

I. Introduction to the Course and to Management Information Systems in Transportation

**TMGT 7200 Management Information Systems in Transportation
Fall 2008
Online ANGEL**

10/10/2008

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When I consider this course from the point of view of the student, I think I would be interested in three questions:

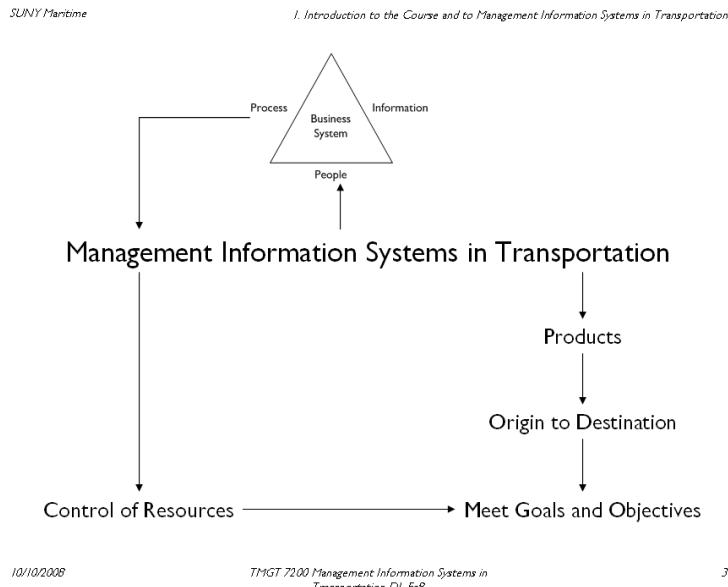
1. What are Management Information Systems in Transportation?
2. How will we study the subject?
3. How will my performance be assessed (i.e., how will my grade be assigned?)

This note takes up these three questions.



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A good way to understand this is parsing¹ the first question.



Transportation is about the movement of products from where they are (origin) to where they need to be (destination). Those that study transportation refer to this movement as providing place and time utility. That is, transportation adds value to the customer. It is the addition of this value that represents the goals and objectives of the customer.

Management² is about the control of the resources used to provide transportation to achieve goals and objectives. In this case we are thinking about the goals and objectives of the transportation provider.

To which goals and objectives should we respond?

In my opinion, the first and most important answer to the question are the goals and objectives of the customer (viz. the shipper, the consignor). This ought to be obvious, but you would be surprised how often it seems to be ignored in the commercial world.

The simple fact is that if you, as a transportation provider, do not help the customer meet his goals and objectives, then he really has little use for you.

On the other hand, you have the goals and objectives of the transportation provider. In the commercial world you are in business to provide a return to your shareholders. You need to make a profit of a magnitude sufficient to attract the needed resources.

You can appreciate that there are often conflicts between the two sets of goals and objectives. How one resolves these conflicts is beyond the scope of this course.

Information Systems³ are collections of business systems that comprise processes (how tasks are accomplished), people (who do the tasks), and information (supports the people in the accomplishment of

¹ To break (a sentence) down into its component parts of speech with an explanation of the form, function, and syntactical relationship of each part. Source: The American Heritage® Dictionary of the English Language, Fourth Edition

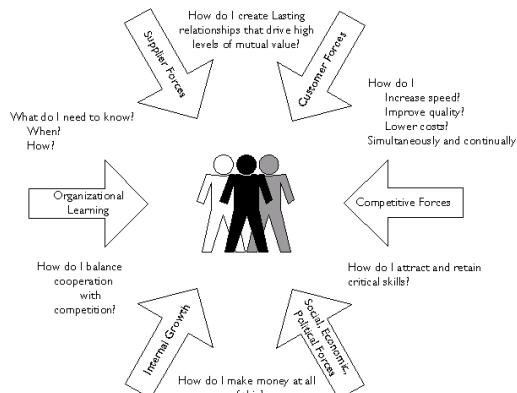
² n. administration, control, supervision The administration of a business concern or public undertaking. Management includes the actions of planning, organising, directing, coordinating, controlling and evaluating the use of people, money, materials and facilities to accomplish missions and tasks. Source: www.taskey.com/Definitions.htm

³ "A system is a perceived whole whose elements "hang together" because they continually affect each other over time and operate toward a common purpose. The word descends from the Greek verb *sunistanaí*, which originally meant 'to cause to stand together.' As this origin suggests, the structure of the system includes the quality of perception with which you, the observer, cause it to stand together.

the tasks). Information systems existed long before the modern interpretation of information technology. As suggested in the diagram, the information systems exist to support management.

