GEORGIA STATE UNIVERSITY

Robinson College of Business EDB 9020—Engaged Scholarship

(Philosophy and Practice of Engaged Scholarship)

Syllabus

Fall Semester 2017

This Course Syllabus Provides a General Plan For The Course; Deviations May Be Necessary

INSTRUCTOR:

Name: Dr. Arun Rai

Office: Robinson College of Business, 35 Broad Street, 4th Floor, Room 421

Phone: 404-413-7857 (Office)

Email: arunrai@gsu.edu
Web site: http://www.arunrai.us
Office Hours: By appointment

COURSE:

Residencies: 8/24/17 (afternoon), 8/26/17 (morning)

9/21/17 (afternoon), 9/23/17 (morning) 10/26/17 (afternoon), 10/28/17 (morning) 11/16/17 (afternoon), 11/18/17 (morning)

Location: Buckhead Executive Education Center

REQUIRED TEXTBOOKS

• Van De Ven, A. H., Engaged Scholarship: A Guide for Organizational and Social Research, Oxford University Press, 2007.

• Huff, Anne S., Writing for Scholarly Publications, Sage Publications, 1999.

Please contact Jorge A. Vallejos (<u>jvallejos@gsu.edu</u>) in the EDB Office if you have not received these books.

ACCESSING ARTICLES AND HANDOUTS

The articles and handouts for the course will be available through icollege.gsu.edu. Please log into the site, navigate to Philo and Practice of Engaged Scholarship, and download all articles and handouts.

Please contact Jorge A. Vallejos (<u>jvallejos@gsu.edu</u>) in the EDB Office if you have issues in accessing the icollege.gsu.edu site.

Course Description

This course explores the different forms of engaged scholarship. It focuses on the research process that can enable students to generate both scholarly contributions and practical knowledge, which is at the core of Robinson's Executive Doctorate program. The course is designed to enable students to develop a research focus and understand the research process. It examines the roles of theory and models in the research process and the differences between variance and process models. Students learn how to formulate a problem, motivate a research question, synthesize relevant literatures, draw on relevant theoretical perspectives, and develop variance and process models.

Course Objectives

At the conclusion of the course, students should be able to:

- 1. Apply the process of Engaged Scholarship.
- 2. Differentiate between the four types of Engaged Scholarship.
- 3. Describe a problem from up-close and afar, specify the research question/objective, and motivate the importance of the problem and the research question/objective.
- 4. Define the role of context in the research process
- 5. Conduct a literature synthesis and surface gaps in understanding related to the research question/objective
- 6. Differentiate between process and variance models
- 7. Specify the key elements of process and variance models
- 8. Describe the process of communicating and using research knowledge

Seminar Format

The course will be run in a seminar format. Students will be called upon to lead the discussion on the topic being covered and all students are expected to participate actively in the discussion. Students are expected to have thoroughly read all assigned readings prior to class and prepared the PowerPoint slides as noted in the schedule

Staged Approach to Developing the Research Proposal

Students will use a staged approach to develop a research proposal.

Students will be provided feedback at each stage *if they submit the deliverable as per schedule*. They will submit a research proposal as the deliverable for the course that will be graded.

