CBAR

Christian Business Academy Review

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CURRICULUM DEVELOPMENT

The Development of an Integrated Experiential Model for Student Transformation

CREATIVE INSTRUCTION

CASE STUDY
The Zambia Medical Mission: An Operations Management Perspective

PROFESSIONAL ISSUES

Salary Study of College Presidents and Faculty: Are Salaries for Institutions in the Council of Christian Colleges and Universities Different From Other Private Institutions?

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PURPOSE

The *CBAR* is a blind peer-reviewed spring publication of the Christian Business Faculty Association. The *CBAR* is devoted to promoting Christian business education through publication of faith-based articles that focus on **Creative Instruction** (cases, innovations in pedagogy, materials, and methods for teaching undergraduate and graduate business students), **Curriculum Development** (book reviews, ideas for and experience with the creation of new courses and programs of study), **Professional Issues** (the role of business programs and faculty in assessment, accreditation, compensation, teaching loads, and professional development), and **Research in Business Education** (original empirical studies and surveys dealing with the evaluation of teaching methods, learning attitudes, and assessment techniques).

The *CBAR* aims to publish manuscripts which add to the body of knowledge. These manuscripts will represent both good scholarship and good pedagogical thinking. The authors must establish an academic context for their ideas. Authors should include a section with some discussion of other people's work in the area in order to place their efforts in the larger context of a growing pedagogical scholarship. The aim is to publish the combination of scholarly skills (literature reviews, informed thinking, building on previous research, etc.) and pedagogical exploration (new ways of teaching – or thinking about – the subjects and materials in which *CBAR* readers are most interested).

The suggested page limit varies by focus area. Creative Instruction manuscripts should be shorter (5 to 10 pages double-spaced) and do not necessarily need to have quantifiable results. Curriculum Development and Professional Issues manuscripts should vary in length depending on the level and depth of the literature review and whether or not a hypothesis is being tested. Manuscripts in Curriculum Development and Professional Issues should be between 5 and 20 pages double-spaced. Research in Business Education manuscripts should include a literature review and some form of quantifiable support for or against a hypothesis. Research in Business Education manuscripts should be about 20 pages double-spaced.

The *Christian Business Academy Review* is listed in the 10th edition of *Cabell's Directory of Publishing Opportunities in Management.*

STYLE INSTRUCTIONS

Readability and author anonymity is of primary importance for the review process. Submitted manuscripts should be double-spaced using an easily readable font such as Garamond 11. Manuscripts should include a cover page with title, authors, and their affiliations. Author(s) name should not appear in the body of the paper. The first page of the paper should include the paper title, followed by an abstract of not more than 100 words, and then followed by the first section titled "**INTRODUCTION**."

Up to three levels of section headings are allowed: level one (all caps), level two (left justified with first letter of each world capitalized), and level three (left justified with first letter of each word capitalized and all italicized). Tables and figures should be numbered starting with 1 (e.g., Table 1: Sample Demographic Characteristics). Note in the body of the paper approximately where tables or figures should be placed using double lines with (insert Table 1 here) between double lines. Place any tables, figures, and appendices after the reference section. Tables and figures should be in a portrait orientation with 1 inch margins on all sides. Use endnotes, not footnotes, and avoid excessive usage of endnotes. The endnotes section should appear at the end of paper but before the references section. References should be noted in the body of paper in parenthesis, e.g. (Lantos, 2002). All references should appear alphabetically by author's last name in the references section as follows:

Lantos, G. P. (2002, fall). How Christian Character Education Can Help Overcome the Failure of Secular Ethics Education. *Journal of Biblical Integration in Business,* 19-52.

POLICY REGARDING PREVIOUSLY PUBLISHED MATERIAL (INCLUDING CBFA MEETING PRESENTATIONS)

The *CBAR* does not normally publish manuscripts (or book reviews) that have been previously published in other journals, books, or magazines. The *CBAR* will consider manuscripts of papers presented at regional or national meetings (including those presented at the CBFA national meeting). In this regard, authors should note that *CBAR* is a blind peer-reviewed academic journal. The *CBAR's* standards for manuscript acceptance may be quite different from those of acceptance for meeting presentations. Frequently, regional and national meetings are forums for early versions of ideas, as well as for discussing issues related to a particular discipline's pedagogical, organizational, and political concerns. Therefore it is the position of the *CBAR* that papers presented at meetings should be substantively changed for consideration as manuscripts for the *CBAR*. While it is not practical to quantify the required degree of change, it would be expected that the author(s), in a letter accompanying the manuscript, would be able to document the substantive changes made in development of the manuscript for review by the *CBAR.* The *CBAR* reserves the right to not publish material considered to be insufficiently developed as a journal manuscript. Authors who do submit manuscripts developed from previous paper presentations should recognize that they may forfeit some of the "blindness" in the blind review process. While all identifying information will be deleted in manuscripts sent to board of review members, one or more members of the board may have knowledge of the paper as a presentation. Such papers are often published in meeting proceedings and these may well be known to reviewers (especially from the CBFA's own national meeting).