All I have so far described exists within a larger context.

Business drivers and critical questions



The people in the organization, especially middle and upper management, respond to a number of business drivers.⁴

There are four external drivers:

1. Social, Economic, and Political Forces
2. Customer Forces
3. Supplier Forces
4. Competitive Forces
5. Technology Forces
6. Geoclimatic Forces

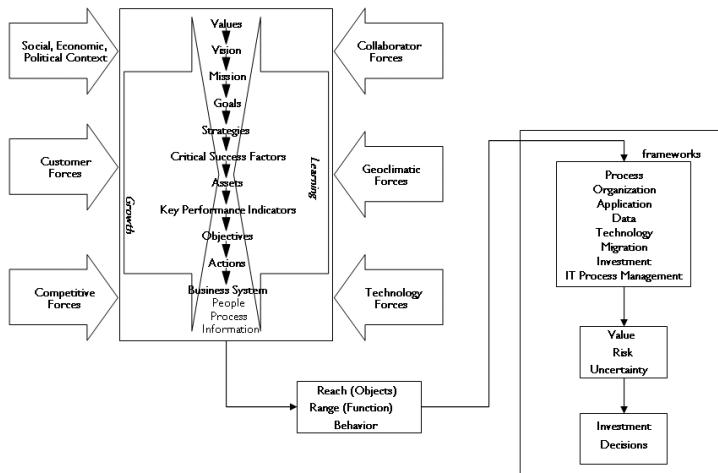
There are two internal drivers:

1. Internal Growth
2. Organizational Learning

Examples of systems include biological organisms (including human bodies), the atmosphere, diseases, ecological niches, factories, chemical reactions, political entities, communities, industries, families, teams – and all organizations. You and your work are probably elements of dozens of different systems.

P. M. Senge, R. Ross, B. Smith, C. Roberts and A. Kleiner, *The Fifth Discipline Fieldbook: Strategies and Tools for Building a Learning Organization*, Doubleday (1994), 0-385-47256-0, p 90.

⁴ A business driver is a significant force that shapes the market in which a firm operates or shapes how the firm operates in the market. It is a force that demands the attention of management.



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The diagram⁵ immediately above is meant to depict the organization, the components of which (values through business system in the vertical stack) lie within the vertical rectangle to the left.

The business drivers are shown as arrows external and internal to the organization, shaping the various components. The organization represents its needs for information technology as a set of reach (to what and whom must the technology connect), range (the functional scope needing to be supported by the technology), and the behavior (overall look, feel, and performance of the technology).

These needs are then translated into a series of frameworks which are evaluated in terms of value, risk, and uncertainty and culminate in a set of investment decisions.

The three immediately preceding diagrams represent the scope of what I intend to cover in this course.

Next,

⁵ J. Drogan, A Note on Business Drivers, Business Configuration, and Information Technology Strategy, June 14, 2005

How can we learn about Management Information Systems in Transportation?

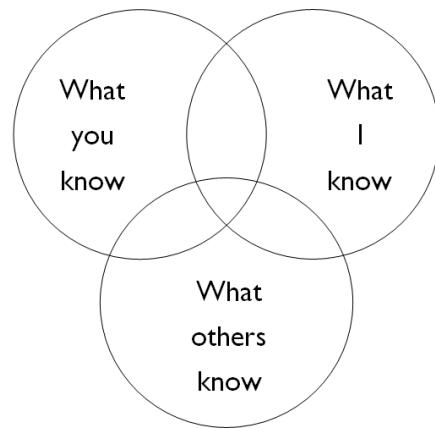
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I visualize the learning process as the understanding and intersection of three sets of information.

