



EXAMINER'S REPORT

AUGUST 2000

LOGISTICS MANAGEMENT

General Comments

This autumn there was an improvement on the summer. Compared to the summer the case was done well while the quantitative questions were done just as badly. So, once again, I will focus on Sections C and D in this report.

The way this course and exam is structured requires one to really get into the theory, the techniques and how to apply the ideas in practice. This follows a learning cycle. Ideally people should look at the cases early on to get an idea of the types of problems which occur. These are mixtures of marketing, logistics, mathematics and strategy. Subsequently one should get into the theory, but not spend the year learning it off. Usually it is reasonably well done. Basically I expect a clear understanding of what is in the text and some practical illustrations from outside, such as from Irish applications. The middle part of the year should be spent on the quantitative techniques, hopefully linking them into the cases and the theory, and anecdotes about Irish companies where possible.

People can get through by focusing on one of the parts, but this year there were few instances of full marks for a question. Consequently, people who failed invariably did one of the sections very poorly and were not able to compensate from another section. It is safer to prepare all the sections.

The case questions are geared at bringing one through a process of analysis, evaluation, diagnosis and prognosis. In the theory most people specifically related to the question, which is what I want. Martin Christopher's new book on Marketing Logistics seems to be working out quite well.

Quantitative questions

The idea of having two different quantitative sections is to separate the less standard from the standard, the unstructured from the straightforward application of algorithms. The **transport** question is an example of a standard application of an algorithm which many people got half right, but only one got fully correct. I have not asked it for a while because people were treating it as a "banker" and not working on other areas, which may explain the rustiness of the answers this time. It requires practice. Many did not get into the second and third parts having got a bit lost in the shadow costs.

The other such question in Section D was a standard application of **graphical linear programming** with an extra (unusual) constraint. This also seems to have not been well prepared generally. It is not a simple method; one must develop an understanding of the technique. But, if one does, it gives a great way to visualise resource limitations in management. The basics are straightforward. 1. Develop the constraints. 2. Draw the graph. 3. Find the corners most likely to be best. 4. Put these into the objective function to get the best one. Generally this was not done well, even though it is fairly routine work.

The main constraint used 18 sales minutes for each EasyCard phone and 30 minutes for each Day Mainly phone and had a limit of 60 hours over the planning period. This gives:

$$18 E + 30 D \leq 3600 \text{ or } 3 E + 5 D \leq 600$$

The added constraint of selling at least as many DayMainly as EasyCard phones becomes:

$$D \geq E \text{ or } D - E \geq 0$$

Care should be taken to determine whether this means that the upper or lower part of the feasible region is to be used. Nobody appeared to get this aspect.

Section C contained a **simulation** question. There was considerable variability in the quality of answers. Most people got the first part right, getting the intervals correctly although many missed the point that two digit random numbers are being used, hence the intervals run from 00 to 99 and not 1 to 100. After that the major point that was missed was that one should have simulated firstly the number of customers, then the number of days for which they hired a car. The key variable, therefore, was not the customer but the days. One was simulating the number of cars rented out for each day.

The other Section C question was on **stock (inventory) control**. This is a long section in the text and likely to occur every year. I was very surprised that so many people did not get the economic order quantity of 100 units, 6 orders a year, and an annual stock related cost of £96. From this the selling price of a box was $(£4.80 + £96/600)$ by 1.5 (50% mark-up) = £7.44 or 62p per ball. I expected this at a minimum and then a lot of practical calculations afterwards. I see this as a final year Graduateship subject which is used to demonstrate that graduates can develop practice in marketing decision making, which includes becoming adept at calculating costs and discounts. I have to say that I was disappointed with this aspect. A bit of practice with problems would help a lot. Also, I was hoping for some good common business sense in the answer. You should not give to the clubs a discount based on the **full** saving in selling costs. You should be able to do a better deal than that! And, there are other factors such as not wanting the business to go over to the club entirely.

That said, the overall standard was better than usual and it was obvious that the lecturers throughout all the centres had done a very good job in the case and theory aspects, and on some of the quantitative questions, and that many who failed in the summer got down to work for the repeats.