Data Warehousing for Business Intelligence
Course 4: Business Intelligence Concepts, Tools, and Applications

Lesson 1: Overview of Decision Making

We've arranged for students in this MOOC to purchase at a very low cost digital versions of chapters 1, 2, and 4 of the authoritative textbook *Business Intelligence and Analytics: Systems for Decision Support*, 10th edition, 2015 by Sharda, R., Delen, D., and Turban, E. See the optional text book link under course overview to purchase (US$4 for one chapter, US$10 for all three; the regular price for students is $15 per digital chapter).

Excerpts from SHARDA, RAMESH; DELEN, DURSUN; TURBAN, EFRAIM, BUSINESS INTELLIGENCE AND ANALYTICS: SYSTEMS FOR DECISION SUPPORT, 10th Edition, © 2015. Used by permission of Pearson Education, Inc., New York, NY. All Rights Reserved.

1) To understand the business pressure model, dive into this schematic in the text book.
   The components of the pressure-response-support model are business pressures, companies' responses to these pressures, and computerized support. The model suggests that responses are made to counter the pressures or to take advantage of opportunities, support facilitates monitoring the environment (e.g., for opportunities) and enhances the quality of the responses.

Managerial roles are
- *Interpersonal:* Figurehead is symbolic head; obliged to perform a number of routine duties of a legal or social nature
- *Leader:* Is responsible for the motivation and activation of subordinates; responsible for staffing, training, and associated duties
- *Liaison:* Maintains self-developed network of outside contacts and informers who provide favors and information
- *Informational:* Monitor Seeks and receives a wide variety of special information (much of it current) to develop a thorough understanding of the organization and environment; emerges as the nerve center of the organization's internal and external information
- *Disseminator:* Transmits information received from outsiders or from subordinates to members of the organization; some of this information is factual, and some involves interpretation and integration
- *Spokesperson:* Transmits information to outsiders about the organization's plans, policies, actions, results, and so forth; serves as an expert on the organization's industry

- *Decisional:* Entrepreneur Searches the organization and its environment for opportunities and initiates improvement projects to bring about change; supervises design of certain projects
- Disturbance handler: Is responsible for corrective action when the organization faces important, unexpected disturbances.
- *Resource allocator:* Is responsible for the allocation of organizational resources of all kinds; in effect, is responsible for the making or approval of all significant organizational decisions
- *Negotiator*: Is responsible for representing the organization at major negotiations

Degree of Structuredness: decision-making processes fall along a continuum that ranges from highly structured (sometimes called *programmed*) to highly unstructured (i.e., *nonprogrammed*) decisions.

- Structured problems, which are encountered repeatedly, have a high level of structure. It is therefore possible to abstract, analyze, and classify them into specific categories for which standard solution methods exist. In a structured problem, the procedures for obtaining the best (or at least a good enough) solution are known. Whether the problem involves finding an appropriate inventory level or choosing an optimal investment strategy, the objectives are clearly defined.
- An unstructured problem is one where the articulation of the problem or the solution approach may be unstructured in itself. *Unstructured processes* are fuzzy, complex problems for which there are no cut-and-dried solution methods.
- Semi-structured problems: trading bonds, setting marketing budgets for consumer products, and performing capital acquisition analysis as semi-structured problems. Solving semi-structured problems may involve a combination of standard solution procedures and human judgment.

Decision making support: We are discussing systems that support people who make decisions, not systems that make decisions on their own. Computers have historically supported structured and some semi-structured decisions, especially those that involve operational and managerial control, since the 1960s. Operational and managerial control decisions are made in all functional areas, especially in finance and production (i.e., operations) management.

Important trends include
(1) the development of software for problem analysis and solution applications,
(2) the availability of networking, especially with Web-based technologies and mobile devices,
(3) and the creation of tools for analytics and business intelligence,
(4) Social media platforms also have contributed to taking IS-supported decision making to a new level

See the suggested video for decision making: Decision-making made easier (5:24 min)
http://www.youtube.com/watch?v=0EDFvJb9WOA

See the web resources for the decision making

- Seven steps to make better decisions
- An Introduction to Data-Driven Decisions for Managers Who Don't Like Math
- Why you should avoid gut instincts to make business decisions
- 8 Factors That Affect Your Decision-Making
- A Brief History of Decision Making