



**Advance Studies & Research**

May 31, 2010

# **ATTENTION**

## **Doctoral Qualification Examination**

**(DQE)**

**Fall 2010**

<b>Exam Date:</b>	<b>September 29, 2010</b>
<b>Registration Deadline:</b>	<b>August 31, 2010</b>

**Time:**

**CE Program:** 10:00 am to 2:00 pm

**EM Program:** 10:00 am to 5:00 pm

For Information:

Please contact AS&R Department.

Tele: 8432273 (Ext. 309)

No application will be accepted without proof of submitted DQE Fee.
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## **Advance Studies & Research**

### **DQE Pattern EM Program (Fall 2010)**

The written part of DQE for Fall - 2010 semester is of 6 hours paper and it comprises of the following questions:

- 1. English Essay**
- 2. Case-study**
- 3. Paper Review**
- 4. Application of Statistical Analysis Methods**

## GUIDELINES FOR DQE EXAMINATION

The candidates for DQE will be examined for following four areas with equal preference:

- a. Essay Writing
- b. Review of Technical Papers
- c. Analysis of Case Study
- d. Statistical Analysis

The exam will be for six hours. Following are the guidelines for the examination:

### 1. Essay Writing

The essay should contain the following:

- An **introduction**, which introduces the subject and contains an explanation of your position. The objective is to demonstrate that you understand the essay question and have formed a response to it.
- A **body**, which develops your argument using research and analysis. The process of analysis may include comparing and contrasting, differentiating among several ideas or events, critiquing a variety of perspectives, interpreting results, or drawing inferences. Be sure to identify the sources of your information or ideas.
- A **conclusion**, which summarizes the research and analysis presented in the essay and sets forth your conclusions. Drawing on ideas already presented, you should demonstrate that your conclusions support the position you put forward in the opening paragraphs. Your aim is to convince the reader that your position is reasonable and valid.

You could expect any topic for an essay, e.g., “The new white is black”, green, Loneliness, etc. Your essay will be judged based on the seven criteria outlined below.

- a. **Focus:** Examines how well your essay responds to the questions and/or tasks presented. Does the essay provide specific and thorough responses to all of the questions and/or tasks presented? An excellent essay provides specific and thorough responses to all of the questions and/or tasks presented.
- b. **Organization:** Looks at the structure of your essay and the strength of your thesis statement. Does the essay have an organized structure? An excellent essay has an introduction, a body and a conclusion. The organization includes an excellent thesis and moves the reader through the text.
- c. **Analysis:** Considers how well your arguments are supported. Are the discussion points argued coherently and supported with research? In an excellent essay all of the arguments are strong, well detailed and extremely well supported by convincing and accurate evidence.

- d. **Conclusions and Recommendations:** Examines how well conclusions and recommendations are expressed and how closely they follow from the analysis. Conclusions and recommendations should not present new information that is not a part of the analysis: Does the essay provide sound conclusions and recommendations that follow from the analysis? An excellent essay provides a coherent and comprehensive summary based on the analysis. All of the solutions to the problems presented are specific and well thought out.
- e. **Originality:** Looks for creativity in writing. Does the writer use and develop ideas creatively? In an excellent essay, the writer proposes and develops creative ideas, through the selection of cases and/or examples, to present novel analysis and alternatives throughout the entire essay.
- f. **Voice:** Considers how well your writing engages the reader. Is the essay compelling and/or engaging? An excellent essay fully captures the reader's attention. The flow of the essay keeps the reader engaged throughout the entire text.
- g. **Style and Mechanics:** Examines how well the essay is written in terms of grammar, spelling, and punctuation, as well as word choice and sentence construction. Is the essay well written? An excellent essay uses standard writing conventions correctly, e.g. grammar, spelling, and punctuation, with no errors. There are no errors in word choice and all sentences are well constructed.

## 2. Review of Technical Paper

The paper review serves several roles, although the precise combination varies with the type of review. The most important reasons for review include finding deficiencies in technical approach and analysis, computation and ignorance of related research etc.

