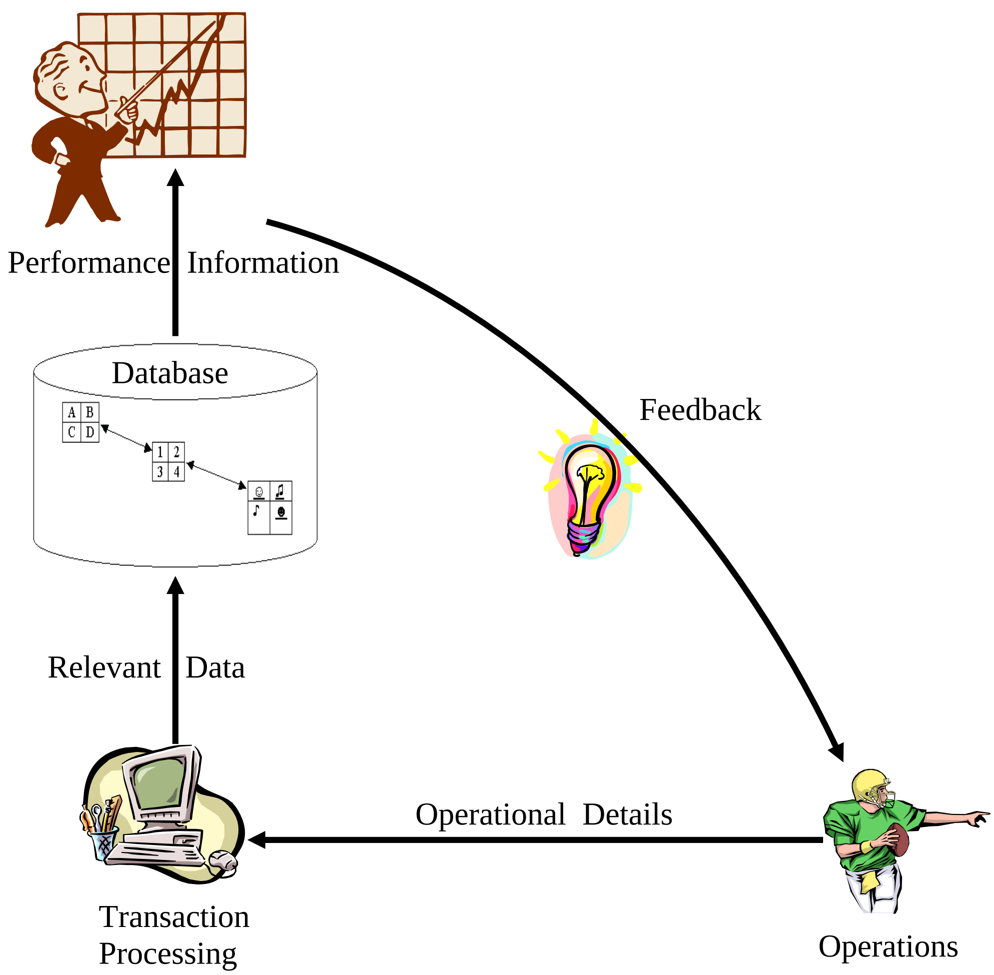
MIS Group Project Guidelines



A. Report Structure and Content

Your section headings should be numbered hierarchically, and their contents should be consistent with those specified below. All the **bold, underlined words** are section headings and should appear exactly as shown.

The title of the report:

The <name of the selected business process> Business Process
at <name of the organization>:
A Systems Study

Acronyms used in this document:

BP: Business Process
BPO: Business Process Owner (the manager who is responsible for the BP)

Note that most of the sections in this report have two parts:

- Part A: which describes something as it currently exists, as though taking a photograph of it
- Part B: which critically analyzes the above, and offers a possible redesign of it (if warranted)

1. One-sentence Summary

Summarize your report in a single sentence, avoiding any details that are explained only later in the paper (such as names or acronyms). This summary needs to stand on its own and make sense.

A hospital patient billing system can create more customer satisfaction by tracking and minimizing billing errors.

2. Executive Summary

This is the expanded, one-page version of the above.

