or appropriate, they may be, need to be explicitly recorded in the business case *whenever you cannot take it for granted that any other analyst or reader would make the same assumptions automatically*.

Scope & Boundaries

Stating the subject, purpose, metrics, and other blocks above does not fix the **scope and boundaries** of the case. *Scope* is range of coverage encompassed by the case along several dimensions; *boundaries* define the scope precisely, providing rules for deciding which data belong in the case and which do not.

One dimension that *always* needs bounding is:

Time

Time is one dimension that always needs bounding.

- When does the analysis period begin, and when does it end?
- Is the analysis synchronized with calendar years? Fiscal years? Project or program plans?

Other dimensions may need bounding as well.

Other dimensions that *may* need bounding include:

Geography/Location

- Does the analysis refer to a specific site? A fictional "typical" site? Multiple sites?
- Does it cover specific areas only? (E.g., the manufacturing floor, the computer room, loading dock, executive offices, etc.)

Organization or Function

- Does the analysis cover a specific division, department or group? Or, the whole company or organization?
- Does the analysis apply only to certain functions? (e.g., manufacturing, marketing, sales, etc.)
- Does the analysis apply to certain personnel but not others? (E.g., hourly-paid labor, management, IT/IS staff but not computer users, union employees only, etc.)

Technology

- Does the analysis cover computer hardware but not software?
- Vehicle engine and drive train maintenance, but not body work?
- Electrical but not mechanical devices?

Scope and boundary information tell case developers and readers just whose costs and benefits are included, and where the financial impacts come from. Boundary statements are always necessary, but especially so when costs of a proposed action are borne primarily by one organization or site (e.g., manufacturing, or IT), but where benefits may be realized much more broadly.

Cost/Benefit Models

Cost and benefit data in a business case belong to specific *line items*. Cost (or expense) items might be "Clerical salaries," or "Personal computer software." Benefit line items might be "Profits from increased sales," or "Time savings for professional staff." Cost and benefit **models** provide a basis for identifying and organizing all line items implied by the subject and the boundaries of analysis.

A clear presentation of the cost and benefit models behind the case provides a direct, effective means of assuring readers that the case includes *all* relevant line items and *only* relevant line items. A model with appropriate structure and content, that is, assures readers that data selection was unbiased and complete.

Cost and benefit models are usually created by grouping together cost or benefit line items that change together, or which have common sources, or which need to be managed together. The groups are organized along one or more dimensions, making a list or matrix that covers every possible cost or benefit impact.

Note that a cost model really covers projected cost *changes*, and these may include certain kinds of *benefits* as well as cash outflows. Benefits such as cost savings, avoided costs, reduced risks, and solutions to costly problems may all be identified and organized through a "cost" model. A model that captures only cost impacts will not capture *all* benefits, however. If the case looks forward to benefits such as revenue enhancements, or contributions to business objectives other than cost reduction, a separate benefits model will be required in addition to the cost model.

Data Sources & Methods

Models identify and organize cost/benefit line items, and boundaries determine where they are measured. Readers need to know something about these, but they also need to know *how* cost and benefit values are measured and what are their sources. For this, you may need to describe **data sources** along with the **methods** used to assign cost and benefit values.

A rule for deciding whether or not to describe data sources and methods is like the one given earlier for deciding which assumptions should be spelled out: do include the descriptions when you cannot assume that another analyst or reader would know, unambiguously, how the data were developed.

When cost and benefit data are taken from other documents, or when they were developed first for some other purpose, identify the source as a specific

- Business plan
- Budget (historical, current, or future)
- Spending record or historical information of some other kind
- Feasibility study
- Pilot project
- Outside consultant's estimate
- Published industry average, benchmark, or "best-in-class" figure

Describe the methods for assigning cost and benefit values, if they are not obvious and known to all.

Also describe the methods for assigning cost and benefit *value*s, if they are not obvious and known to all. If cost estimates come from an "activity based costing" scheme or another cost allocation method unique to this case, describe this briefly. On the benefits side, be especially clear on the source and rationale applied to all gains that have an arbitrarily assigned value. If assigning value to "Time savings for professional staff," for example, you might indicate that the expected time savings were estimated from workflow analysis and interviews with line organization managers, while the assigned values represent an average salary and overhead costs for people in this group.

Full Values vs Incrementals

The case report should also explain one aspect of data development that profoundly effects the appearance of results: the decision to use either one of the following:

- Full values of costs and benefits
  Data represent the full values of cash outflows or inflows for each line item.
- Incremental values
  Data represent only the net change, or difference, between the proposed scenario and some basis of comparison, .e.g., a "business as usual" scenario.

Use full value figures or incremental values? There is a cost/benefit trade-off underlying this decision.

The difference between the full value of a cost/benefit line item figure, and the incremental value of a cost/benefit impact, can be one of the most confusing aspects of business case design. In some cases, full value figures provide the most useful view of expected impacts, and in other cases, incrementals are more informative. Choosing between incrementals and full value figures is not always easy because there is a "cost/benefit" trade-off in its own right underlying this decision, which can be illustrated with a simple example.

A manager must choose between two IT upgrade scenarios, Plan "A" and Plan "B." Table 1 (next page, top left) has the first year's expected financial performance under both plans, along with gains and costs should neither plan be implemented—a "business as usual" scenario. Figures in Table 1 are *full value figures*. Table 2 (next page, top right) shows the *incremental* gains and costs for the same example. (These are the differences between the full values of "business as usual" figures and proposal figures. Which set of data should be used for your own business case analysis? Here are some factors to consider:

Incremental values may be preferred if ...

