**An Informational and Service Learning Approach to the MBA
Research and Decision Course**

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**Summary**

In a MBA program specifically designed for students with working experience, three problems were identified with the traditional core class of research and managerial decision making. First, students came into the program with such a wide range of statistical skills and abilities that there was no level at which the course could be taught that would meet the needs of most, let alone all incoming students. Second, the course was not meeting the objectives of the MBA program, nor was it giving the skills that were essential for the students to complete the requirements for the degree. In addition, since about half the students came from outside the Unites States, there was a wide diversity of skills and cultural backgrounds, and the students were struggling with application and leadership skills in a pluralistic setting. Third, as an introduction course to the program, it was determined that the class was not setting the expectations for rigor, logic, communication skills, community service, and ethics that the program was supposed to instill in our graduates.

The correction for these problems was taken in two steps. The first was to restructure the course around information rather than analysis. The students were required to take an online exercise to refresh statistical and research skills before the class began, and then engaged in a detailed study of the nature and use of information.  Students were required to complete exercises consistent with this orientation and to apply what they were learning with projects involving real business clients.  Both individual and team projects were conducted. The students chose their own teams with the constraint that team members could not come from only one country.

The second innovation was to add a service learning approach to the business client project. The clients the students chose had to be non-profit and engaged in some sort of

community service. It has been estimated that the dollar value of the service the students contributed every year was approximately a quart million dollars.

The course was evaluated by the instructor, and evaluations made by team members and by clients. The standard teaching evaluation instrument was administered after every class. Students were encouraged to communicate with the instructor and with the MBA coordinators. Further, service learning standard reflective procedures and feedbacks were instituted.

The information approach has been utilized for five years. Student-reported learning satisfaction has improved.  While respondent feedback has suggested minor modifications, students have not expressed any major negative reactions to the innovation, nor have there been any negative reactions from clients and instructors of subsequent classes.

The service learning component was added this year. Student reports have shown that the learning environment has improved, and individual reflections indicated better cross-cultural understanding, and a greater appreciation of community problems and service. No negative reaction to the service learning component has yet been recorded from any of the feedback mechanisms.

The innovation required no addition in MBA or student expenses, nor did it require any change in technology, or any addition to capital equipment. The innovation could be easily adapted to any MBA program.

**Introduction**

Typical of many MBA programs, our curriculum contains a core course which is essentially a review of statistical methods. The title of this offering varies from one program to another, but it generally is called statistical analysis for management decision making, an introduction to techniques of quantitative data analysis, stochastic decision, or tools for business modeling. Irrespective of title, these offerings, in their essence, are statistical classes with minor modifications consistent with program and pedagogical objectives.

The course discussed below is the first required class in an AACSB approved executive MBA program designed for employed workers, and/or persons with extensive business backgrounds. Each offering in the program is contained within a module taught at night over 11 weeks. Many of the domestic students come from within a 50 mile radius of the campus, and about half come from other countries, primary from China, India, and from nations in the Middle East, along with fewer students from France, Russia, and South America. Students are typically between 25 to 50 years of age with a median age of 35, and with an average of 11 years of work experience. Enrollment is controlled and the classes range from 15 to 25 students.

**Problem**

The first required module for all students was entitled "Analysis for Management Decision Making" and was the standard statistical analysis class taught in most MBA programs. The students, instructors, and administrators identified three problems that needed to be corrected:

1) Students came with a wide range of statistical skills and abilities. A prior statistical class was required for entrance into the program, but that experience could be relatively recent or in some cases, over 30 years ago. Some students' employment required them to be current with analytic skills, and others had no experience since their undergraduate days. Further, students

were arriving with not only a wide variance of statistical skills, but also with an equally wide difference in cultural and language skills, especially in the parlance utilized for business analysis.

There was no level that the class could be taught without boring some students and losing others. The students were not happy, as reflected in student evaluations and other one-on-one interviews held regularly by the program's administrators. This was particularly problematic because this was not only a core course, it was also the first module that students were required to complete and it could set the tone for the rest of the program.