Stage-by-Stage Instructions and Submission Due Dates

Stages	Deliverable
Stage 1 Due: 9/21 • Problem Statement	1. The problem statement must include: (i) <i>description</i> of the problem, (ii) <i>evidence</i> of its importance; (iii) <i>identification</i> of the aspects of the problem that challenge existing understanding and that you will focus on, (iv) <i>specification</i> of the unit of analysis, and (v) <i>statement</i> of the research objectives/questions (1 page)
Form of Engaged ScholarshipCandidate Journals	2. Identify the Engaged Scholarship approach that will be used and explain the reasons for the choice (0.5 page).
Canadate sourners	3. Identify candidate scholarly journals that are likely to be suitable targets for the research and explain why these can be suitable outlets (0.5 page). Articles from these journals should serve as exemplars for the approach taken to develop the paper.
Stage 2	1. Point-by-point response on how Stage 1 comments were addressed
Due: 10/26	2. Revised Stage 1.
 Stage 1 revision 	3. Specify (i) the 2-3 literature streams that you are positioning your work in, (ii)
• Lit. Synthesis (3-4 pages)	the process used to select the 8-12 articles to be reviewed, and (iii) concepts used to synthesize the identified articles.
hages)	4. Synthesize the 8-12 selected articles, articulating what is known and what are the gaps in knowledge related to the problem of interest to you (3-4 pages).
Final proposal	1. Point-by-point response on how Stage 2 comments were addressed
Due: 12/1	2. Revised version of Stage 2.
• Stage 2 revision	3. Specify if a process or variance model will be used and why. What literature
• Role of theory	bases and theories will inform the model development? Why? (1 page).
• Type of model	4. Explain the key elements of the process or variance model (2 pages).
• Elements of model	

Submission Instructions for Each Stage Deliverable

- 1. For each stage, create <u>one integrated Word document</u> with all deliverables collated in the document and without track changes.
- 2. Name your Word document file **Last Name + space + First Name + Stage n**, where n will be 1, 2 or 3.
- 3. Log into icollege.gsu.edu and upload your assignment to the appropriate Dropbox—for example, upload your Stage 1 deliverable to the Dropbox folder named Stage 1 deliverable.

Detailed Instructions for Stage 3 (Final Proposal) Deliverable

Your final proposal is due on 12/1 by 5:00 pm EST. This is a hard deadline—no late submissions will be accepted.

- 1. Please submit one integrated Word document through the Dropbox for Stage 3 set up at icollege.gsu.edu.
- 2. Provide all references at the end of the document and use in-text citations as you see in journal articles.
- 3. On the first page, provide your responses to how you addressed my comments from the last round (Stage 2).
- 4. Your document must **not** include track changes or comments from previous stages.
- 5. Your complete submission will need to include a) a revised version of your problem statement and research question, b) a revised version of your literature synthesis, and c) the role of theory and the development of a variance or process model.
- 6. For the last section on the role of theory and development of a variance or process model, please include the following:
 - i. Specification of whether you are developing a process or variance model, with your reasons for the choice.
 - ii. Discussion of how the literature and/or theories informs the selection and definition of constructs and the overall logic of the model.
 - iii. A figure showing the constructs and their relationships
 - iv. Specification of the key elements of the process or variance model. This will include the following: (a) a table of definition of constructs, (b) the propositions or hypotheses about the relationships among the constructs, and (c) the reasons underlying the propositions and hypotheses.

Grading

Class participation and the research proposal are each worth 50% of the credit for the course. Students are expected to read the assigned material prior to class and to prepare the PowerPoint slides as noted in the schedule. Class participation will be evaluated based on the quantity and quality of contribution to the class discussion. Final grades for the course will be based on a normal 100% scale and will be determined by adding up the points earned. The overall grading scale for the course is as follows:

Letter grade	Quality Pts Earned	Range	Meaning
A	4.0	> 94	Excellent; hard to improve upon
A-	3.7	89-93	Very professional
B+	3.3	87-88	Above normal professional expectations
В	3.0	83-86	Expected professional performance
В-	2.7	79-82	Slightly below what would be professionally expected
C+	2.3	77-78	Significant flaws or multiple minor flaws, but generally acceptable
С	2.0	73-76	Significant flaws that require professional rework to be acceptable
C-	1.7	69-72	Several significant and minor flaws that border on unacceptable professional work
D	1.0	60's	Unacceptable; salvageable only with significant effort to remedy the nature and multitude of flaws
F	0.0	< 60	Reject; well below minimal expectations

[&]quot;W" and "WF" will be accorded as per university policies to students that qualify for such grades.