A mutual discovery and deeper development of shared
knowledge



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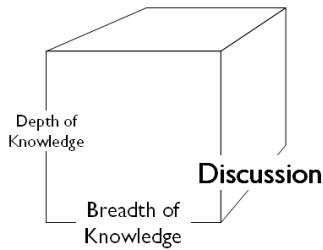
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Knowledge (which I take to mean a combination of knowledge, skills, and experience) exists in you, me, and others. Our purpose is to work together to expand your scope of knowledge to include what I and others know of the subject. In this sense, the others include those outside the course (e.g., the authors of the textbook) and your fellow students.

The framework for learning looks like this.

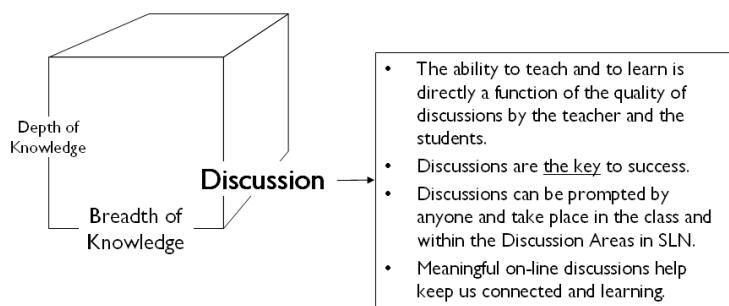
Framework for learning



The learning process combines the breadth and depth of knowledge that you, others, and I have on the subject. We then add richness to this knowledge through discussions that get at the deeper meanings and enrich our mutual understanding of the subject matter.

I want to underscore the importance of discussion with one additional graphic.

More on discussions



In short, failure to participate in the discussions will result in failure in the course.

The second critical component of this course is the project.

Class Project: A Management Information System for International Intermodal Freight Transportation

- The aim of the project is to define a Management Information System for International Intermodal Freight Transportation.
- Further details about the project, what's do when, the makeup of the project teams, and supporting material will be found in Module 15. A Management Information System for International Intermodal Freight Transportation.

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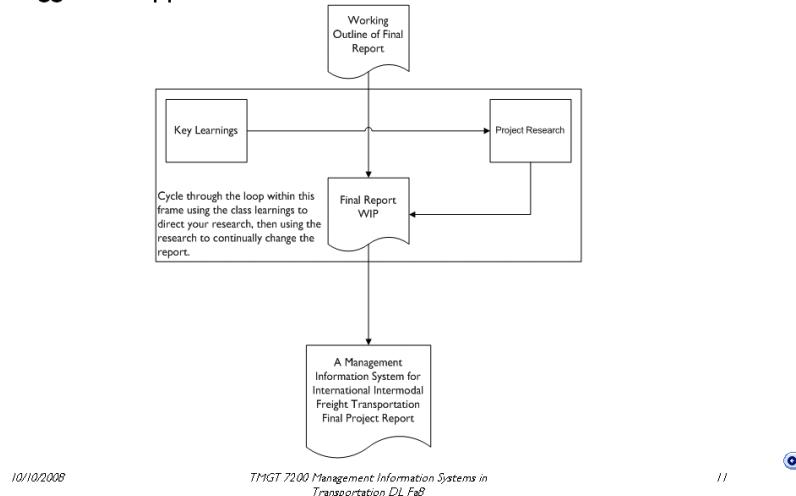
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The purpose of the project is to integrate the lessons learned during this course and apply them to a contemporary business issue.

Suggested Approach



The course project is significant learning tool. You should begin work on the project as soon as possible and work on it throughout the course, continuing to analyze, research, and amend the report so that your work on the report ends simultaneously with the course.

Let's now consider the third question.

How will performance be assessed?

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Three items provide the basis for performance assessment.