2) It was also thought that the course was not meeting the objectives of the MBA program, nor was it adequately teaching the skills that were necessary for the students to complete the requirements for the degree. Throughout the program, students are required to complete projects with business clients relevant to the topic of their current module.  In addition, the students must complete a capstone project in which teams complete a comprehensive project which includes the gathering of both secondary and primary data, and an analysis which integrates finance, accounting, and managerial elements to solve an actual problem with a client. The projects are presented to a panel of faculty and business persons, and finally to the team's client. With a wide diversity of skills and cultural backgrounds, the students were struggling with the basic knowledge, application skills, and leadership needed to complete these tasks.

3) As an introduction course to the program, it was felt that the class set no expectations for the type of rigor that the program would demand, nor did it set the standards of logic, communication skills, and community service and ethics that the program wanted to instill in our graduates.

**Solution**

An innovation to correct these deficiencies was addressed in two steps.

1) The Associate Dean, who served as the top administrative officer of the program, met with senior faculty who were known for their expertise in research and analysis, most of whom had previously taught this course or module. The problem was explained and suggestions for change solicited. The innovation selected emphasized the use of information instead of analytic techniques and was built around the principles of information theory, stressing communication utilized for reducing uncertainty. For the purposes of the module, information was operationally defined as, "Something that changes what a person or identity knows" (Clayson 1989).

Students were required to complete an online statistical and analytic exercise (explained below) to refresh their memories and skills before the class physically met. The importance of the scientific method, and the theory and communication of information was then emphasized, along with techniques of determining the value and validity of information found in various sources from the electronic media to business archives. The class was then given a detailed introduction to the six statistical methods utilized in almost 90% of all business problems, and their use and abuse.  Each student was required to complete three written assignments, and as a team, complete an entire business research project for a problem identified by an actual business client.

This part of the innovation was put in place five years ago and approximately 100 students have gone through the revised module.

2)  The goal of emphasizing community service and ethics within the program was addressed by creating a service learning exercise within the module. As mentioned, students were required to complete a business research project with real clients. Typically four or five of these projects were completed by every class. It has been estimated that the commercial value of

this service to the community could approach a quarter of a million dollars annually. Beginning last year, students were required to complete this project for non-profit organizations that emphasize some sort of community service. For example, one project was completed with the local county's food bank, investigating how the organization could increase public awareness, volunteerism, and donations. So far, 15 students have completed this exercise.

**Major Educational Objectives and Unique Features**

The innovation had five educational objectives.

1) Create an approach to information theory, usage, and analysis consistent with the actual work and business positions that our graduates will eventually hold.

2) Develop the skills, which include that ability to work with diverse groups, that the program demands and rewards in subsequent modules.

3) Develop the informational skills required of modern managers in the current informational climate.

4) Set the expectations of students to the level of performance and rigor that will be expected in subsequent modules.

5) Emphasize business ethics and community involvement of business decision makers within the community.

Unique features of the innovation include:

1) A pre-course online exercise to refresh statistical and research knowledge and reduce the variance of student skill.

2) An information approach to the typical MBA analysis for managerial decision core instead of a technical statistical analytic skill approach.

3)   Exercises for both individuals and teams to produce actual and relevant business information which will be utilized to solve actual business problems. There is now a requirement to produce real value to the local community.

4)   A service learning component added to Objective 3.

## Relevant Literature

Ever since Claude Shannon (1948) introduced the concept of information as a fundamental probability function, the idea of information, especially in marketing research, has been modified from an emphasis on data to a recognition that information changes knowledge and creates a reduction of uncertain. Although material has been available for decades, and information theory has been added to a number of business statistical texts (see Kazmier 2003 as an example), there have been no published sources outlining it as a pedagogical approach to core MBA studies.