TENTATIVE SCHEDULE

Residency/ Date	Topics	Reading Assignments	Deliverables
1 - 8/24	Engaged Scholarship Foundations	• Van de Ven, Chapter 1	• Each student prepares 5-10 PowerPoint slides to summarize the Van de Ven chapter and also formulates five questions that they would like to raise about it. The slides do not need to be submitted but the students are expected to have these slides with them for class discussion.
1 - 8/26	Formulating the Research Problem	 Van de Ven, Chapter 3 Examples of problem formulation for each mode of engaged scholarship – Review only the introductions of these articles: Rai et al 2009, MISQ Rai et al 2012, MISQ Shang et al 2009, JMR Wolfe et al 2002, JAMA 	• Each student prepares 5-10 PowerPoint slides to summarize the Van de Ven chapter and also formulates five questions that they would like to raise about it. The slides do not need to be submitted but the students are expected to have these slides with them for class discussion.
2 - 9/21	Synthesizing the Literature and Building a Theory	 Van de Ven, Chapter 4 Huff, Chapters 1-5 Examples of synthesizing literature and building a theory - Review these articles to see how the authors established the scope, focus and perspective to the literature synthesis. Ahuja et al 2008, Acad. Mgt. Annals Alavi and Leidner 2001, MISQ Cascio and Aguinis 2008, Acad. Mgt. Annals Niazkhani, Z. et al 2009, JAMIA 	 Each student prepares 5-10 PowerPoint slides to summarize the Van de Ven chapter and also formulates five questions that they would like to raise about it. The slides do not need to be submitted but the students are expected to have these slides with them for class discussion. Stage 1 of the research proposal due
2 - 9/23	Variance and Process Models	 Van de Ven, Chapter 5 Huff, Chapters 6 - 11 Variance model examples Overby 2008, Org. Sci Rai et al 2009, MISQ Process model examples Montealegre 2002, Org. Sci 	• Each student prepares 5-10 PowerPoint slides to summarize the Van de Ven chapter and also formulates five questions that they would like to raise about it. The slides do not need to be submitted but the students are expected to have these slides with them for class discussion.

Residency/ Date	Topics	Reading Assignments	Deliverables
		• Maitlis and Ozcelik 2004, Org. Sci	
3 – 10/26	 Designing Variance Studies Context and contingencies in variance studies 	 Van de Ven, Chapter 6 Johns 2006, AMR Designing variance studies – examples Rai et al 2009, MISQ Rai et al 2012, MISQ Designing variance studies – in-class exercise 	 Each student prepares 5-10 PowerPoint slides to summarize the Van de Ven chapter and also formulates five questions that they would like to raise about it. The slides do not need to be submitted but the students are expected to have these slides with them for class discussion. Stage 2 of the research proposal due.
3 – 10/28	 Designing Process Studies Context and contingencies in process studies 	 Van de Ven, Chapter 7 Johns 2006, AMR Designing process studies- examples Montealegre 2002, Org. Sci Maitlis, S. and H. Ozcelik 2004, Org. Sci Designing process studies – in-class exercise 	• Each student prepares 5-10 PowerPoint slides to summarize the Van de Ven chapter and formulates five questions that they would like to raise about it. The slides do not need to be submitted but the students are expected to have these slides with them for class discussion.
4 – 11/16	Review of process and variance models	• Review Van de Ven, Chapters 5, 6 and 7	 Each student group revises its in-class variance and process exercises from the third residency. Groups will present these exercises in class.
4 – 11/18	 Communicating and Using Research Knowledge Practicing Engaged Scholarship Course synthesis 	• Van de Ven, Chapter 8 & 9 Course review (including forms of Engaged Scholarship, problem formulation, literature synthesis, and variance and process models)	• Each student prepares 5-10 PowerPoint slides to summarize the Van de Ven chapters and also formulates five questions that they would like to raise about them. The slides do not need to be submitted but the students are expected to have these slides with them for class discussion.

Illustrative Articles on the Types and Processes of Engaged Scholarship

Van De Ven discusses four forms of *Engaged Scholarship* (i.e., basic, collaborative, policy/design evaluation, and action research). Each form can be pursued using a process or variance approach, and using a quantitative or qualitative research method. Hybrid approaches (process + variance; quantitative + qualitative) can also be used for each form of Engaged Scholarship. Several of the articles listed below provide examples of each form of Engaged Scholarship and of the different steps in the research process for a given form. In addition, some of the articles are exemplars on synthesizing the literature. The schedule maps the articles listed below to the topics covered in the course.