SUBMISSION INSTRUCTIONS

Manuscript submissions should be done electronically. Please specify the focus area for your manuscript (i.e. Research in Business Education, Creative Instruction, Curriculum Development, or Professional Issues). E-mail a file of your submission in Microsoft Word to ktsaunders@anderson.edu.

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The Development of an Integrated Experiential Model for Student Transformation

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ABSTRACT: *This paper presents a model for student transformation: spiritually, intellectually, and professionally. The implementation of this model has been supported by a paradigm shift in business faculty and staff who have embraced the challenge of developing servant leaders through an integrated process of curricular, co-curricular, and experiential learning and transformational teaching. The authors share the evolution in thinking that generated this model and the related approach to teaching and learning, along with some concrete examples of its implementation and lessons learned along the way. They also discuss anticipated next steps to further integrate the model into teaching and learning efforts and to assess its effectiveness in achieving intended learning and growth outcomes.*

INTRODUCTION

The business faculty at a small western New York Christian college for several years has been wrestling with how to increase the effectiveness and lasting impact of its students' learning experiences. Over the course of the past decade, the faculty has been engaged in an ongoing dialogue that has challenged its paradigms about the purposes of a Christian business education, faculty roles as Christian business educators, and the means of engaging students in the learning process. This paper describes the evolution of thinking in these areas and some of the scholarship that inspired it, discusses some of the resulting educational implications, introduces an integrated student transformation model that has brought cohesiveness to these efforts, and concludes by considering some of the challenges and opportunities that remain.

THE CHALLENGE: STUDENT TRANSFORMATION

Inspired by the work of Webb (1997) and Howard (1997), the faculty began about a decade ago to discuss its purpose and approach to business education. Webb (1997) argued that God calls everyone to leadership (influence).[1] He further asserted that "without an underlying motivation to influence others so as to make a difference in the world, the integration of faith and learning is just a sterile academic exercise" (p. 1). This challenged the faculty to consider its role in teaching and fostering leadership in its students in a much more intentional manner. However, Page (1996) cautioned that "we should not be factories producing leaders but rather organizations developing leadership potential in our students" (p. 82) – an admonition that began to reshape faculty understanding of what it meant to be a business educator, a move away from simply imparting knowledge to actively developing leaders.

A second article that significantly shaped faculty thinking and dialogue about business education advocated a transformational (vs. transactional) teaching/learning/leadership model as a means of enhancing both student learning and leadership development (Howard, 1997). Howard contrasts transformational vs. transactional teaching/learning summarized in Table 1.

Table 1: Transactional vs. Transformational Teaching/Learning

Transactional Teaching/Learning	Transformational Teaching/Learning
Teacher and student have separate, but related, purposes	Teacher and student aspire to a common [higher] purpose
Courses viewed as a series of exchanges; student focus on grades	Courses viewed as shared opportunities for learning/ growth
Course syllabus as a contract	Course syllabus as a roadmap or guide
Motivations for learning: getting a grade, meeting a requirement	Motivations for learning: a desire to learn or become
Success = grade earned, requirement met	Success = changed attitude, transformed mind, enriched worldview, improved ability
Instructional focus on content	Instructional focus on process and outcome

Adapted from Howard (1997, 4-5)

Howard asserted that transformational teaching "not only improves the teaching but leads to a natural integration of a Christian's faith into the education process" (p. 2) and that the resulting "Christian teaching should facilitate change and activity that moves people toward God" (p. 8). He concluded that transformational teachers are people of vision, who know how to engage their students, are committed to values, and seek growth in themselves and others (p. 7). It is reasonable to assume, therefore, that a transformational faculty will collectively share these qualities and that a realistic (and perhaps assessable) outcome of their interaction with students might be the demonstration of these qualities in their students, because in the end "education is not just inputs and outputs but is a process of *becoming*" (p. 12, emphasis added). More specifically, its chief aim is "helping people become what God wants them to be" (p. 14). The implications of this understanding are enormous and powerful.