Each of these categories requires a referee with broad knowledge of the topic to recognize these deficiencies. Even simple arithmetic errors need an expert to detect them. Errors of the " $2 \times 3 = 7$ " type are rarely spotted directly; rather, a referee will sense that something is wrong with an argument, and then trace it back to the arithmetic error. Reviews are useful to detect a second kind of problem. Two examples are style and grammar that confuse the reader. The referee should alert the author to style and grammar errors, especially if they are serious. Certainly the author will want his or her paper read, understood, and appreciated by as many people as possible.

### TYPES OF REVIEWS

There are three types of reviews: "**anonymous**", "**friendly**", and "**internal**". In an anonymous review, the editor solicits a referee to review the article. The referee returns the review to the editor who, after removing any identification, gives it to the author. Academic journals typically use the anonymous review, but it is also used for books, articles in proceedings, and some reports.

Many authors send drafts of articles or reports to other experts and solicit their comments. This is called a "friendly" review. In such cases, the reviewer is known to the author. The timid reviewer may be reluctant to harshly criticize a paper, so these are less valued than an anonymous review (although a true friend should be the severest critic in private).

Many laboratories and research institutes require that all papers be internally reviewed prior to submission to a journal or proceedings. The quality of such reviews is highly variable, from extremely rigorous to worthless beyond protecting the author from the most outrageous errors.

In all cases, however, the procedure to review a paper is fundamentally similar. This guide assumes that you are **anonymously reviewing** a paper for an academic journal.

## WHAT TO WRITE IN THE REVIEW

Here is a format to WRITE A REVIEW.

### *(1) Title and author of paper*

### *(2) Summary of paper*

This needs to be only 1-3 sentences, but it demonstrates that you understand the paper and, moreover, can summarize it more concisely than the author in his abstract.

### *(3) Good things about the paper (one paragraph)*

This is not always necessary, especially when the review is generally favorable. However, it is strongly recommended if the review is critical. Such introductions are good psychology if you want the author to drastically revise the paper.

### *(4) Major comments*

Discuss the author's **assumptions, technical approach, analysis, results, conclusions, reference**, etc. Be constructive, if possible, by suggesting improvements.

### *(5) Minor comments*

This section contains comments on style, figures, grammar, etc. If any of these are especially poor and detract from the overall presentation, then they might escalate to the 'major comments' section. It is acceptable to write these comments in list (or bullet) form.

### *(6) Recommendations*

Some referees will shower papers with invective even when they like it. Three major categories of recommendations are: "publish as is", "publish after corrections have been made", and "reject". Sometimes the recommendations fit better in the cover letter.

## WHAT MAKES A GOOD PAPER?

Good papers contain something of merit. You should be able to find it (if it exists). However, the item of merit may be poorly presented, which can undermine the paper's value. A logical structure is the first element of a good presentation.

A standard structure for technical papers has evolved as follows:

- (1) Abstract
- (2) Introduction
- (3) Body of the Paper (technique, results, discussion)
- (4) Conclusions
- (5) References
- (6) Tables
- (7) Figures (and captions)

## 3. Analysis of Case Study

A case study is a description of an actual administrative situation involving a decision to be made or a problem to be solved. It can be a real situation that actually happened just as described, or portions have been disguised for reasons of privacy. Most case studies are written in such a way that the reader takes the place of the manager whose responsibility is to make decisions to help solve the problem. In almost all case studies, a decision must be made, although that decision might be to leave the situation as it is and do nothing.