Through this course and others in the EDB program, students are encouraged to develop a list of exemplars for the different forms of Engaged Scholarship (that apply process or variance approaches and that use quantitative and qualitative research methods). Such a list of exemplars (especially in the area of interest to the student) should prove beneficial when the student is tackling their research projects and thesis.

Ahuja, G., C. M. Lampert, et al. (2008). "Chapter 1: Moving Beyond Schumpeter: Management Research on the Determinants of Technological Innovation." <u>Academy of Management Annals</u> **2**(1): 1-98. [**Example of an approach to literature synthesis**]

Schumpeter's conjecture that large monopolistic firms were the key source of innovation in modern industrial economies has been the underpinning for much work on the topic of innovation. In this review paper we consciously move beyond the Schumpeterian tradition of focusing on firm size and market structure as the primary determinants of innovation to identify a broader set of innovation determinants that have been investigated by the management literature. We make a distinction between innovative efforts and innovative output and for each of these outcomes we group the determinants of innovation into four broad headings, industry structure, firm characteristics, intra-organizational attributes, and institutional influences. We examine four aspects of the industrial structure and how they influence innovation: the horizontal market structure which reflects the influence of competition and collaboration, as well as the role of buyers, suppliers and complementors. Under the rubric of firm characteristics, we consider the many externally observable attributes of a firm such as its size, scope, access to external sources of knowledge such as through alliances, and performance. Under the heading of intraorganizational attributes we look at the inside of the firm, the firm's organizational structure and processes, corporate governance arrangements including compensation and incentive structures, the backgrounds of managers, and organizational search processes. Finally, we consider two significant sets of institutional influences, the supply of science (wherein we also examine the nature and degree of science-industry relationships), and the appropriability regime. In each setting we try to structure the existing literature to identify the core theoretical mechanisms as well as empirical support for those mechanisms. We explicitly focus on the management literature in this area recognizing that the work of economists is being summarized in other such reviews. However, we have consciously tried to use terminology and organizing structures that should be familiar to both economists and management scholars and hope to encourage greater conversation and cross-fertilization between these two groups. To facilitate this outcome we especially emphasize some areas where management literature has developed the most (e.g., alliances and networks) but then integrate the literature in these areas within the broader rubric of work in the economics tradition.

Alavi, M. and D. E. Leidner (2001). "Review: Knowledge management and knowledge management systems: Conceptual foundations and research issues." <u>MIS Quarterly</u> **25**(1): 107-136. [**Example of an approach to literature synthesis**]

To be credible, knowledge management systems (KMS) research and development should preserve and build upon the significant literature that exists in different but related fields. This paper provides a review

and interpretation of knowledge management literatures in different fields with an eye toward identifying the important areas for research. We present a detailed process view of organizational knowledge management with a focus on the potential role of information technology in this process. Drawing upon the literature review and analysis of knowledge management processes, we discuss several important research issues surrounding the knowledge management processes and the role of information technology (IT) in support of these processes.

Cascio, W. F. and H. Aguinis (2008). "Chapter 3: Staffing Twenty-first-century Organizations." <u>Academy of Management Annals</u> **2**(1): 133-165. [**Example of an approach to literature synthesis**]

We highlight important differences between twenty-first-century organizations as compared with those of the previous century, and offer a critical review of the basic principles, typical applications, general effectiveness, and limitations of the current staffing model. That model focuses on identifying and measuring job-related individual characteristics to predict individual-level job performance. We conclude that the current staffing model has reached a ceiling or plateau in terms of its ability to make accurate predictions about future performance. Evidence accumulated over more than 80 years of staffing research suggests that general mental abilities and other traditional staffing tools do a modest job of predicting performance across settings and jobs considering that, even when combined and corrected for methodological and statistical artifacts, they rarely predict more than 50% of the variance in performance. Accordingly, we argue for a change in direction in staffing research and propose an expanded view of the staffing process, including the introduction of a new construct, in situ performance, and an expanded view of staffing tools to be used to predict future in situ performance that take into account time and context. Our critical review offers a novel perspective and research agenda with the goal of guiding future research that will result in more useful, applicable, relevant, and effective knowledge for practitioners to use in organizational settings.