Another significant contribution to the thinking and dialogue of faculty, and the design of the college's business program, was Hersey and Blanchard's (1969) life cycle theory of leadership,[2] which hypothesized that leadership styles should reflect the maturity level of the followers. The faculty believed that this theory had important implications for their growing interest in facilitating spiritual, intellectual, and professional transformation in students – helping them to achieve their God-given leadership potential. Specifically, the life-cycle theory contends that as the maturity level of the follower (ability to act independently and assume responsibility and the desire to achieve success) increases, leadership style should move from high task-low relationship, to high task-high relationship, to high relationship-low task, to low task-low relationship. It seemed appropriate that because the maturity level of students tends to grow across their (typically) four-year educational experience, the program should be designed to embrace this developmental process, while endeavoring to graduate fully mature, responsible, capable servant leaders.

As the faculty discussed, prayed about, and wrestled with these theories of leadership, teaching, learning, and development, it became increasingly clear that their traditional educational philosophies, models, and approaches were inadequate to accomplish the mission and emerging vision of the department or to meet the evolving needs of students. The shifting learning preferences for incoming students, accompanied by rapid advances in classroom technology, exerted significant pressure for new pedagogical approaches. As Fawcett (2003) noted, "business education has seen a trend toward a more interactive style of pedagogy as students seem to prefer getting their 'hands dirty' while studying business" (p. 1). At the same time, the mission statements of the college and the business division were revised to expand the mandate beyond simply providing an education, to transforming students so that they can transform society – a small change in words with powerful and, at times, overwhelming implications. The faculty was also increasingly dissatisfied with the effectiveness of its efforts to integrate faith with teaching; despite significant efforts, it too often seemed that business education and the consideration of related faith implications were, at best, parallel discussions.

As the faculty struggled with these tensions and searched for new solutions, it became clear that three overarching (and probably unstated) educational assumptions needed to change. First, student-learning needed to expand beyond the classroom in a much more pervasive manner. A traditional medical training motto is *See One, Do One, Teach One,* advocating that learning happens best when students have opportunities to observe, practice, and then instruct/mentor others. As Johnson (2003) noted, there is biblical precedent for such a learning model: "For Ezra had set his heart to *study* the law of the Lord and to *practice* it, and to *teach* His statutes and ordinances in Israel" (Ezra 7:10, NAS, emphasis added). This approach resonated with the faculty as an opportunity to meet the challenges they were facing. As a result, they implemented a number of initiatives to complement classroom learning: strengthening the internship program, initiating a Students in Free Enterprise (SIFE) team, implementing an annual departmental essay contest, incorporating service-learning projects within courses, utilizing more guest speakers, etc. The faculty also recognized a need to much more explicitly articulate its mission, goals, and learning model to its students and ensure that all learning opportunities supported these priorities, with the intent of increasing focus and intentionality. Finally, it became increasingly clear that for any of this to really work, responsibility for facilitating effective student-learning and transformation must be a shared, collaborative effort among the faculty, staff, and administration.

Although not fully understood at the time, the faculty was really struggling with how to come to consensus on their desire to see greater transformation in students and how to build a model for comprehensive biblical integration. Holder (2006) noted the need for comprehensive biblical integration within academic programs (as opposed to course-by-course integration), arguing for a "coordinated progression of biblical integration to facilitate the learning relationship among the courses" (p. 44). The model presented in Figure 1 attempts to do this, but also recognizes the opportunity for integration outside the formal classroom. As such, it advances the type of integration suggested by Chewning (2001) and Holder, where a systematic coordination of integration efforts, styles, and methods has challenged students to incorporate "Christian character development, utilized Scripture as a practical source of business principles, encouraged the inclusion of biblical truth into marketplace practices, and fostered the spiritual growth and development" (Holder, p. 47). The effort to construct and implement such a comprehensive integration model also addresses one of the gaps in the field of faith/business integration noted by Smith (2005) – the lack of integration meta-theory (How does integration happen? What are the models of integration? What are the intended outcomes?).