On the other hand, information about service learning has been voluminous. Specific to business education,  it has been found that being lectured about performing a community service did not increase students' intention to participate, but participation in a service-learning project did increase the intention to engage in community service, and that a combination of lecture and experience has more effect  than a project alone (McCarthy & Tucker 2002). It has been found that student evaluations improved, and the instructors reported improved satisfaction with teaching when a service learning component was added to business classes (Govekar & Rishi 2007).  Andrews (2007) pointed out some problems that could arise when combining community service into business classes, because of the nature of business instruction which emphasizes skills that are technical and standardized, but she concluded, "Researchers have described service learning as an ideal way to integrate experiential learning into coursework while meeting

community needs and imbuing students with civic responsibility" [p. 19].   Other authors (Godfrey, Illes, & Berrys 2005) have reinforced this position, stating that service learning is a needed counter-point to the narrow focus of business education and yields a broader educational base for study of business skills. Criticisms of MBA education have centered on the subject matter being isolated within sections, with a general failure to prepare students for the responsible exercise of authority. Service learning has been identified as a method of allowing faculty members to require a vision beyond narrow disciplines for the purpose of enhancing the greater good (Dipadova-Stocks 2005).

Service learning has been applied to many business education areas including management (Salimbene, et al 2005), organizational behavior (Weber & Sleeper 2003), marketing (Easterling & Rudell 1997; Hagenbuch 2006; Klink & Athaide 2004; Petkus 2000), and within MBA curriculums (Brown 2000; Collins 1996; Friedman 1996; Wittmer 2004). In general, these efforts have been linked with positive outcomes and increases of social responsibility (Lest, et al 2005), which have been long-lasting ( Jones & Abes 2004).

Studies specific to the change made in our research module have not been found, but Petrus (2000) suggests that marketing research is one of the areas in which nonprofit organizations in general are most lacking and is thus an area of great potential contribution for service learning.

### Innovation Details

The uniqueness of this innovation is highlighted by the literature review. Although information is available on all the added elements to this course, no specific findings were found that integrated these elements into one class.

The MBA research and analysis core course was found not to be meeting the needs of the students or the goals of the program and was restructured from the ground up.  Instead of offering a statistical or modeling course, the production and evaluation of information was highlighted and combined with a service learning component to emphasize the college's and the program's commitment to community service and ethics.

To do this, an online pre-course exercise was required of all students to refresh skills and reduce variance of students' performance and knowledge. An information approach was adopted, emphasizing the nature of information, its legitimate uses, methods of evaluating information, and the measurement and meaning of validity. Students are required to produce business research to obtain actual and relevant business information which will be utilized to solve actual business problems. This functions not only as an active learning tool, but it also creates real value to the local community while connecting our students to the business environment and culture of the area. The project must serve a non-profit involved in community service, and the students were required to provide a certain amount of time in the service studied.  They were not given credit for this. It was an exercise to facilitate understanding first-hand the dynamics of the business problem and to provide service without expectation of reward.

## Implementation

### Course Structure

The module was designed to provide an understanding and practical application of the nature of business research and decision making. The course covers the history of the scientific method, information theory, construct theory, survey design, research methods, quantitative and qualitative analysis, the communication of information, and decision-making applications.

Students are required to complete a number of assignments and projects that accomplish this goal.

Students must:

1) Complete an on-line marketing research and statistical exercise offered by Harvard University called the "Quantitative Methods Online Course." Student progress was tracked by the instructor, who was able to see the students' work as they proceeded through the exercise. The instructor could also see what topics class members were struggling with. The exercise offered a final exam that was counted as 10% of the module's final grade. The grade was large enough to motivate the students, but small enough not to create a negative distraction for the remainder of the module. The online exercise had to be completed by a set date, typically one week after the class actually began, in case any student encountered online difficulties. There was a cost involved that was approximately half that of a standard text book. To compensate, the text for the course was written by the instructor and could be downloaded free to anyone in the class.

2) Create a survey matrix to measure a hypothetical construct. To emphasis the basic nature of a construct, and to cause the student to apply course concepts without replicating secondary sources, the survey required the creation of a measure called a "Millihelen," or the amount of beauty necessary to launch one ship.

3) Produce a research paper on how to measure consumer loyalty. The exercise was designed to increase student knowledge about how measurement techniques can be applied to a practical business problem. Further, since this is the first module of the program and is required of all MBA students, the exercise helps establish the normative expectations that the program holds for proper referencing, writing style, business language, and logic.

