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| Course: | ISQA 4730/8736 – Decision Support Systems |
| Document: | Video Review Form |

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| Name: | Brian Detweiler |
| Lectures: | Chapter 2 |
| Date: | September 4, 2017 |

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| Describe the key things you learned from this week’s lectures: |
| 1. In the design phase of decision making, we construct, test, and validate a model. Some of the models we may consider are:  The Rational Model – operates in a world where all consequences and probabilities are known and actors behave perfectly rationally.  The Satisficing Model – bounds are put on rationality, where we accept that we cannot know of the alternatives to the consequences of choice. We choose a solution that is “good enough.”  The Organizational Program Model – Norms, rules, and procedures of the organization steers the decisions.  The Political Model – Power and influence tends to affect the decisions.  The Garbage Can Model – Decisions can be the result of chance, luck, and timing. |
| 2. Problems requiring decisions can be found on a sliding scale from Structured to Unstructured. Structured problems are well-known and programmable. Unstructured problems are often emergent and elusive. We try to turn these into structured problems so we can be more effective about our decision making.  Decisions can be unilateral (made by a single person) or negotiated (agreed upon by many). Politics and power factor in heavily with negotiated decisions. |
| 3. Decisions are supported in phases.  Phase 1: Intelligence – Gathering data, information, and knowledge to help identify and classify the problem.  Phase 2: Design – Generating and evaluating decision alternatives.  Phase 3: Choice – Decision criteria are very important. Many factors to conisder. Optimal or Satisficing. May need to apply sensitivity analysis.  Phase 4: Implementation – Need to understand the roles of organizational culture and change to know how to implement and communicate your decisions. When making changes, follow Lewin & Schein’s model of change: Unfreezing (get users ready) → Moving (move quickly, don’t drag it out) → Refreezing (allow people to get used to the new changes).  Phase 5 (continuous): Monitoring – Look at goals of decision, and look at the outcome. Dovetails into Intelligence phase of the next decision. This becomes a cycle. |
| 4. We need to be aware of common flaws of decision-making. Primacy effects say that once people have made up their mind about something, it is often not easy to move them from that position. Recency effects and availability bias are when people make decisions based on the most recently seen or most readily available data, respectively, rather than all of the data. Poor framing occurs when you allow a decision to be viewed only within a particular context in which it is presented. Strategic anchoring occurs when the initial assessment sets the tone for the entirety of the decision making process. The first person to set this tone, or ‘anchor’, holds the advantage of getting their desired outcome.  People are poor probability estimators. Probabilities should be based on data, not feeling. The escalation phenomena, sometimes known as the sunken cost fallacy, shows up when we have already adopted courses of action that aren’t working, but we refuse to change course.  Overconfidence about the accuracy of what we know can lead to problems, which is again, why we should base our decisions on data. Association bias is when we try to repeat past successes by repeating those past decisions, even though they may not be applicable to our current situation. When members of a team don’t want to rock the boat and hence always agree, you end up with groupthink. |
| 5. The number one goal of a DSS is to improve the decision making effectiveness of unstructured, nonprogrammed decisions and improve the chance of a positive outcome – decision quality. Other goals include obtaining new insights and learning (what-if analysis), and improving the management of decisions. |

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| Below, provide one substantial online resource related to this week’s lectures. This resource should complement the lectures, aid in our understanding of the lectures’ topics, or illustrate lecture concepts through practical applications in business and industry. | |
| URL: | https://www.linearprogramming.info/simplex-method/ |
| Full Citation: | 10 Things You need to know about Simplex Method, Linear Programming, September 27, 2015 |
| Resource Summary: | This cheat sheet provides a visual overview of the Simplex Method. It’s a great resource for those with at least some OR training. |
| Relevance to the lectures: | In the video lecture, we discussed Dantzig’s development of the Simplex Method as a major milestone in the history of DSS. This gives the opportunity to take a closer look at what a DSS might consist of, technologically. |

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| Due date: | Fridays at 8:00 a.m. during the week in which lectures were posted. |
| File name: | Format your file name: lastname.doc or lastname.docx |
| Submission: | Submit in Canvas |