3. The Existing System

3.1. The Business

What business is the organization in? Describe its market (who has what need), product/service (how the above need is satisfied), and competitors (who else is satisfying that same need of that same customer). What is the value-added it provides? If the company is a diversified conglomerate, focus only on the strategic business unit in which the BPO works.

3.2. The Structure

Show and discuss the overall organizational structure using an organization chart. With the exception of the BPO, do not show names of specific individuals on this chart. Instead, show their title/function. Highlight (by any visual means of your choice) the box in which the name and the title of the BPO appear.

3.3. The Business Process: The Operational Side

3.3.1.A. Narrative Description

Describe, in narrative form, the step-by-step logic/procedure by which this business process works. This description should clearly indicate what triggers the process (i.e., when are the wheels set in motion?), who performs what activity, in what sequence, and what terminates the process.

Note that your description must cover all *(raw) data capture* activities, such as when a customer, employee or vendor fills out a form (whether on paper or online) or electronically transmits some data.

3.3.1.B. Narrative Description ➔ Critique & Redesign

Critique the above process. What opportunities do you see for improving it?
Does the BP consist of all the right steps? Are they sequenced properly?
Can some of the steps be beneficially automated?
To the extent possible and desirable, redesign the operational system, showing very clearly the points of departure from the existing system (i.e., how the existing system was modified).

3.3.2.A. Graphic Description

Describe the above narrative in a swimlane diagram. The symbols you use and the way you use them must be consistent with their explanation at: http://zimmer.csufresno.edu/~sasanr/FresnoPW/Public_Works_Dept/Legend.pdf. In case you need to use symbols that are not included on this list, feel free to invent your own, but make sure to explain them in a legend.

Again, your swimlane diagram must include, among others, all *(raw) data capture* activities, such as when a customer, employee or vendor fills out a form (whether on paper or online) or electronically transmits some data.

3.3.2.B. Graphic Description ➔ Critique & Redesign

Re-draw the swimlane diagram in 3.3.2.A., this time incorporating the improvements suggested in 3.3.1.B. These improvements are generally of the following types:

- A new element is added to the existing diagram
- The details of an existing element of the diagram are changed (such as in what sequence it is done, or in which swimlane it is performed)
- An element of the diagram is deleted

3.3.3.A. Data Generation

Consistent with data capture activities described above in both narrative and diagram forms, document all the forms (whether printed or online) that are used to capture the raw transaction data. Show each in a separate appendix. Appendix I shows a sample data capture form.

3.3.3.B. Data Generation➔ Critique & Redesign

Are all the relevant data captured?
Are the formats in which the data are captured (both printed and online) appropriate and optimal?

3.4. The Business Process: The Reporting Side

3.4.1.A. The Reports

What reports are currently produced for the BPO to enable him/her to measure the performance of the BP? Number the reports: R-1, R-2, R-3, etc. In the interest of confidentiality, change the contents of the reports and replace the real names, figures, and financials with bogus ones. But please leave the overall format of the report unchanged. When producing sample reports with bogus/fictitious numbers, create scenarios that reflect both satisfactory performance (good news, positive feedback) and unsatisfactory performance (bad news, negative feedback). Use color to distinguish the two as follows: Show the most positive information (good news) in green; show the most negative information (bad news) in red. Negative feedback (e.g., sales are down) prompts the BPO to delve deeper and deeper into its root causes, whereas positive feedback (e.g. production costs are right on track) may be taken for granted and not cause the BPO to investigate WHY it is positive. As such, good news information might provide little justification for diagnosis and drill down to figure out what has gone right. On the other hand, bad news information provides negative feedback that prompts the BPO to delve deeper and deeper.

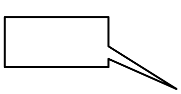
3.4.1.B. The Reports ➔ Critique and Redesign

Is the information system producing the right reports in terms of:

- *Frequency*: Is the information provided as speedily and frequently as needed (hourly, daily, weekly, etc.)?
- *Level of aggregation*: Is the information processed at a sufficiently high level, or is it still data that needs to be further processed manually by the BPO?
- *Form*: Is the information provided in the optimal format (graphic vs. numeric)?
- *Content*: Is the right information provided to the BPO to judge the effectiveness and efficiency of the BP?
- Etc. (feel free to insert your own criterion here)

3.4.2.A. The KPI

What KPI (Key Performance Indicators) are currently used to measure the performance of the BP? These can be inferred from the reports discussed above. The KPI are those variables (generally, but not always, column headings in a report) for which various green/red values are shown. The KPI are not the numbers per se but what the numbers represent. Number the KPI: KPI-1, KPI-2, KPI-3, etc.