Analyzing the case should take the following steps:

1. **Defining the issue(s)**
2. **Analyzing the case data**
3. **Generating alternatives**
4. **Selecting decision criteria**
5. **Analyzing and evaluating alternatives**
6. **Selecting the preferred alternative**
7. **Developing an action/implementation plan**

## DEFINING THE ISSUE(S)/PROBLEM STATEMENT

The problem statement should be a clear, concise statement of exactly what needs to be addressed. Asking yourself the following questions may help:

1. **What appears to be the problem(s) here?**
2. **How do I know that this is a problem?** Note that by asking this question, you will be helping to differentiate the symptoms of the problem from the problem itself. **Example:** while declining sales or unhappy employees are a *problem* to most companies, they are in fact, *symptoms* of underlying problems which need to be addressed.
3. **What are the immediate issues that need to be addressed?** This helps to differentiate between issues that can be resolved within the context of the case, and those that are bigger issues that needed to be addressed at another time (preferably by someone else!).
4. **Differentiate between importance and urgency for the issues identified.** Some issues may appear to be urgent, but upon closer examination are relatively unimportant, while others may be far more important (relative to solving our problem) than urgent. You want to deal with important issues in order of urgency to keep focussed on your objective. Important issues are those that have a **significant** effect on:
  1. profitability,
  2. strategic direction of the company,
  3. source of competitive advantage,
  4. morale of the company's employees, and/or
  5. customer satisfaction.

## ANALYZING CASE DATA

In analyzing the case data, you are trying to answer the following:

1. **Why or how did these issues arise?** You are trying to determine cause and effect for the problems identified. You cannot solve a problem that you cannot determine the cause of! It may be helpful to think of the organization in question as consisting of the following components:
  1. **resources**, such as materials, equipment, or supplies, and
  2. **people** who transform these resources using
  3. **processes**, which creates something of greater value.

Now, where are the problems being caused within this framework, and why?

2. **Who is affected most by this issues?** You are trying to identify who are the relevant stakeholders to the situation, and who will be affected by the decisions to be made.
3. **What are the constraints and opportunities** implicit to this situation? It is very rare that resources are not a constraint, and allocations must be made on the assumption that not enough will be available to please everyone.
4. **What do the numbers tell you?** You need to take a look at the numbers given in the case study and make a judgment as to their relevance to the problem identified. Not all numbers will be immediately useful or relevant, but you need to be careful not to

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overlook anything. When deciding to analyze numbers, keep in mind why you are doing it, and what you intend to do with the result. Use common sense and comparisons to industry standards when making judgments as to the meaning of your answers to avoid jumping to conclusions.

### GENERATING ALTERNATIVES

This section deals with different ways in which the problem can be resolved. Typically, there are many (the joke is at least three), and being creative at this stage helps. Things to remember at this stage are:

1. **Be realistic!** While you might be able to find a dozen alternatives, keep in mind that they should be realistic and fit within the constraints of the situation.
2. The alternatives should be mutually exclusive, that is, they cannot happen at the same time.
3. ***Not making a decision pending further investigation*** is not an acceptable decision for any case study that you will analyze. A manager can always delay making a decision to gather more information, which is not managing at all! The whole point to this exercise is to learn how to make good decisions, and having imperfect information is normal for most business decisions, not the exception.
4. **Doing nothing** as in not changing your strategy can be a viable alternative, provided it is being recommended for the correct reasons, as will be discussed below.
5. Avoid the ***meat sandwich*** method of providing only two other clearly undesirable alternatives to make one reasonable alternative look better by comparison. This will be painfully obvious to the reader, and just shows laziness on your part in not being able to come up with more than one decent alternative.
6. Keep in mind that any alternative chosen will need to be implemented at some point, and if serious obstacles exist to successfully doing this, then you are the one who will look bad for suggesting it.

Once the alternatives have been identified, a method of evaluating them and selecting the most appropriate one needs to be used to arrive at a decision.