Johns, G. (2006). "The Essential Impact of Context on Organizational Behavior." Academy of Management Review 31(2): 386-408. [Discusses the importance of context and provides guidelines on how research can be contextualized to generate insights/contributions] I argue that the impact of context on organizational behavior is not sufficiently recognized or appreciated by researchers. I define context as situational opportunities and constraints that affect the occurrence and meaning of organizational behavior as well as functional relationships between variables, and I propose two levels of analysis for thinking about context--one grounded in journalistic practice and the other in classic social psychology. Several means of contextualizing research are considered.

Maitlis, S. and H. Ozcelik (2004). "Toxic Decision Processes: A Study of Emotion and Organizational Decision Making." <u>Organization Science</u> **15**(4): 375-393. **[Example of process models]**

This paper addresses the role of emotion in organizational decision making. Grounding our research in the decision process literature, we introduce the concept of "toxic decision processes": organizational decision processes that generate widespread negative emotion in an organization through the recursive interplay of members' actions and negative emotions. We draw on a longitudinal, qualitative analysis of six toxic decision processes to develop a model that describes the three phases--inertia, detonation, and containment--through which these processes unfold. Each phase is characterized by distinctive sets of interactions among decision makers and other organizational members, and by emotions such as anxiety, fear, shame, anger, and embarrassment, that shape and are shaped by these interactions. We show that toxic decision processes are triggered by issues that are sensitive, ambiguous, and nonurgent and identify several mechanisms that connect actors' emotions and actions, over time creating a toxic decision process that leads to the cumulative buildup and diffusion of toxicity. These mechanisms include the construction of a "danger zone" around the issue that is avoided by all parties, the spread of negative emotion through processes of empathetic transmission and emotional contagion, and the suppression of widespread negative emotion that leads to the development of a volatile emotional context for future

decision making. This study has important implications for the decision process literature, revealing how the different lenses through which decision making is usually viewed are connected by the emotionality that runs through each of them.

Montealegre, R. (2002). "A Process Model of Capability Development: Lessons from the Electronic Commerce Strategy at Bolsa de Valores de Guayaquil." <u>Organization Science</u> **13**(5): 514-531. **[Example of process models]**

Past literature using the resource-based view of the firm has concentrated on attributes of firms' capabilities and on strategies for exploiting existing firm-specific assets. Comparatively little research has been conducted on how a firm develops, manages, and deploys capabilities to support its business strategy. This study seeks to understand the process of capability development and to establish a model that has both theoretical and practical significance. A longitudinal case study of the electronic commerce strategy formation and implementation at Bolsa de Valores de Guayaquil, an Ecuadorian stock exchange, yielded qualitative data that allowed inductive modeling of the capability development process. The model reveals that capability development in support of a new strategy is a gradual process that is cumulative, expansive, and very dependent on the way that difficult-to-imitate resources and actions are combined. At Bolsa de Valores de Guayaquil, actions that supported the development of the firm's capability to strategize seem to have contributed the most in the initial phase of the strategy formation and implementation; actions that helped the development of the firm's capability to be flexible appear to have contributed the most during the middle phase; and actions that supported the development of the firm's capabilities to integrate and engender trust seem to have contributed the most in the final phase. In addition, the key resources that supported the overall capabilities development process included leadership, organizational culture, information technology, long-term view, and social networks. Implications of this model for both research and practice are discussed.