To aid in this goal, students were encouraged to visit the Professional Readiness Program's Communication Lab operated by the business college. Students could gain knowledge and advice on  writing with a businesslike style, business document formats and their appropriate uses, review of formatting, templates, and styles, advanced use of computer writing tools such as reviewing and tracking changes, and guidance with editing and document management.

4) Submit a formal prospectus for the design and execution of a focus group measuring the desired educational goals of the students' university (team project). Part of this exercise is to build a bridge to further modules. The actual focus group project would be completed in the next module (Marketing Management).

5) Complete an encompassing business research project for a company or organization (team project). The project involved: the identification of a client, the identification and clarification of a business or organizational problem that can be solved, the submission of a research prospectus, gathering of both secondary and primary data,  analysis of all data, preparation of a research report, and an oral presentation of the project and results to the class and to the client.

Each client had to be a non-profit organization engaged in some service function. The explanation to the students read, "*The project offers a unique opportunity for service. Business research is very expensive. Small firms and service-oriented organizations can seldom afford to engage in this activity. By completing these projects, you will give the community about a quarter million dollar's worth of service at no charge. This project offers a unique opportunity for you as a future business leader to give service, while learning the importance and value of that service, and at the same time learning your craft and teaching others.*"

The students were instructed to become involved and familiar with a model of business that combines community service with business goals by looking at various cases including that of Tom's Shoes (Lerman 2009; Mustafa 2007; Toms Shoes 2012).  They were instructed, "*You are there to learn from them, not to teach or to preach.  They are doing you a favor if they allow you to do a project for them.  Always treat your client (and the client's personnel and customers) with kindness and respect.*"

Each student was instructed to volunteer several hours of their time within their client's organization to familiarize themselves with the client, with what they do, and to familiarize themselves with the people they deal with and serve.

**Evaluation**

In addition to the usual graded assignments and two scheduled exams, business writing was evaluated by both the instructor and the Professional Readiness Program's Communication Lab. The project was evaluated by the instructor, the team members, and the final presentation by all class members.  The client was also asked to provide feedback.

The service learning component had several feedback features. Students were required to outline specifically what they wished to learn from this project as individuals, and to list not only their specific research and information processing goals, but what they wanted to learn about how solutions can be applied to solve real problems, and how business techniques can be utilized to solve community problems in a larger context. When a client was identified, the team met with the client, discussed how they could be of service to them, and asked about their issues.

Consistent with the goals of the class, each student was required to submit a "reflection." This was a paper that addressed the following issues and questions.

- Explain your role in the project.

- What have you learned that you didn't know at the beginning of the project?

- What have you learned from the people involved in this project? What have they learned from you?

- What have you learned from the client in this project? What has the client learned from you?

- What have you learned about yourself by doing this project?

- What have you learned about the community?

- How did this project build a bridge between you and the people your client serves?

- How did this project build a bridge between the university and the people your client serves?

- What would you recommend to the next student who might do the same assignment?

**Effectiveness and Specific Benefits**

Feedback was obtained through four different channels.

1) The traditional grading and work evaluations made by the instructor.

2) Students were encouraged to give feedback to the instructor, and to the MBA coordinator.

3) Learning outcomes were measured with a matrix developed by the MBA program and administrated and updated by an administrative assistant.

4) Students completed the standardized student evaluation of teaching after every module.

  5)  The "reflection" was collected and complied after the module.

**Outcomes**

Two measures on the student evaluation of teaching that were related to student learning and satisfaction were collected: learning satisfaction, and if the class created an "atmosphere" that would facilitate learning.  On this instrument, students can respond on a four point scale (forced choice). As can be seen in Table 1, initially, the percent of students who were satisfied with their learning was 70%, and 80% said that the class created an atmosphere that encouraged learning. With both innovations, the corresponding levels are 83% and 92%.