THE RESPONSE – THE DEVELOPMENT OF AN INTEGRATED STUDENT-TRANSFORMATION MODEL

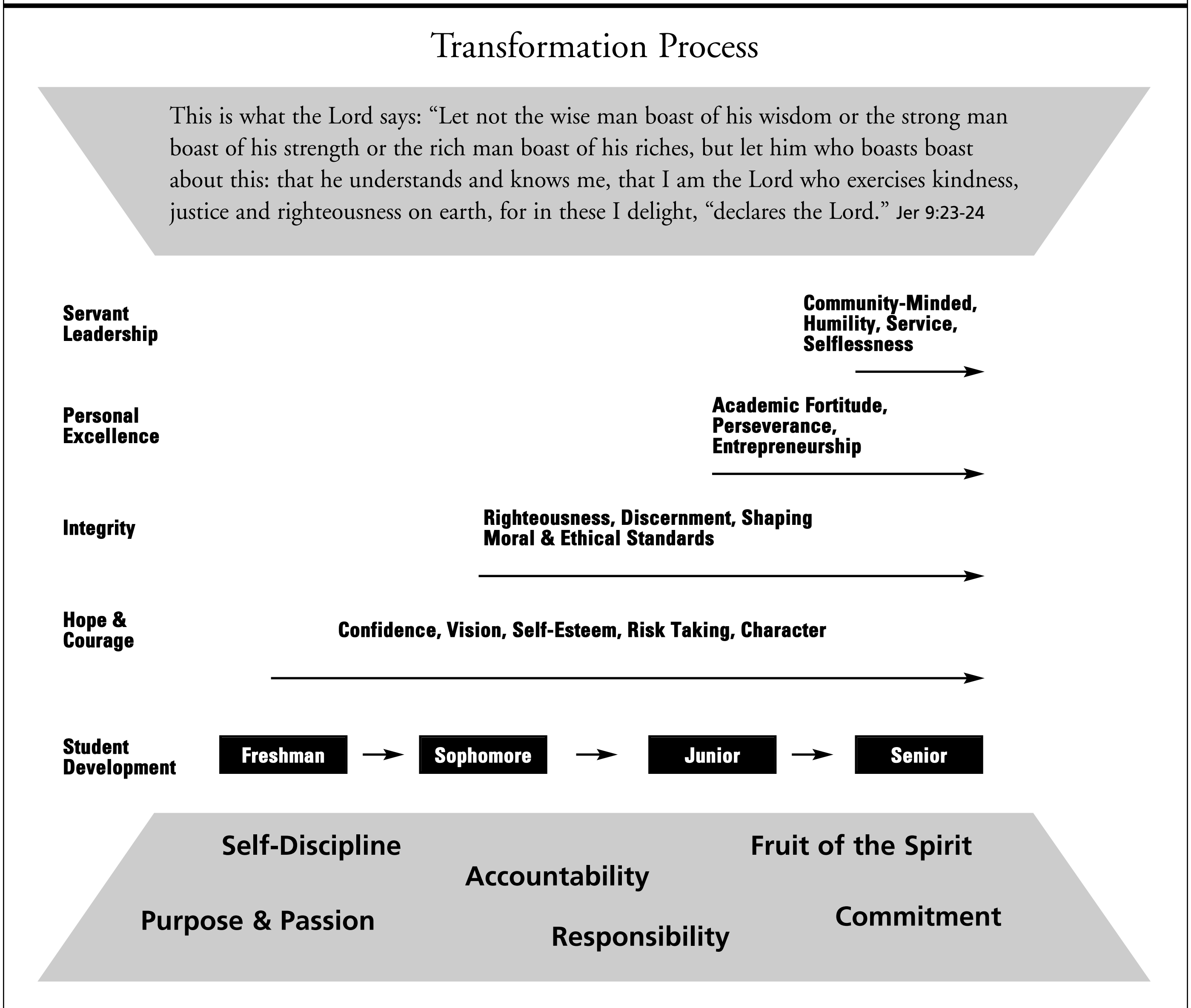
Based on these early lessons, the faculty began an extensive effort to articulate a four-year integrated model of student transformation that included both professional/educational outcomes and personal/character/faith outcomes. These outcomes were intended to accomplish intentional, coordinated, integrated learning opportunities through both curricular and co-curricular experiences. The model is referred to as a "transformation process" because it serves as a unifying anchor for Undergraduate Business Program faculty and staff to provide opportunities for students to move through the building blocks toward being transformed by the renewing of their minds (Romans 12:2).

In Alfred North Whitehead's *The Aims of Education* (1929), he described the "rhythm of education" as follows: "The principle is merely this — that different subjects and modes of study should be undertaken by pupils at fitting times when they have reached the proper stage of mental development" (p. 15). This thought may be dated but is nonetheless relevant to today and has had a significant influence on how the model is communicated and implemented. He advocated that we should be patient and move students through only those subjects and difficulty levels when they have successfully passed through the previous phase. While faculty cannot be perfectly flexible with the timing of a student's education, they can be cognizant of the phases students need to pass through before greater things can be expected from them. The model presented here is intentionally designed so that each year provides a foundation for the next, synchronizing the curriculum requirements with the stages of spiritual and character development, resulting in an overall process that can equip students to be Christ-like leaders.