- The proposed action or acquisition is to be evaluated primarily as an *investment* (i.e., in terms of ROI, payback, or IRR)
- It is not possible or practical to fully analyze all scenarios (finding the full value of all inflow and outflow figures is too costly or time consuming to justify the effort)
- Incremental costs and benefits will be quite small relative to total figures
- Costs for a specific action are funded by a source different from other costs
  A research "seed money" fund may choose Plan A over Plan B because A requires an incremental cost of only $30, whereas B requires $70.

Full values may be preferred if ...

- The proposed action or acquisition is to be evaluated primarily in terms of total costs, or total cost of ownership
- It is possible to all scenarios. There is more *information* in the full values...
  - you can always calculate incremental costs and gains *by contrasting* full values of different scenarios
    Table 2 derives from Table 1 above, but the reverse is not true.
  - Full values show the relative magnitude or importance of increments
    Plan B increases total operating gains by 72% ($80/$110), but A only brings a 36% increase ($40/$110). Table 2 simply shows that B brings twice the incremental gains of A.
- There is a need to evaluate the impact of an action in terms of existing or planned budgets
  Table 1 shows that Plan B raises IT operating costs by 30%.

Using Totals

First Year's...	*Business as Usual*	*Plan A*	*Plan B*
Total IT Operating Gains	$110	$150	$190
Total IT Operating Costs	$100	$110	$130
IT Acquisition Costs	$0	$20	$40
Net Gain (Loss)	$10	$20	$20

Table 1. Full value cost and benefit figures for a simple example

Using Incremental Values

First Year's...	*Plan A*	*Plan B*
Incremental Operating Gains	$40	$80
Incremental Operating Costs	$10	$30
Incremental Acquisition Costs	$20	$40
Incremental Gain (Loss)	$10	$10

Table 2. Incremental cost and benefit figures for the same analysis.

Building Blocks C: Business Impacts

Building blocks in this section are the case's reason for being. The case exists, after all, to answer questions such as: "What will be the financial consequences if we take the proposed action?" Here is where these questions are answered concretely. Data summaries and analysis should be presented objectively and directly, keeping interpretations and explanatory text to a minimum.

Financial Model

The centerpiece of the business case will be a **financial model**. A *model* is a representation or analogy of something else. It is easier to examine the behavior of a model than it is to examine the thing it represents: model airplanes, mathematical models of subatomic events, and algebraic models of a national economy all serve this purpose.

The simplest of financial models include the familiar pie chart, which shows how 100% of a sum is distributed in major components, or the basic business equation (Profit = Sales Revenue–Cost), which shows how costs and revenues work together to produce profits. We referred earlier to cost and benefit *models*; when these are populated with line items and data, and when the links among their various parts are specified, the result is a financial model for the business case.

The case financial model may be nothing more than a single cash flow statement (see "Cash Flow Statement" below). In more complex settings, however, the complete financial model may include several cash flow statements in spreadsheet form, as well as tables or graphs that show the behavior of key variables, or relationships between them. In complex settings, the overall financial model is truly a system of interrelated models.

Cash Flow Statement

The heart of the financial model and the heart of the business case will be a cash flow statement which, in its simplest possible form, will look something like this:

	Year 1	*Year 2*	*Year 3*	*Total*
Benefits (Cash Inflows)	$100	$250	$400	$750
Costs (Cash Outflows)	$(160)	$(120)	$(110)	$(390)
Net Cash Flow	$(60)	$130	$290	$360

A simple cash flow statement

This could be, for instance, a summary of the financial case that goes with a proposed computer system acquisition. It says the organization can expect a net gain of $360 after three years. There will be a net cash outflow the first year, and net positive inflows in years 2 and 3. A summary like this must be created, in order to develop other financial metrics for the case, such as discounted cash flow (DCF), total cost of ownership (TCO), internal rate of return (IRR), payback period, and various return on investment (ROI) figures.

The statement includes only line items that represent true cash inflows or outflows.

If you have training in financial accounting , you may wish to compare the framework above—for a case that predicts future cash flows—with the standard form historical cash flow report, or with a "Statement of Changes in Financial Position," The business case cash flow is nearly identical, except that:

- Line items under "Sources of Cash" on the historical report become "Benefits" on the business case report (or "Gains," or Cash Inflows").
- Line items under "Uses of Cash" on the historical report become "Costs" on the business case report (or "Expenses", or "Cash Outflows").
- The historical cash flow report or statement of changes in financial position typically covers one accounting period. The business case cash flow statement usually looks forward across multiple periods.

Otherwise the cash flow statement in the business case is just like other cash flow reports: it includes only line items that represent true cash inflows or outflows. Depreciation expense, for example, appears on the income statement but not on cash flow reports because it is not a true cash outflow.

Below are some "bare bones" examples of the general form of major sections in the cash flow statement. First, however, note the following "plus and minus" conventions in business case tools and guides from Solution Matrix Ltd.

Cash flow statements:

Plus and minus conventions

1. We use parentheses or minus signs with *all* outflows and negative values. All data and results appearing without "()" or "-" are thus inflows or positive values. That way it is always clear which values are added to totals and which are subtracted.[1]
2. When cost change items have only positive (inflow) values across the analysis period, we prefer to list them in the "Benefits" section rather than under a "Cost" or "Expense" section. An example might be "Maintenance cost savings," which are positive in every period of the analysis
3. When a cost change item has at least one positive (inflow) period and at least one negative (outflow) period, we may list the item twice:
   - Once with the positive periods appearing under "Benefits"
   - Again with the negative periods under "Costs" or "Expenses."