Go back to the reports shown in 3.4.1.A. and, for each column showing the value(s) of a KPI, create a rectangular callout box which points to that column and in which the number of that KPI is written (see Appendix II).

Each KPI should be stated in such a way that the statement equating it to a single number makes sense. For example: the number of units produced per worker = at least 10 per hour would be incorrect because of the extra verbiage ***at least*** and ***per hour*** appearing on the right side of the equal sign. You get rid of them by incorporating them into the KPI itself: The minimum number of units produced per worker per hour = 10

In the above formulation, only a number (10) appears on the right side of the equal sign.

3.4.2.B. The KPI ➔ Critique and Redesign

Do you agree with the KPIs as formulated by the organization (i.e., reflected in the reports)? Can they be improved? Are there any important KPI not currently reported on?

3.4.3.A. The Standards

The standard associated with a KPI is the numeric value assigned to it that represents the expected and acceptable level of performance. It is the basis on which we separate good news from bad news. These numbers are to be extracted from the reports if they happen to be there. Otherwise, they need to be derived in an interview with the BPO.
Explore how the organization developed these standards: On what basis did they come up with these specific numbers?

3.4.3.B. The Standards ➔ Critique and Redesign

Do you agree with the process by which the standards were set? With the standards?

3.5. The Business Process: The Objectives and Their Relationships

3.5.1. The Objectives

Formulate the objectives associated with each KPI identified above. Once you have formulated the KPI and their corresponding standards, the derivation of objectives is rather straightforward:

Objective: To <verb> <KPI> = <Standard>

For example,

To assure that the minimum number of units produced per worker per hour is 10.

A more fluent way of saying the same thing would be:

To produce at least 10 units per worker per hour

Sometimes objectives, especially those at higher organizational levels, are stated a bit more generally, hence more flexibly:

To maximize worker productivity

Other examples:

KPI = Amount of nitrogen oxide reduction achieved per year
Standard = 20%
give rise to the objectives
O = To reduce the amount of nitrogen oxide by 20% a year, or more generally
O = To reduce pollution

KPI = Total number of engines retrofitted with the use of federal grant funds per month
Standard = 500
give rise to the objective
O = To retrofit 500 engines with the use of federal grant funds per month, or more generally
O = To retrofit engines with cleaner burning technology

Number the Objectives: O-1, O-2, O-3, etc.

Note the relationship between the reports, KPI, standards, and objectives:

	Report →	KPI/Standard →	Objective
1	R-1	KPI-1/Standard-1	O-1
2	R-2	KPI-2/Standard-2	O-2
3	R-3	KPI-3/Standard-3	O-3
4	R-4	KPI-4/Standard-4	O-4

Of course, it is possible that a single report may embody multiple KPIs.

While it is **not** required that you show your work explicitly in the form of such a table, you **are** required to use such a table "in your head" to make sure that the flow from the reports to the KPIs to the objectives is clear and logical. There should be no broken links.

3.5.2. The Hierarchy of Objectives

Recall that the objectives identified above were derived from the reports currently produced in this organization as a basis for monitoring the selected BP. These are the objectives the organization is currently pursuing as revealed by its behavior, whether they know it (or admit it) or not! Hence, it is important to justify these objectives (i.e. assure the organization is pursuing the ***right*** objectives and solving the ***right*** problems) by putting them in the context of the highest objectives pursued by the organization. This can be done by constructing the hierarchy of objectives.

Identify a very high-level objective pursued by this organization about which there would be no doubt or controversy.

- With profit-oriented organizations, these would typically be maximizing profitability, maximizing revenue, minimizing expense, or some such.
- With nonprofit organizations, these would be related to the very reason the organization came into being … its mission. But beware of formal mission statements! They are typically too generic and meaningless to be useful. A useful mission statement must specify who the stakeholders are and how the organization uniquely serves them. Qualifiers such as "highest level of quality", "highest ethical standards" are implied, and do not need to be stipulated. Hence, identify the working mission (not necessarily the formally stated mission) of the organization.