### KEY DECISION CRITERIA

A very important concept to understand, they answer the question of how you are going to decide which alternative is the best one to choose. Other than choosing randomly, we will always employ some criteria in making any decision. Think about the last time that you make a purchase decision for an article of clothing. Why did you choose the article that you did? The criteria that you may have used could have been:

1. fit
2. price
3. fashion
4. color
5. approval of friend/family

6. availability

## **Key decision criteria should be:**

1. Brief, preferably in point form, such as
  1. *improve (or at least maintain) profitability,*
  2. *increase sales, market share, or return on investment,*
  3. *maintain customer satisfaction, corporate image,*
  4. *be consistent with the corporate mission or strategy,*
  5. *within our present (or future) resources and capabilities,*
  6. *within acceptable risk parameters,*
  7. *ease or speed of implementation,*
  8. *employee morale, safety, or turnover,*
  9. *retain flexibility, and/or*
  10. *minimize environmental impact.*
2. Measurable, at least to the point of comparison, such as alternative A will improve profitability more than alternative B.
3. Be related to your problem statement, and alternatives. If you find that you are talking about something else, that is a sign of a missing alternative or key decision criteria, or a poorly formed problem statement.

## **EVALUATION OF ALTERNATIVES**

If you have done the above properly, this should be straightforward. You measure the alternatives against each key decision criteria. Often you can set up a simple table with key decision criteria as columns and alternatives as rows, and write this section based on the table. Each alternative must be compared to each criteria and its suitability ranked in some way, such as met/not met, or in relation to the other alternatives, such as better than, or highest. This will be important to selecting an alternative. Another method that can be used is to list the advantages and disadvantages (pros/cons) of each alternative, and then discussing the short and long term implications of choosing each. Note that this implies that you have already predicted the most likely outcome of each of the alternatives. Some students find it helpful to consider three different levels of outcome, such as best, worst, and most likely, as another way of evaluating alternatives.

## **RECOMMENDATION**

You must have one! Business people are decision-makers; this is your opportunity to practice making decisions. Give a justification for your decision. Check to make sure that it is one (and only one) of your Alternatives and that it does resolve what you defined as the Problem.

## **STRUCTURE OF THE WRITTEN ANALYSIS REPORT**

The analysis report should have the following sections in this order:

1. **Title page**

2. **Table of contents**
3. **Executive summary**
4. **Problem (Issue) statement**
5. **Data analysis**
6. **Key Decision Criteria**
7. **Alternatives analysis**
8. **Recommendations**
9. **Action and Implementation Plan**
10. **Exhibits**

## **4. Guidelines to Statistical Analyses**

Please study all of the topics given in the attachment. While it is not necessary to study from the recommended text book, it is important to study the same topics from a very current and up to date text book. *I repeat*, please make sure that the same topics and sub-topics are given in the text book which you are consulting.

The question on statistical analysis may consist of various parts. Some parts may be conceptual in nature, while others may be numerical based. Hence it is important to be prepared to answer both types of questions. Answer the questions in a logical step by step fashion.

For the conceptual type of question, you will be required to write out and justify your approach and associated method or technique of answering the question. Hence you will have to explain the reason or reasons why you are using this approach and method. This means that you have to learn the assumptions behind statistics and probability. These are given in the first chapter of the recommended book. You will also have to know the assumptions and logic underlying the relevant topic.

The use of the numerical-based questions will involve the use of a calculator, as well as the use of statistical tables for the normal, t or chi-squared distributions. Please bring your own calculators. The tables will be provided to you. For the numerical--based exercise, you will be given the required data to answer the exercise. You will be given credit for writing out the formulas. Kindly attach your rough working also.

Practice the numerical questions for the topics given. Do the relevant exercises from **Review Exercises** in the recommended textbook. Get practice in all of the variety of numerical questions for the given topics in order to do the paper well. After practicing five to ten numerical exercises on each topic, you will learn the relevant formulas automatically.

You will have to learn the common formulas used for exploratory data analysis, probability, and those for the normal and the t-distribution etc. Tables on the normal distribution, the t-distribution and the chi-square distribution will be given.

### **Recommended Text book**

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**Elementary Statistics, A Step by Step Approach** by **Allan G. Bluman**. 5<sup>th</sup> Edition, Mc Graw Hill Inc, 2004

**This is available in the library. It is a very straightforward**

Alternative book

Neter J Wasserman, William and Whitmore, G. A. Allyn and Bacon Inc, 1988.  
Topics from “**Elementary Statistics, A Step by Step Approach**” by Bluman

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