   However it is equally correct to list the item just once, in a Cost or Expense section (where parentheses or minus signs distinguish outflow periods from inflow periods).

Table 3 (next page) begins illustrates how the **Benefits** section might appear.

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1. The commonly used alternative is to present numbers without signs or parentheses, using line item labels that imply unambiguously whether the values are inflows or outflows (e.g., *"Increased profits,"* or *"Electric power costs"*). With this approach, labels must also describe which lines are added or subtracted from other lines (e.g., "less *operating costs*").

BENEFITS / GAINS *($ in $1,000's)*	*For year ending last day of* May 1995	May 1996	May 1997	May 1998	May 1999	**TOTAL**
Maintenance cost savings……	420.0	462.0	508.2	559.0	614.9	**2,564.1**
Fewer manufacturing defects……	790.0	790.0	790.0	790.0	790.0	**3,950.0**
Avoided mainframe OS upgrade……	0.0	350.0	0.0	0.0	350.0	**700.0**
Avoided hiring……	1,200.0	1,200.0	900.0	800.0	7,091.7	**11,191.7**
Improved profits……	2,500.0	3,000.0	3,600.0	4,320.0	5,184.0	**18,604.0**
Freed up professional time……	1,500.0	1,545.0	1,591.4	1,639.1	1,688.3	**7,963.7**
Total Benefits/Gains	**6,410.0**	**7,347.0**	**7,389.6**	**8,108.1**	**15,718.9**	**44,973.6**

Table 3. Sample Benefits section from the business case cash flow report .

Here are two points to remember about Benefits sections:

First, the six items in Table 3 differ from each other in several ways, especially with respect to the way benefit values are assigned. Some would say they differ with respect to "hardness-softness:" Cost savings are sometimes viewed as *hard* benefits, and "Freed up professional time" as a *softer* kind of benefit. Listing benefits individually this way allows critics to see how the whole benefits impact is derived, to assess "hard" vs. "soft" contributions, and to mentally discount any entries they find questionable. Thus, it is important to keep individual benefit items visible in the final report and not combine them.

Listing benefits individually allows critics to see how the whole benefits impact is derived.

Second, if all benefits contribute to a company's operating gains, then all contribute ultimately to tax savings or tax liability on operating income in the same way. If so, all benefits can appear in a single section. However, if some benefits represent capital gains or "extraordinary events," which may be taxed differently from operating gains, these benefits belong in a section of their own. (A distinction that matters only in "after-tax" cases).

Following Benefits, the cash flow report will have one or more Costs or Expenses sections. There will probably be of two kinds, at least: Non-capital operating expenses, and (capital) Assets.

Cash outflows that qualify as **non-capital operating expenses** should be listed in a separate section from expenditures that represent asset purchases. Table 4 (next page) shows how this might look. Note that parentheses indicate these data are all *outflows.*

Try to reflect the structure of cost and benefit models in the cash flow statement.

Here, "Operating Expenses" are divided into five subsections, reflecting the organization of an underlying cost model. Even when there is not a perfect correspondence between elements of your cost and benefit models with elements of the cash flow statement, try insofar as possible to reflect the structure of these models in the cash flow statement so that readers can better understand why different line item groups change as they do.

Asset purchases need to have a section or sections of their own. Compared to operating expense items, assets are usually budgeted and acquired differently, they are often financed differently, and (in taxpaying organizations) they have very different tax consequences. Table 5 (next page) illustrates some points about the Assets section that are important—if this is an "after-tax" case:

- Asset line items are organized in Groups: All assets in a group are depreciated by the same depreciation schedule (which will be noted in your assumptions, or in notes accompanying the cash flow statement).

OPERATING EXPENSES *($ in $1,000's)*	*For year ending last day of* May 1995	May 1996	May 1997	May 1998	May 1999	**TOTAL**
Admin & Mgmt Expenses						
Existing HW maintenance	(268.0)	(180.0)	(180.0)	(180.0)	(180.0)	**(988.0)**
Operating system maintenance	(96.0)	(188.0)	(213.0)	(213.0)	(213.0)	**(923.0)**
Application SW maintenance fee	(1,058.0)	(1,058.0)	(1,058.0)	(1,058.0)	(804.0)	**(5,036.0)**
NW & Comms admin fees	0.0	(188.0)	(188.0)	(188.0)	(188.0)	**(752.0)**
Personnel Expenses						
System related salaries	(3,287.0)	(3,868.0)	(4,042.0)	(4,182.0)	(4,315.0)	**(19,694.0)**
Management training	(103.0)	(200.0)	(193.0)	(190.0)	(187.0)	**(873.0)**
I/S Operationsal staff training	(78.0)	(110.0)	(86.0)	(86.0)	(86.0)	**(446.0)**
Database education/training	(50.0)	(30.0)	0.0	0.0	0.0	**(80.0)**
Other end-user training	(46.0)	(53.0)	(12.0)	0.0	0.0	**(111.0)**
Facilities Expenses						
Occupancy	(176.0)	(176.0)	(176.0)	(176.0)	(176.0)	**(880.0)**
Electric power	(22.0)	(22.0)	(22.0)	(22.0)	(22.0)	**(110.0)**
Services Expenses						
Miscellaneous consulting services	(85.0)	(145.0)	(130.0)	(125.0)	(125.0)	**(610.0)**
Database related consulting	(282.0)	(181.0)	0.0	0.0	0.0	**(463.0)**
External project team	(225.0)	0.0	0.0	0.0	0.0	**(225.0)**
Other professional services	(108.0)	(139.0)	0.0	0.0	0.0	**(247.0)**
Other Expenses						
Supplies	(245.0)	(360.0)	(335.0)	(335.0)	(335.0)	**(1,610.0)**
Total Operating Expenses	**(6,129.0)**	**(6,898.0)**	**(6,635.0)**	**(6,755.0)**	**(6,631.0)**	**(33,048.0)**

Table 4. Sample Operating Expense section from the business case cash flow report .