Once you have identified the highest level objectives of the client organization, link them, via a hierarchy of objectives to the objectives discussed in section 3.5.1. Do this by inserting appropriately formulated intermediate objectives.

For example, the mission of an organization at its highest level may be *To reduce pollution in Central Valley*. An objective discussed in section 3.5.1. was *To retrofit existing engines with cleaner burning technology*. Appendix III shows a hierarchy of objectives linking these two extreme levels. The objectives inserted to the side in gray boxes are shown to reveal the larger picture. You are not *required* to show these peripheral (i.e., relative to the scope of this project) objectives, but are *encouraged* to do so.

You probably identified several objectives in section 3.5.1. These objectives are related to one another either vertically or horizontally.

- If vertically, then one is placed on top of the other in the hierarchy, such as To *reduce heavy duty mobile* source emissions is placed on top of To retrofit existing engines with cleaner burning technology.
- If horizontally, then one is placed next to the other, such as To provide incentives to purchase new equipment is placed next to To retrofit existing engines with cleaner burning technology.

4. Analysis and Feedback

4.1.A. Analysis

Describe an instance (real or fictitious) of reports discussed in section 3.4.1. A. containing negative news about performance relative to the KPIs. Do some real acting/role playing to bring this situation to life. Assign each presenter a role, write a script, rehearse, and present a short skit bringing this negative news to life for your audience.

In the current organizational setting, how would this "bad news" be analyzed and interpreted? What drill-down mechanisms (if any) would be used to get better insights into the sources/causes of the trouble? How far, and in terms of what variables, would the information be capable of being drilled down?

4.1.B. Analysis ➔ Critique & Redesign

Is the information analyzed properly?
Are the drill down methods effective? Do they cover all the variables in terms of which dill down can take place?
What better system could be put in place to provide flexible, useful and speedy analytics?

4.2.A. Feedback

What mechanisms are used in the organization to provide feedback to those running the BP? Which players in the process receive the feedback, and how? How is negative feedback converted into a positive plan of action? What learning takes place? What insight/knowledge is generated? What operational changes would take place as the result of the analysis in section 4.1.A.? If the organization has recently gone thru such questions/answers, try to capture as much of its tone in your report. If not, offer suggestions for doing so.

4.2.B. Feedback ➔ Critique & Redesign

Is the right feedback provided to the right people at the right time? The right form?

B. Writing Style

Write the report as a professional project write-up rather than an academic paper. Use the outline format (with numbers or bullets showing hierarchical division) to explain details. Do not confuse using the bullet outline form (such as used on pages 6 and 7 of this document) with the “telegraphic outline” form (typically used in PowerPoint presentations) in which each bullet contains a single word or phrase without any explanation of what it means or what it relates to.

Type single-space, using Times New Roman 12-point font for the main text. Do not use any covers or binders to hold the pages together. Just staple them at the top left corner. Provide a table of contents, with page numbers specified. There is no constraint pertaining to the length of the report.

To further clarify your writing, use every opportunity to show:

- Samples of the forms/documents/reports of the current system.
- Sketches (with bogus data) of the forms/documents/reports of the proposed system.

If you are using any acronyms outside the scope of those defined in the course (such as TPS, MRS, etc.), then list all of them alphabetically in an appendix and define/explain each.

If any diagram is too small or is unreadable for any other reason, it will be treated as nonexistent.

Every table/diagram/graph/form needs to be numbered sequentially and referred to as such in the body of your paper. Large diagrams should be placed in numbered appendices at the end of your report.

If you use any special symbols in a diagram, explain them in a legend.

In addition to turning in a hard copy, you are required to email the final version. Please make sure you send me a *single* word file. If you need to refer to spreadsheets or other types of files, incorporate them into the word document; do not send them as separate documents.