**Table 1**

**Student Evaluation of Teaching: Percent "Yes"**

| | n | Learning Satisfaction[1] | Learning Atmosphere[2] |
|---|---|---|---|
| **Information and Service Learning** | | | |
| 2011 | 15 | 83% | 92% |
| **Information Only** | | | |
| 2010 | 18 | 72% | 83% |
| 2009 | 23 | 87% | 83% |
| 2008 | 20 | 88% | 88% |
| 2007 | 20 | 80% | 90% |
| *Average* | | 82% | 86% |
| **Pre-Innovation** | | | |
| *Average* | | 70% | 80% |

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[1] Are you satisfied with your level of learning?

[2] Did the class create an atmosphere that encouraged learning?

On the first attempt, it appears that service learning has had little effect on learning satisfaction, but did seem to add to the students' perception that the learning environment had been improved. The complete quantitative analysis is not yet available, but will be released within the next several months.

The responses to the qualitative measures of service learning innovation by students are available and are uniformly positive. There were no negative reactions recorded in this first trial. One student from India reported, *"In the course of this project I worked with a culturally diverse team for the first time and I am really thankful to Dr. XXX for providing us with this opportunity. The experience was awesome."* A student from China wrote, *"[The] main thing I learned about the community is that there are really a lot of people in need. Some awful things happen to people and lead them to lose jobs, house, or even parts of their body.  It will be very nice for a citizen who has free time and resources to help people in need."*  Another student commented, *"Having worked with the food bank, I now see beyond my four walls and that an incredible amount of poverty and need exists within miles of my own home."* He continued, *"Seeing families come into the food bank during my visits created an emotional connection for me, particularly when it comes to children."* Finally a student who works as an engineer for an international firm responded, *"Thanks for giving me an opportunity to work with a non-profit in the community. This truly was a great experience."*

From the interpersonal feedback we learned that the class structure was positively seen, but we still need to make other adjustments. The information approach needs to be explained more thoroughly at the beginning of the module. The beginning of the course is arguably the most theoretical that the students will experience in the program, while the later projects are more skill oriented and "real" than anything they will experience until the capstone. This juxtaposition needs to be explained and defended early on in the course. In addition, the instructor does not micromanage the course.  Students are expected to take the initiative and assume leadership. We have found that since students come from such varied backgrounds and cultures, this orientation needs to be more carefully clarified early in the course.

## Transferability and Implications for Educators

Almost all MBA programs have some course that is the equivalent of statistical analysis for decision making.  Each is designed specifically for the goals of that program. In our case, we found that the class, as structured, was not meeting the students' goals or our own. We have found that the course could be changed and that the changes are beneficial.

First, in relationship to student and faculty feedback and the goals of the program, we realized that a change should be made.  Second, an administrator who was intimately related to the program and its function and goals consulted with faculty members who were experts in the area, irrespective of whether they were currently teaching MBA classes. Third, a plan was designed and adopted to change the emphasis of the class from analysis of data to an emphasis on the nature, source, evaluation, and presentation of information.  Fourth, to reinforce the goal of the program to produce ethical and community minded managers, and to give back to the community, a service learning approach was added to the class projects.

None of these changes required new technologies, or the need for additional expenses for the college or for the students. Any MBA program could adopt the innovations.

There are two potential problems, neither of which presented a significant hurdle in our changes. First, there is no existing text book for the course. In our case, the primary instructor simply took a research and analysis text that he had already written and modified it to fit the objects of the course. It is relatively short and supplements the lectures and project instead of acting as the repository of the class's instruction. As mentioned, it was supplied at no cost to the students. Since the incorporation of the innovation, no student has ever complained or even mentioned a problem with the text. The second potential problem involves politics and turf. The innovation did result in a change in the primary instructor for the course, but the past instructor was frustrated with the class as it had existed and welcomed a change in his teaching schedule. Other changes were specifically designed to readjust the skill levels and outlook of the students in subsequent MBA classes. Instructors in these modules and the capstone coordinators welcomed the changes. Given the goals of the program and the innovations proposed, we experienced no opposition to these modifications. We don't believe that this was simply a happy coincidence.  This change fitted the program's objectives so closely that it engendered no opposition, and is eminently transferable to other MBA programs.