- Depreciation expenses are shown because they impact taxes (a cash flow item), but they do not contribute directly to the cash flow "bottom line" themselves (they are not real cash flow). Column totals on the line "Total Asset Costs" do *not* reflect depreciation expenses.
- Depreciation expenses start for each asset in the year it was acquired, and then continue through its depreciable life.
- The Assets section also includes an estimate of tax savings due to depreciation expenses, over the analysis period. This is based on both the average tax rate on operating income, and depreciation expenses above. Tax savings are real cash flow and do impact the business case "bottom line."

ASSETS PURCHASED *($ in $1,000's)*	*For year ending last day of* May 1995	May 1996	May 1997	May 1998	May 1999	**TOTAL**
GROUP 1: Software Assets						
Software Licence	(361.2)	0.0	0.0	0.0	0.0	**(361.2)**
HW: Desktop PCs	(240.0)	(232.4)	0.0	0.0	0.0	**(472.4)**
Network Equipment	(40.0)	(40.0)	(40.0)	(20.0)	(10.0)	**(150.0)**
Group 1 Total Assets	(641.2)	(272.4)	(40.0)	(20.0)	(10.0)	**(983.6)**
Group1 Depreciation Expense	(213.7)	(304.5)	(317.9)	(110.8)	(23.3)	**(970.3)**
GROUP 2: Hardware Assets						
Hardware: DataBase Servers	(2,257.0)	(250.0)	(110.5)	0.0	(110.0)	**(2,727.5)**
Hardware: Internet Servers	(103.0)	0.0	(150.0)	0.0	0.0	**(253.0)**
Group 2 Total Assets	(2,360.0)	(250.0)	(260.5)	0.0	(110.0)	**(2,980.5)**
Group2 Depreciation Expense	(472.0)	(805.2)	(585.2)	(403.2)	(372.7)	**(2,638.3)**
Total Asset Costs:	**(3,001.2)**	**(522.4)**	**(300.5)**	**(20.0)**	**(120.0)**	**(3,964.1)**
Total Depreciation Expenses	(685.7)	(1,109.7)	(903.1)	(514.0)	(396.0)	**(3,608.6)**
Est Tax Savings on Deprec	240.0	388.4	316.1	179.9	138.6	**1,263.0**

Table 5. Sample Assets section from the business case cash flow report .

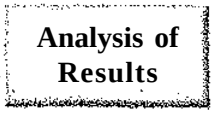
The cash flow statement may have several sections of each type covered above (Benefits, Non-Capital Expenses, and Assets). Different sections can highlight or bring together line items that should be evaluated together. If the proposal includes a number of leasing or lease-related items, or items related to financing, these may have a section of their own, for example.

The final section of the cash flow report will be a Cash Flow Summary, where contributions from earlier sections are brought together. Table 6, below is an example based on Tables 3, 4, and 5.

Source	**CASH FLOW SUMMARY** Cash inflows (outflows) *($ in $1,000's)*	*For year ending last day of* May 1995	May 1996	May 1997	May 1998	May 1999	**TOTAL**
Table 3 Total	Benefits/Gains……	6,410.0	7,347.0	7,389.6	8,108.1	15,718.9	**44,973.6**
Table 4 Total	Expenses……	(6,129.0)	(6,898.0)	(6,635.0)	(6,755.0)	(6,631.0)	**(33,048.0)**
	Net Operating Inflow(Outflow)……	281.0	449.0	754.5	1,353.1	9,087.9	**11,925.6**
	Tax Savings (Tax) on Inflow/Outflow……	(98.4)	(157.2)	(264.1)	(473.6)	(3,180.8)	**(4,173.9)**
Table 5 Total Asset Costs	Asset Purchase……	(3,001.2)	(522.4)	(300.5)	(20.0)	(120.0)	**(3,964.1)**
	Tax Savings from all Depreciation Expense……	240.0	388.4	316.1	179.9	138.6	**1,263.0**
	NET CASH FLOW…….	**(2,578.5)**	**157.9**	**506.0**	**1,039.4**	**5,925.7**	**5,050.5**
	Cumulative Net Cash Flow……	(2,578.5)	(2,420.7)	(1,914.6)	(875.2)	5,050.5	**5,050.5**
	Discounted Cash Flow						
	At 9.0 %……	(2,365.6)	132.9	390.8	736.4	3,851.3	**2,745.7**
	At 12.0 %……	(2,302.3)	125.8	360.2	660.6	3,362.4	**2,206.8**

Table 6. Sample Cash Flow Summary section from the business case cash flow report

A cash flow summary of case results like this is the focal point of the business case report. Here, within a few lines, lie the most direct answers to the question "What will be the financial consequences if we take action?" The Net Cash Flow line shows a typical "investment curve" pattern, with a large net outflow in the first year, and then increasing net inflows in subsequent years.



In order to fully understand the results, compare them to other case scenarios, and apply them to management decisions, readers need to see **analysis** of the financial model and basic cash flow results.

Analysis of results (this building block) develops information from the basic cash flow statement just presented. A broader analysis of the entire financial model goes further, to examine sensitivity of results to changes in assumptions or input factors, risks, and contingencies (blocks in Section D, below).