- The basis for grading is your knowledge of and ability to discuss the material covered during the course.
- This is demonstrated and judged on the basis of the quality of your work on the course project and the quality (and to a lesser extent, quantity) of your participation in the on-line discussions.
- You should strive to demonstrate an ability to single out key issues, think critically about them, and express cogent and complete fact-based arguments emphasizing analysis, conclusion and recommendation.

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My experience in the business world is that one rarely encounters multiple choice and true-false questions. This experience guides my approach to assessment of student performance.

Mastery of the content is not sufficient if you are unable to demonstrate this mastery in your written and oral communications.⁶

Assessment is a two-step process.

⁶ I know there are no oral communications in this course. I'm taking here a larger view of the communications skills you should possess in the business world.

- On-line Discussions: 65 maximum points (13 discussions × 5 points per discussion).
- Final Written Report on Class Project: 60 maximum points
- Team Participation on Class Project: 12 maximum points
- Written Assignments: 1 (5 points)
- Total Points: 142

%	GPA	Grade
0.000		F
0.700	1.7	C-
0.730	2.0	C
0.771	2.3	C+
0.800	2.7	B-
0.830	3.0	B
0.871	3.3	B+
0.900	3.7	A-
0.930	4.0	A
1.000	4.0	A

The four assessments are gathered up and converted into a letter grade.

For more on how this is done please see the document on Grading in the Course Information section of the on-line system.

The second step of assessment is a confirmation, a qualitative and subjective task, of the letter grade from the first step.

%	GPA	Grade
0.000		F
0.700	1.7	C-
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0.930	4.0	A
1.000	4.0	A

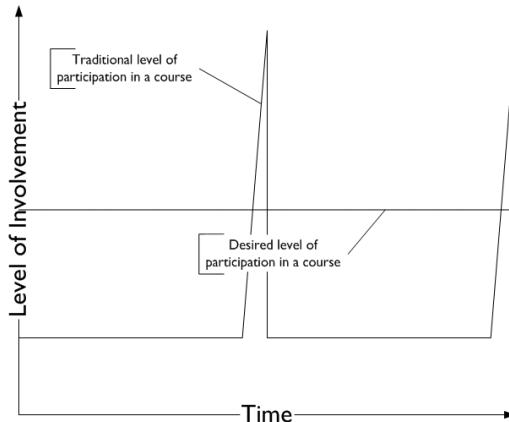


The mathematics guides me in the assignment of the final grade. What this means is that the final grade I assign may be different from the mathematical grade. In assigning the final grade I take into account your consideration, respect, and encouragement of others; your desire for learning and discipline in completing the assignments; your ability to bring relevant issues to the attention of the class.

The letter grade from the first step guides me in the assignment of the final grade. What this means is that the final grade I assign may be different from the mathematical grade. In assigning the final grade I take into account your consideration, respect, and encouragement of others; your desire for learning and discipline in completing the assignments; your ability to bring relevant issues to the attention of the class.

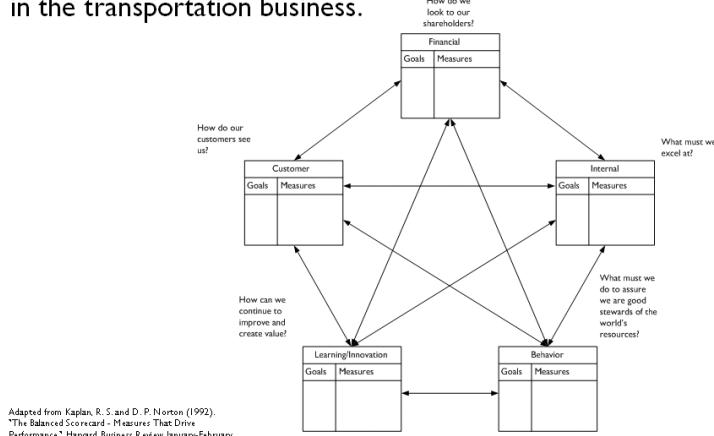
Let me now conclude this note with a few more points.