# References

Andrews, C. P. (2007). Service learning: Applications and research in business. *Journal of Education for Business,* Sept/Oct, 19 – 26.

Brown, K. (2000). Developing project management skills: A service learning approach. *Project Management Journal, 31(4)*, 53 – 58.

Clayson, D.E. (1989). The product of research is information. *Marketing Educator*, (Fall), 5.

Collins, D. (1996). Serving the homeless and low-income communities through business & society/business ethics class  projects: The University of Wisconsin-Madison Plan. *Business Ethics,* 15(1), 67 – 85.

Dipadova-Stocks, L.N. (2005). Two major concerns about service-earning: What if we don't do it? And what if we do? *Academy of Management Learning & Education,* 4(3), 345-353.

Easterling, D., & Rudell, F. (1997). Rationale, benefits, and methods of service learning in marketing education. *Journal of Education for Business,* 73(1), 58 – 61.

Friedman, S.D. (1996). Community involvement projects in Wharton's MBA curriculum. *Journal of Business Ethics,* 15, 95 – 101.

Godfrey, P.C. Illes, L. M, & Berry, R. (2005).  Creating breadth in business education through service-learning. *Academy of Management Learning & Education*, 4(3), 309-323.

Govekar, M. A. & Rishi, M. (2007). Service learning: Bring real-world education into the B -school classroom.  *Journal of Education for Business*, Sept/Oct, 3 – 10.

Hagenbuch, D. J. (2006). Service learning inputs and outcomes in a personal selling course. *Journal of Marketing Education,* 28(1), 26 – 34.

Jones, S. R., & Abes, E. S. (2004). Enduring influences of service-learning on college

students' identity development. *Journal of College Student Development,* 45(2), 149-166.

Kazmier, L.J. (2003). *Schaum's Easy Outline of Business Statistics* (4th Ed.), New York:

McGraw-Hill.

Klink, R.R., & Athaide, G. A. (2004).  Implementing service learning in the principles of

marketing course.  *Journal of Marketing Education,* 26(2), 145 – 153.

Lerman, E. (2009). PhiLAnthropist interview: TOMS Shoes founder Blake Mycoskie plans to

give away 300,000 pairs in 2009. LAist. Retrieved from: http://laist.com/2009/04/15/

what_happens_when_you_travel.php, on March 29, 2012.

Lester, S.W., Tomkovick, C., Wells, T., Flunker, L., & Kickul, J. (2005). Does service-learning

add value? Examining the perspectives of multiple stakeholders. *Academy of Management

Learning & Education,* 4(3), 278-294.

McCarthy, A. M., & Tucker, M. L. (2002). Encouraging community service through service

learning. *Journal of Management Education, 26(6),* 629 - 647.

Mustafa, N. (2007). A Shoe That Fits So Many Souls. *Time.*  Retrieved from:

http://www.time.com/time/magazine/article/0,9171,1582305-1,00.html on March 29, 2012.

Petkus, E. (2000). A theoretical and practical framework for service learning in marketing:

Kolb's experimental learning cycle. *Journal of Marketing Education,* 22(1), 64 – 70.

Salimbene, F.P., Buono, A. F., LaFrage, V.V.S., & Nurick, A.J. (2005). Service learning and

management education: The Bentley experience. *Academy of Management Learning &

Education,* 4, 336 – 344.

Shannon, C. E. (1948).  A Mathematical Theory of Communication. *Bell System Technical

Journal*, 27 (July/October), 379–423, 623-656.

Toms Shoes (2012). Toms frequently asked questions. Retrieved from: http://www.toms.com/faq

    on March 29, 2012.

Weber, P.S., & Sleeper, B. (2003). Enriching student experiences: Multi-disciplinary exercises in

    service learning. *Teaching Business Ethics*, 7, 417 – 435.

Wittmer, D. P. (2004). Business and community: Integrating service learning in graduate

    business education. *Journal of Business Ethics, 51(4)*, 359 – 371,