The analysis normally begins with a summary of *financial metrics* based on the net cash flow stream.[2] These may appear here, immediately after a summary like Table 6, and they will also go into the Executive Summary near the beginning of the report. A single line in Table 6—Net Cash Flow—contains all the information to produce the financial metrics in Table 7, next page.

2. For more on calculating and using these metrics, see any basic text book on finance. Or, see the Solution Matrix White Paper "What's a Business Case? And Other Frequently Asked Questions."

Proposed Computer System Upgrade
Summary of Financial Results and Assumptions

Analysis period: Jun 1994 - May 1999 (60 months)
The estimated net financial results over the evaluation period are as follows:
($ in 1,000's)

After Tax Next Cash Flow*	$5,050.5
Cash Flow Discounted at 9.0%.....	$2,745.7
Cash Flow Discounted at 12.0%.....	$2,206.8
Interal Return of Return (IRR).....	35.34%
Payback Period.....	4.15 Years

** Based on estimated average tax rate of 35.0%*

Table 7. Summary of financial metrics from cash flow results

When reporting cash flow results and their direct analysis, it is good form to minimize narrative interpretation. The idea, after all, is to give the numbers a chance, first, to speak for themselves. Further elaborations are more appropriate in sections like Sensitivity, Risks, Contingencies, Conclusions, or Recommendations.

Readers will probably also want to see the same cash flow line displayed graphically. Figure 1 below shows some simple, direct ways of picturing the information readers expect to see: annual cash flow, cumulative annual cash flow, and a comparison of non-discounted and discounted cash flow streams.

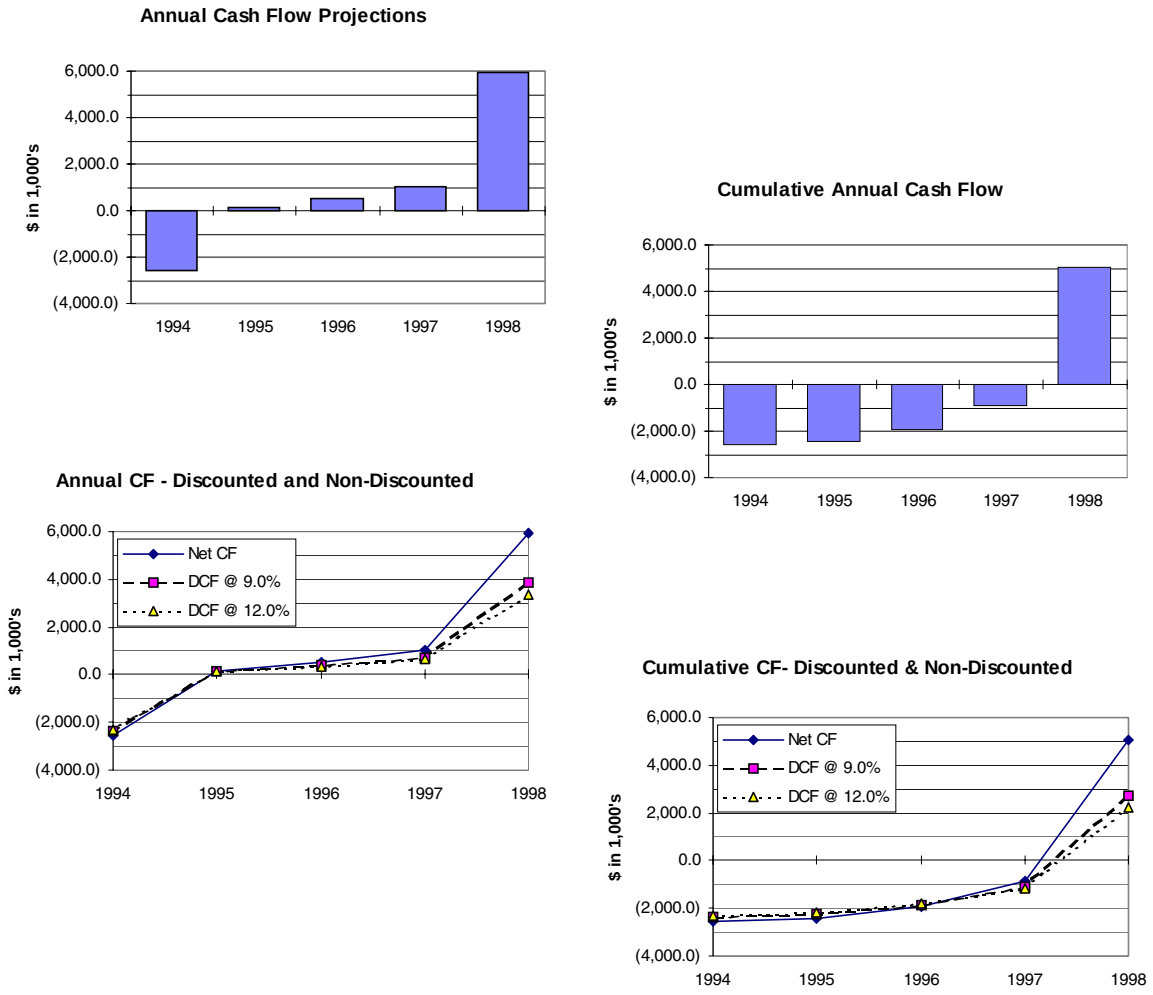


Figure 1. Graphical displays of cash flow results from Table 6

Nonfinancial Results

If you assign no financial value to a real impact, it contributes exactly nothing to the financial analysis.[3] For this reason, we recommend that you try very hard to quantify every benefit and cost impact associated with the case subject. Even so, however, there may be some impacts that cannot be quantified acceptably in monetary terms. On the benefit side, for instance, these may include contributions to corporate image, customer satisfaction, or employee morale. These may represent major corporate objectives, which should ultimately translate into lower costs and increased revenues. Nevertheless, you and your audience simply may not be ready to accept value estimates for them with confidence. These **nonfinancial results** will not enter the financial model or cash flow results, or financial metrics, yet they may stilldeserve consideration in the proposal. What can or should you say about them?