Niazkhani, Z., H. Pirnejad, et al. (2009). "The Impact of Computerized Provider Order Entry Systems on Inpatient Clinical Workflow: A Literature Review." Journal of the American Medical Informatics Association 16(4): 539-549. [Example of an approach to literature synthesis] Previous studies have shown the importance of workflow issues in the implementation of CPOE systems and patient safety practices. To understand the impact of CPOE on clinical workflow, we developed a conceptual framework and conducted a literature search for CPOE evaluations between 1990 and June 2007. Fifty-one publications were identified that disclosed mixed effects of CPOE systems. Among the frequently reported workflow advantages were the legible orders, remote accessibility of the systems, and the shorter order turnaround times. Among the frequently reported disadvantages were the time-consuming and problematic user-system interactions, and the enforcement of a predefined relationship between clinical tasks and between providers. Regarding the diversity of findings in the literature, we conclude that more multi-method research is needed to explore CPOE's multidimensional and collective impact on especially collaborative workflow.

Overby, E. (2008). "Process Virtualization Theory and the Impact of Information Technology." Organization Science 19(2): 277-291. [Example of variance models – moderation]

In our increasingly virtual society, more and more processes that have traditionally been conducted via physical mechanisms are being conducted virtually. This phenomenon of "process virtualization" is happening in many contexts, including formal education (via distance learning), shopping (via electronic commerce), and friendship development (via social networking sites and virtual worlds). However, some processes are more amenable to virtualization than others. For example, distance learning seems to work better for some educational processes than others, and electronic commerce has worked well for some shopping processes but not for others. These observations motivate the central question posed in this paper: What factors affect the "virtualizability" of a process? This question is becoming increasingly important as advances in information technology create the potential for society to virtualize more and more processes. To provide a general theoretical basis for investigating this question, this paper proposes "process virtualization theory," which includes four main constructs (sensory requirements,

relationship requirements, synchronism requirements, and identification and control requirements) that affect whether a process is amenable or resistant to being conducted virtually. Recognizing that processes can be virtualized with or without the use of information technology, this paper makes explicit the theoretical significance of information technology in process virtualization by discussing the moderating effects of representation, reach, and monitoring capability. This helps explain how advances in information technology are enabling a new generation of virtual processes.

Rai, A., L. M. Maruping, and V. Venkatesh (2009). "Offshore Information Systems Project Success: The Role of Social Embeddedness and Cultural Characteristics." <u>MIS Quarterly</u> **33**(3): 617-A7. [Example of (i) problem formulation that makes salient distinctive aspects of the problem and the context in which it will be studied, and (ii) the development/testing of variance models.]

Agency theory has served as a key basis for identifying drivers of offshore information system project success. Consequently, the role of relational factors in driving project success has been overlooked in this literature. In this paper, we address this gap by integrating the social embeddedness perspective and the culture literature to theorize how and why relational factors affect the success of offshore IS projects that are strategic in nature. We identify organizational and interpersonal cultural differences as critical success factors in this context. Using data from a longitudinal field study of 155 offshore IS projects managed by 22 project leaders, we found evidence of a relationship between hypothesized relational factors and two measures of offshore IS project success, namely, project cost overruns and client satisfaction, over and above the effects of project characteristics and agency factors. Specifically, we found that information exchange, joint problem solving, and trust reduce project cost overruns and improve client satisfaction. We also found a relationship between cultural differences at the organizational and team level, and offshore IS project success. The model explained 40 percent and 41 percent of the variance in project cost overruns and client satisfaction, respectively, for projects with a client representative. For projects with no client representative, the model explained 35 percent and 37 percent of the variance in project cost overruns and client satisfaction, respectively. Collectively, the results have important theoretical and practical implications for how client-vendor relationships should be managed when partnering with offshore firms and designing offshore IS project teams.

Rai, A., Pavlou, P. A., Im, G., & Du, S. (2012). Interfirm IT capability profiles and communications for cocreating relational value: evidence from the logistics industry. *MIS Quarterly*, 36(1), 233-262. [Example of (i) problem formulation that makes salient distinctive aspects of the problem and the context in which it will be studied, and (ii) the development/testing of variance models.]