The assessment process is meant to evoke your constant, consistent participation in the course



My observation is that student involvement in a course often focuses on that required to pass midterm and final examinations (the line with the peaks in the above diagram). I think this is neither the best way to learn nor useful stress to undergo. The aim should be a constant, consistent level of involvement in the course (the flat horizontal line). I do not, as a rule, assign "make-up" work. You should strive every week to get the points available every week. You should strive to work on the project every week.

The intent of this course is to understand how management information systems can improve performance in the transportation business.



The overall idea is to develop knowledge and skills that allows you to understand how management information systems can improve the performance of the transportation business. Some means of assessing this performance must be in place. What I have suggested here is a classical balanced scorecard augmented by a measurement of organizational behavior.

This means that our viewpoint is one of senior management.

- **Strategic planning and control**
 - Decides the objectives of the organization, the resources used to obtain these objectives, and the policies that govern the acquisition, use and disposition of resources.
 - General management and functional management are usually involved in long-range (one to ten years) considerations where the structure of the problems is irregular and each problem is different.
 - The data requirements in this environment are often summaries and estimates, difficult to predefine, and often external to the business.
- **Tactical planning and control**
 - Assures that the resources are obtained and used efficiently in the accomplishment of the organization's objectives.
 - All levels of management -- general, functional and operational -- can be involved in business decisions of a year-to-year and monthly nature. Problems at this level are more structured, cyclic and repetitious than those found at the strategic level.
 - Data requirements are more definable and are largely filled from within the organization.

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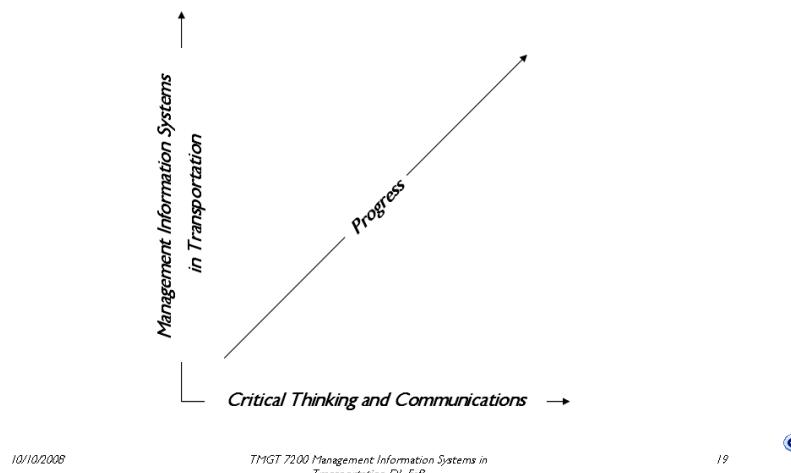
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This, in turn means, that the point of view of senior management is stressed in this course

Intent on the second dimension



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Success in this course is the result of a collaborative effort by the student and the teacher that results in movement of the student towards the upper right in this graphic. As mentioned before, knowledge and skills without the capability to communicate to cause action are not very useful. Hence, the aim of the course is to move you in two dimensions.

Success in this course is based on doing a small number of things well.

Keys to success in this course

1. Check into ANGEL on a daily basis and stay actively involved in what's going on.
 - a. Announcements
 - b. Module Discussion Area
2. Keep up with the reading assignments. Come on-line prepared to participate in the discussions.
3. Work on the Course Project throughout the term. Do not let it wait until the last few weeks. Experience suggests that odds of recovery and receipt of a hoped-for grade will be very slim if you are not involved early and often.
4. Ask questions.
"He who asks a question is a fool for a minute; he who does not remains a fool forever." - Chinese Proverb
5. Ask me for help if you need it. I cannot read minds.

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Most importantly, you must stay involved every week in the course. Taking a few days off is an option, but a bad one. The intent of this approach to learning is for you to apply consistent effort throughout the course. There is no midterm and final examination that typically causes spasms of "cramming."

There are no makeup examinations nor opportunities for extra credit provided in this course.

If you don't know or understand something about the course, ask. If you need help, ask. I cannot read minds.

Good luck and do well.

James Drogan
October 10, 2008