When the nonfinancial result are real, when they are large enough to matter, and when they clearly impact a business objective, we recommend taking as many of the following three steps as possible:

1. Be sure the expected impact is recorded

Describe it immediately after the cash flow statement and its analysis, in the Executive Summary, and where relevant in Conclusions or Recommendations.

Nonfinancial results:

- *Put them on the record*
- *Make them tangible*
- *Compare them to the financial impacts in nonfinancial terms*

2. Make the impact tangible

Even if the impact is not valued immediately in financial terms, describe its effects in ways that can be observed and verified. You may expect a real "improvement in staff professionalism," for instance, but not be able to evaluate the value of that in monetary terms. You can, however, describe the likely effects of that benefit in other observable terms, such as lower staff turnover, easier recruiting, less absenteeism, and so on.

3. Compare the impact directly to the financial impacts of the case, but in nonfinancial terms

Figure 2, (next page) illustrates one approach.[4] The graph summarizes the consensus view of a large international bank's Executive Committee after considering an IT action—putting local area networks and personal productivity software into branch offices for the use of loan officers. The Committee used a "score and weight" consensus-building technique to rate the relative contributions of various benefits to the bank's overall strategic business goals.

Surprisingly, in this exercise, the two top ratings went to non-quantified goals: "Customer satisfaction" and "improved bank image," while goals that were addressed with fully quantified benefits (increased revenues and cost control) finished third and fifth out of the five goals considered. Of course, everyone expects customer satisfaction and a good image to help deliver revenues and profits, but the value of the IT contribution to these goals was impossible for this group to quantify comfortably. However, subjective ratings such as those in Figure 2 reminded everyone that even "soft" benefits are important and worth paying for.

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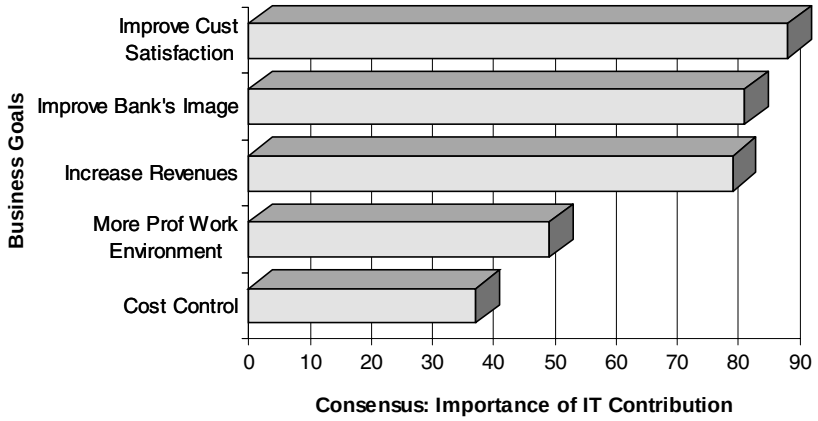
3. The *Business Case Guide* presents several different techniques for assigning values to business benefits, including those that are difficult to quantify.

4. For more information on the "score and weight" technique mentioned here, see *The Business Case Guide* (for availability and ordering information, visit the Solution Matrix Ltd. web site at www.solutionmatrix.com).

Figure 2. The consensus view of one bank's Executive Committee: A score-and-weight rating method was used to evaluate the relative importance of benefits from a proposed IT upgrade, to various goals.



Building Blocks D: Sensitivity, Risks, and Contingencies

Almost all business cases involve uncertainty because they project results into the future. The "Business Impact" blocks above represent the author-analyst's view of the most likely outcome, but no matter how solid the methods and analysis behind the results, audiences will have other questions, such as:

- *What happens if some of the assumptions change?*
- *Just* how *likely is this set of results? How likely are other possible results?*
- *What must happen in order to obtain the results pictured here?*
- *What can we do to maximize results?*

Answers to questions like these are addressed in building blocks that deal with sensitivity, risks, and contingencies.

Sensitivity Analysis

Sensitivity analysis asks "What happens if the assumptions change? Remember that the financial model and its cash flow summary are the product of "hard" (relatively certain) data, but also *assumptions about values and trends during the analysis period*, of such factors as:

- Business volume or sales revenues
- Market growth rate
- Competitor business volume in the same market
- Salary levels
- The rate of inflation
- Prices of raw materials or commodities
- Prices of assets (e.g., land, buildings, stock, mineral rights)
- Time required for staff to learn new skills
- Time required to develop and ship new products

What happens to case results if the values assumed for the case are wrong? Will the overall net cash flow change much? How will this affect the estimated payback period or IRR? Such questions need to be answered on an assumption-by-assumption basis, because changes in some assumptions may impact results profoundly, while other assumptions can change greatly with little effect on results. This building block represents the systematic attempt to measure the sensitivity of results to changes in specific assumptions. Put another way, this analysis examines the sensitivity of your financial model's primary *outputs*, to changes in individual *input* factors.