This study seeks to identify the means by which information technology helps cocreate relational value in the context of interfirm relationships in the logistics industry--a large and information-intensive industry. We identify a set of IT functionalities--single-location shipping, multilocation shipping, supply chain visibility, and financial settlement--that can be used to manage the flows of physical goods, information, and finances across locations in interfirm logistics processes. Progressively more advanced sets of IT functionalities, when implemented and used in the interfirm relationship to execute logistics processes, are proposed to form four distinct IT capability profiles of increased sophistication. Interfirm IT capability profiles of higher sophistication are proposed to help cocreate greater relational value by facilitating the flows of physical goods, information, and finances across locations in the interfirm logistics process. Besides their direct role in helping cocreate relational value, these interfirm IT capability profiles are proposed to further enhance relational value cocreation when complemented by interfirm communications for business development and IT development.

Our empirical study was situated in one of the world's largest logistics suppliers and over 2,000 of its interfirm relationships with buyers across industries. Integrated data from four archival sources on the IT functionalities implemented and used in interfirm logistics relationships, interfirm communications,

relational value (share of wallet and loyalty), and multiple control variables were collected. The results show that the proposed interfirm IT capability profiles and interfirm communications have both a direct and an interaction effect on relational value. Implications for cocreating relational value in interfirm relationships with the aid of IT are discussed.

Shang, J., T. P. Yildirim, et al. (2009). "Distribution Network Redesign for Marketing Competitiveness." *Journal of Marketing* **73**(2): 146-163. **[Type of Engaged Scholarship – Action Research]**

This article reports on a marketing initiative at a pharmaceutical company to redesign its distribution network. Distribution affects a firm's cost and customer satisfaction and drives profitability. Using a nonlinear mixed-integer programming model, the authors develop a distribution network with a dual emphasis on minimizing the total distribution costs and improving the customer service levels. Specifically, they address the following issues: They (1) determine the optimal number of regional distribution centers the firm should operate with, (2) identify where in the United States the firm should locate these distribution centers, (3) allocate each retailer/customer distribution center to an appropriate regional distribution center, and (4) determine the total transportation costs and service level for each case. Finally, they conduct a sensitivity analysis to determine the impact of changes in problem parameters on the optimality of the proposed model. This marketing initiative at the studied firm reduced the total distribution costs by \$1.99 million (6%) per year, while increasing the customer on-time delivery from 61.41% to 86.2%, an improvement of 40.4%.

Wolfe, R. M., L. K. Sharp, and M.S. Lipsky (2002). "Content and Design Attributes of Antivaccination Web Sites." <u>JAMA: Journal of the American Medical Association</u> **287**(24): 3245. [Type of Engaged Scholarship – Policy/Design Evaluation]

Context: Individuals searching the Internet for vaccine information may find antivaccination Web sites. Few published studies have systematically evaluated these sites. Objectives: To examine antivaccination Web site attributes and to delineate the specific claims and concerns expressed by antivaccination groups. Design and Setting: In late 2000, using a metasearch program that incorporates 10 other search engines, we reviewed and analyzed 772 links to find 12 Web sites that promulgated antivaccination information. Analyzing links from these 12 sites yielded another 10 sites, producing a total of 22 sites for study. Using a standardized form, 2 authors (R.M.W., L.K.S.) systematically evaluated these sites based on specific content and design attributes. Main Outcome Measures: Presence or absence of 11 Web site content attributes (antivaccination claims) and 10 Web site design attributes. Results: The most commonly found content claims were that vaccines cause idiopathic illness (100% of sites), vaccines erode immunity (95%), adverse vaccine reactions are underreported (95%), and vaccination policy is motivated by profit (91%). The most common design attributes were the presence of links to other antivaccination sites (100% of sites), information for legally avoiding immunizations (64%), and the use of emotionally charged stories of children who had allegedly been killed or harmed by vaccines (55%). Conclusion: Antivaccination Web sites express a range of concerns related to vaccine safety and varying levels of distrust in medicine. The sites rely heavily on emotional appeal to convey their message.