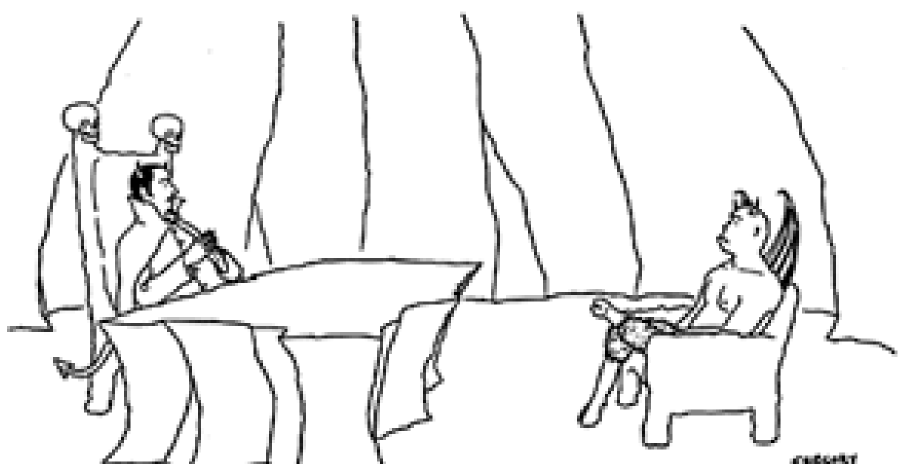
C. Oral Presentation

The team leaders will not take part in the oral presentations. They may be involved in the discussion.

Team leaders will receive all the points intended for the oral presentation of the project findings to class despite their not taking part in the presentation itself. This is because of the substantial amount of time and effort they will be spending with their group informing them about their company, its operations, and all the other facets relevant to the project.

In your oral presentation, please observe the following points:

- Avoid staring at the instructor. Since this is a presentation to the entire class, please look at them!
- All your PowerPoint slides should be based on the contents of your written report. Do not include any material (particularly diagrams) in the oral presentation that is not also included in the written report.
- Diagrams should be large enough to be legible. If a diagram is too small to read, you will not receive any points for it; it will be considered nonexistent.
- Please do NOT write a large amount of text on a slide and then read the words verbatim to class off the screen. Each slide should contain only the highlight/summary of the point being made; the details should be communicated orally to class.
- Keep eye-to-eye contact and conversational tone at all times.



"I need someone well versed in the art of torture—do you know PowerPoint?"

Appendix I -- Sample Data Capture Form

IN-TAKE

Date ________ First Name ______________________ Last Name __________________________

Company Name ____

Phone ___________________________________

Address _________________________________ City _____________________ Zip ___________

Type of Business ______________________________ Length of Time in Business ___________

Details ____

____

Appointment: Date ________ Time __________ Location ____________ Counselor ___________

Example of rectangular callout box indicating a KPI for …
KPI-2 = Number of new accounts created per year.

KPI-2

Client Number	Client Name Address City Name	TOTAL SALES 8/1/2004 2003 2002	# of accounts 8/1/2004 2003 2002	Avg. Balance 8/1/2004 2003 2002	Last New Business Current Fees	Cumulative Recovery %	Average age at Placement
01-4948	XYZ Hospital	5,120,022.93	5,899	$867.82	7/2004		
	123 MIS Lane	4,503.038.12	5,019	$897.19		36.9	93 days
	Anytown, USA	4,203,292.92	4,910	$856.06	25/35%		

Sales have grown this year over past years data

Number of accounts verifies growth in sales this year

2004 average balance is consistent with previous years

New accounts sent last month

Fee schedule is competitive for this area?

Cumulative recovery is well above the set benchmark for this class of business.

Average age of accounts at listing is well below the norm for this class of business.

Client Number	Client Name Address City Name	TOTAL SALES 8/1/2004 2003 2002	# of accounts 8/1/2004 2003 2002	Avg. Balance 8/1/2004 2003 2002	Last New Business Current Fees	Cumulative Recovery %	Average age at Placement
01-4948	XYZ Hospital	2,120,022.93	3,494	$606.76	04/04		
	123 MIS Lane	4,503.038.12	5,019	$897.19		15.8	211 days
	Anytown, USA	4,203,292.92	4,910	$856.06	25/35%		

Sales are down over last two years...

Number of accounts verifies total sales drop

2004 average balance is down, but not enough to justify the drop in total sales

KEY INDICATOR

No new accounts since April 2004

Is current fee schedule competitive for this area?

Recovery is below the set benchmark for this class of business.

Is the average age of account when listed too high and affecting the recovery rate?

Appendix III -- Sample Hierarchy of Objectives