The theory, methods, and subtleties of sensitivity analysis are beyond the scope of this document, but Figure 3 (next page) shows how results may appear. Note that two curves on the graph share a common vertical axis (total

Sensitivity Analysis

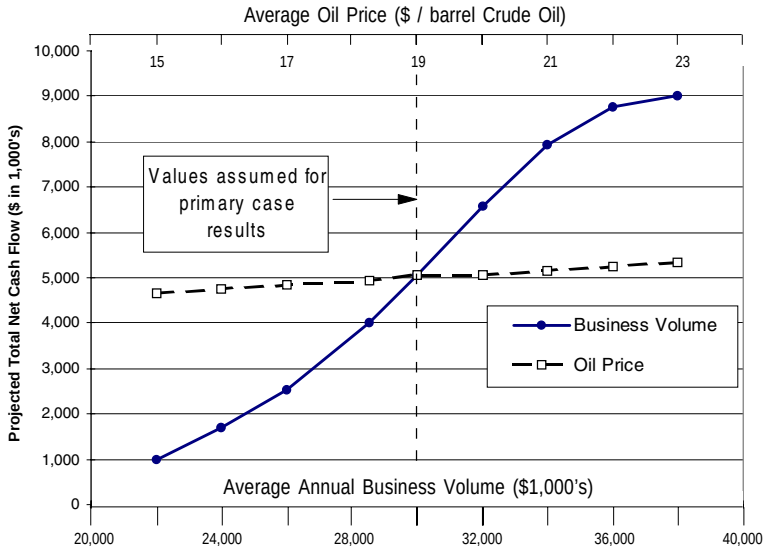


Figure 3. Sample sensitivity analysis results. The curves say that projected cash flow results (vertical axis) are sensitive to changes in business volume, but relatively insensitive to changes in average oil price.

cash flow results), but each has its own horizontal axis. In a nutshell, these curves say that overall cash flow is highly sensitive to "Business Volume," and relatively insensitive to the "Average Price of Oil." The graphs show what happens to one result while one assumption is changed but all other assumptions are held constant. Analyses like this serve several purposes:

First, they provide a rough but immediate guide to readers who may not agree with all your assumptions. They can mentally "plug in" their own preferred value for an assumption, and know something about the effect on results. Second, they greatly simplify subsequent risk analysis and simulation modeling (next building block). Assumptions or input factors that have little impact on results can be dropped from complex simulation, for instance. Third, they begin to show management what can be done to optimize or maximize results. Factors that have a strong impact on results obviously deserve the most attention from management.

Factors that have a strong impact on results obviously deserve the most attention from management.

This part of the case report should briefly identify the assumptions or input factors that have a strong impact on results, identify also those that have little impact on results, and discuss anything else that may be important to understanding the sensitivity analysis. In this regard, for instance, you may point out which assumptions are related to results in a linear fashion (such as oil prices in Figure 3) and which are not (e.g., Business Volume)[5].

Finally, when discussing sensitivity to assumptions or input factors, the implications for management are clearer if you divide them into two groups:

- Those that are completely outside your control
  These might include such things as: the rate of inflation, competitor's actions, foreign currency exchange rates, natural disasters, acts of war, or government regulation.
- Those which you *can* influence or control to some degree
  These might include such things as: skill levels of your professional staff, timely completion of related projects, achieving cost control goals, recruitment and hiring of key individuals, and many others.

5. Linear relationships between assumption variables and results (between input and output factors) often turn up in real business cases simply because such relationships are easier to model. Nonlinear relationships are especially likely if your financial model builds in *interactions* between assumptions: changes in inflation rate, for instance, are likely to change other assumptions such as salaries, and prices.

Risk Analysis

The financial statement predicts a single overall net cash flow figure. Everyone knows, however, that the actual result will not be exactly that, even if this is the single most likely result. But how likely is "most likely?" And how likely are other financial results? **Risk analysis** addresses these questions.

There are simple ways and complex ways to address "risk" in the business case, but the better methods all have this in common: they keep individual risks in view. Risks, unfortunately, are often lumped together. One common approach is simply to set higher "hurdle" rates or require shorter payback periods for proposals under consideration. If this is done without an eye on the individual risk components, the accuracy of the business case and management's ability to control risk suffer.

Methods of risk analysis are beyond the scope of this document, but we can describe briefly one that is used often: Monte Carlo simulation. This technique shows how the bottom line of the financial model changes when *all* of the important input factors (or assumptions) change at once. Very briefly, Monte Carlo asks you to identify the input factors have the most control over results (which was done in sensitivity analysis). For each important input factor, you assign minimum and maximum possible values, and then describe the likelihood the factor will have different values between its minimum and maximum (in statistical terms, describe the probability density function for the input variable). Monte Carlo's main *output* is a probability "curve" like Figure 4 (left) that lets you make statements like this: "We have a 90% chance of realizing a net gain of at least $2 million, we have a 50% chance of gaining $5 million, and we have a 10% chance of gaining $7.5 million.

Risk Analysis

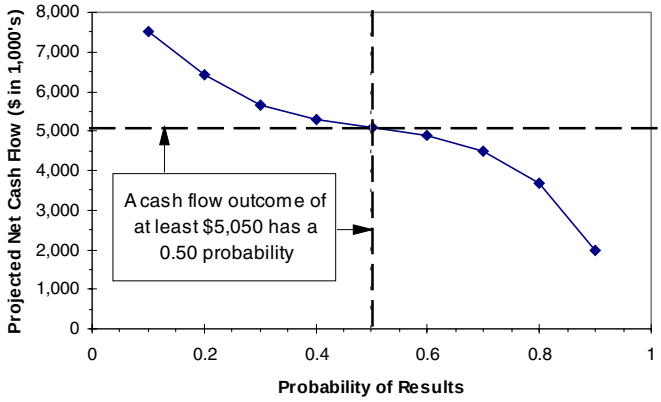


Figure 4. Sample results from Monte Carlo simulation with the financial model. The curve shows the probability that cash flow results will total at least to the level indicated on the vertical axis.

