MASSACHUSETTS INSTITUTE OF TECHNOLOGY
Sloan School of Management

15.566 Information Technology as an Integrating Force in Manufacturing

SPRING 2003

Lecture # 2, 15.566 SURVEY

Greetings class –

This is the survey we mentioned in class for 15.566. The purpose of this survey will be to learn more about the background of those taking the class. This will enable us to tailor some of the assignments and content to the class' experience level. In addition, we will be asking students about other topics and companies of interest (not covered within the current syllabus).

The second part of the survey will help in selecting assignment topics for the IT manufacturing web assignment. Using a simple model which will be introduced in class today, we will ask students to individually list a pair of key manufacturing issues, as well as potential IT solutions to those problems. Subsequently, the professor will collaborate to create a taxonomy of the most pressing issues / proposed solutions, for which students (individually, or in teams) will research for the assignment. Further information on this assignment will be made available at a later date. Those taking the extra three credits for this class will be expected to develop a longer term-project using this assignment as a basis.

We hope that you take the survey seriously as it will be critical for the future content. As this class has not been taught for a few semesters, we are experimenting with modifying the content "on-the-fly". This means that we may diverge slightly from the syllabus, depending on the class' feedback and our experiences. We trust that this lack of structure will be more than compensated by an improvement in course content and your enjoyment!

As always, please feel free to contact either of us with any further comments or suggestions!

1. Program (e.g. LFM, MBA, etc. If LFM, please describe which Engineering degree you are pursuing)

2. Year

3. Undergraduate Major

4. What languages have you programmed in (if any)?

5. How many lines of code have you written in your life?
    a. None
    b. 1-100
    c. 101-1000
    d. 1001-10,000
    e. More than 10,000

6. Do you know what P = NP means? Note: Unless you have had training in theoretical computer science, we don't expect you to be familiar with the concept.
    a. Yes
    b. No

7. What other IT or manufacturing topics would you like to learn about that may not be currently addressed in the syllabus?

8. Aside from those currently invited, what other companies or speakers would you be interested in hearing present in class? While we cannot promise anything, we will endeavor to invite the most requested speakers.

9. Please describe any experience (including companies and positions) in which you have had with IT in manufacturing. We may leverage your background or contacts for possible topics and guest speakers.

10. Will you register for the extra three units for this class? **YES   NO**

Note for those without experience in manufacturing and IT: It is possible that you do not have enough experience to fill this part of the questionnaire. Try to look for information on the web that could help you answer the two questions or simply let us know that you do not have experience and leave this part of the questionnaire blank. That is fine too!

Here we ask you to individually list key manufacturing issues / problems (either which you have encountered in your work experience, or even read about). We also ask that you suggest potential IT solutions to those problems. Subsequently, the professor will collaborate to create a taxonomy of the most pressing issues / proposed solutions, for which students (individually, or in teams) will research for their term projects.

1. Briefly describe several manufacturing ISSUES or PROBLEMS. [For example, current barcode technology requires line-of-sight and significant manual effort in scanning each individual product.].

2. Describe an IT APPLICATION that can be applied to address the above business issue. [For example, Auto-ID technology enables an entire pallet of goods to be read automatically (without line of sight) and accurately with little human intervention].

It would be great if you could provide more pairs of manufacturing issues/IT applications:

We expect that the end product (due on the day of lecture no. 18) will be a simple two page website where groups will post their reports. The suggested structure of the assignment will generally follow these guidelines:

- Discussion of the BUSINESS ISSUES: which will expand upon topics introduced in question 1 above. [For example, barcode technology also has limitations on level of data provided – barcodes do not differentiate between two cans of Coke].

- Description of the TECHNOLOGICAL SOLUTION(S): including a comparison of current and proposed solutions, implementation hurdles / barriers to adoption of new technology solutions. [For example, what are the infrastructure costs for actual implementation of Auto-ID and how important are industry-wide standards to adoption?].
- Detail on SAMPLE CASES: listing of actual or pilot implementations, both users and technology suppliers, industry consortia, etc. [For example, what is the status of the Auto-ID Center's "Town Test"? Which companies are involved and when do they expect to see a payoff / return on their investment?]