Such statements may be more useful to management than a single best estimate. If a gain of $2 million is as a "good" result, and there's a 90% chance of achieving it, the decision to go forward with the proposal is easy. If the action absolutely must return $5 million or more, than a 50% risk may be *un*acceptable. It is possible to develop this kind of information about overall results only when you know something about individual risk factors and analyze their collective behavior.

Contingencies & Dependencies

A section summarizing **contingencies** and **dependencies** can be key to making the business case predictions come about. The section reminds everyone (especially senior management) that the case subject has business objectives, and that reaching these objectives requires contributions from different people and organizations.

A computer system upgrade and new software might be intended, for instance to make reservations clerks in a car rental company 50% more productive. Simply installing the hardware and software alone may not deliver that goal. The desired productivity improvements may also require that clerks receive special training, master new skills, be managed differently, and be compen-

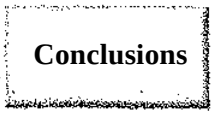
sated differently. It may also require contributions from other parts of the organization—Marketing, for instance. It may also depend on factors that are completely outside the company's control, such as the health of the overall economy.

Responsibilities should go "on the record" before *the proposed action begins.*

This section is the place to develop and summarize the practical implications of the sensitivity and risk analyses, in terms of what must be done, by whom, by when, in order to bring the expected financial results. It is also the place to show management how to maximize or improve results above the "most likely" predictions, based on the same analyses. It is important in this regard that the individual owners of the contingencies and dependencies described in this section acknowledge and affirm their responsibilities *before* the proposed action begins. Putting these commitments "on the record" ahead of time helps ensure they will be met.

Building Blocks E: Conclusions and Recommendations

Blocks in this section address issues that were raised initially in the Introduction (or Background, Overview, or Situation) at the beginning of the case report. Much of the preceding material intends to "let the numbers speak for themselves," but the final sections of the report interpret the numbers and connect them to objectives, decisions, and actions.



It is rarely safe to assume that readers will automatically read your financial results and analyses, and then draw the same conclusions you drew regarding the implications for decisions or actions. Use the **conclusions** section to state the complete "case," tersely but completely, supporting your reasoning with evidence from the preceding sections. This section will be very weak if it is nothing more than a simple list of major financial projections.

Effective conclusions sections are generally organized around the business objectives addressed by the subject of the case. If the subject of the case is meant to increase productivity, increase sales, reduce costs, solve quality problems, shorten development time, provide extra capacity, or improve customer service, for instance, then the conclusions section should focus on the expected contribution to these objectives in terms of the results and analyses developed earlier.

All of the important decision criteria necessary for the case to achieve its purpose should be presented and evaluated here, as well as any helpful interpretation of results the author can provide. If, for example, net cash flow and payback period are both important criteria for the audience, and if the analysis produces a strong instance of one criterion but a weak instance of the other, then the relative importance of the two for the immediate setting should be discussed.

The conclusions section is also the place to point out any surprising or unexpected results of the analysis and to discuss any findings that could be misinterpreted.

Recommendations

Explicit recommendations for the audience should come at the end of the case report. They are, after all, based on the preceding conclusions, which are based on preceding analyses.

Even when the author's recommendation is obvious and known to all (*"Fund my proposal!"*), we suggest including a formal recommendation statement. For example:

Based on the short payback period, the relatively low risk associated with this investment, and the losses in revenue and profits Acme Corporation currently suffers due to lack of manufacturing capacity, we recommend:

1. *Approval of $7.5 million capital funding for manufacturing equipment and increased floor space, as proposed.*
2. *An increase of $2.5 million in the operating budget for fiscal year 1999, above currently planned levels, to cover additional wages, retooling, power consumption, and other operating expenses described in the capacity increase proposal.*
3. *That implementation of the capacity increase proposal to begin in January 1998 and be completed by October 1998.*

A good recommendations section brings closure to the case and, when appropriate, reminds the audience that "the ball is now in their court." Note that the example takes this opportunity to state for the last time *why* the action is recommended.

Finally, you can use the recommendations section to remind the audience once more to give special attention to important contingencies or dependencies.

Further Information

Solution Matrix White Papers

The following Solution Matrix White papers are available at no charge.

- What's a Business Case? and Other Frequently Asked Questions
- The IT Business Case: Keys to Accuracy and Credibility
- Business Case Essentials: A Guide to Structure and Content

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About the Author

Marty J. Schmidt, M.B.A. Ph.D., is founder and President of Solution Matrix Ltd. Since the mid 1980s, he has specialized in developing business case analyses and methodology, focusing primarily on information technology, communications, and financial services industries. He has served as Senior Management Consultant with several major consulting firms. Dr. Schmidt has also published a college textbook on applied statistics and many articles on management topics. He is considered a leading authority and speaker on the subjects of business case analysis, financial justification, and IT investments.

About Solution Matrix Limited

Solution Matrix Ltd. delivers consulting services, training, tools and guides, to help business people apply the methods and concepts presented in this document. Since the mid 1980s, Solution Matrix consultants have delivered successful business case solutions for companies across a wide range of industries and sizes, in North America and Europe. Solution Matrix Ltd. is based in Boston, Massachusetts.

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