Model Overview

The shared hope of the business faculty and staff is that students (1) place their faith in Christ and have the conviction to follow his leading, (2) change their lifestyles to conform to biblical teachings as they grow in the faith, (3) develop an understanding of their unique God-given gifts, and (4) begin to serve others using those valuable tal-

Figure 1: Student-Transformation Process



ents. How to operationalize those stages into concrete, measurable goals was the challenge. As a result of fervent prayer, the faculty was inspired to design the model shown in Figure 1. Drawing from experience in industry, the time-to-market process was used as a template. (See Appendix I)

The model is multi-dimensional and is encapsulated by character attributes the faculty believes are essential to graduating students and by scripture. The character attributes are foundational attributes the faculty believes are necessary in order for students to model Christ-like behavior: fruit of the spirit, self-discipline, purpose and passion, accountability, responsibility, and commitment. The scripture from Jeremiah 9:23-24 captures the faculty's greatest desire, that students will graduate "boasting" about the transformation God has made in their lives and that they will be well equipped to fulfill all the good purposes he has for them. The intention of the four themes is to provide a framework for students to develop these character attributes in unique ways each year. Freshman classes emphasize hope and courage; sophomore classes emphasize integrity; junior classes emphasize personal excellence; senior classes emphasize servant leadership. One of the four themes is emphasized for *all* business students each year. In this way, each student who studies business at the college for four consecutive years is exposed to each theme multiple times and in multiple settings.

IMPLEMENTATION

How Integration is Accomplished

This section highlights the implementation of the model. This school year, 2006-07, completes the fourth year of integrating the model into the business program. It is the faculty's intent, through pedagogy, advisement, and experiential opportunities, to provide students with occasions and circumstances to reflect on their life choices and become convicted of their personal beliefs through the grace of God. In other words, we seek to provide the environment and opportunities to lead students toward God's plan for their lives. As they become strengthened in their personal beliefs, the intent is to provide avenues for them to experience and reflect on what they believe in business and personal settings.

At the beginning of each year, the business department hosts a kick-off picnic. Before the picnic, the faculty is introduced and the model is reviewed with the business students. Each year one of the four core themes is highlighted, while also emphasizing the appropriate theme for each level of course. For example, during the year in which *hope and courage* is the theme, all business students are asked to complete assignments and participate in activities which encourage them to develop confidence, take risks, and build self-confidence, establishing hope and courage in themselves and the power of the risen Christ to transform their lives into His likeness. At the same time, students in 100-level business courses are being further challenged to develop hope and courage through exposure to varied academic topics and campus life experiences connected to these courses. The ultimate learning goal for these first-year students is that they will possess the resolve to move forward as they face the unknown and demonstrate the willingness to attempt something new or different even though it might be difficult.

The sophomore year is the time when, having tested and stretched themselves in the previous year, students should be building their inner level of integrity, demonstrating through their actions evidence of what they profess to believe, regardless of the consequences. The learning goal for second-year students is that, based on a supernatural discernment given by God to decide right from wrong, they will learn what it means to be in the world but not of the world (Romans 12:1-2). This is a difficult lesson for students living in a culture pervaded by relativism. In business courses students are presented with numerous case studies on ethical issues. It is, of course, important that they become able to discern ethical business practices from unethical business practices. The challenge for students seems to be recognizing the integration of biblical and business principles as a holistic view; that integrity is the same answer in personal situations as well as business situations. Students in 200-level courses consider these implications of integrity, as well as the departmental theme for the year.

The junior year focuses on personal excellence, building and testing a personal mission for the future. The faculty recognizes that not all students are "A" students, but that each has been given a special purpose by God. It is the privilege of faculty to help students discover what this is and pursue it with fortitude and perseverance by doing their best in all endeavors. In 300-level courses, in addition to challenging students with the departmental theme for the year, students are encouraged to be excellent at whatever they are called to do, for the glory of God. The learning goal for juniors is that they will be aware that the gifts and talents they possess come from God and that they will be accountable to him for how they are used. The focus is on having the students pursue academic fortitude by selecting a career choice, persevering through upper-level courses and experiential learning opportunities, and developing an understanding of entrepreneurship from a personal level, not just a business perspective. In addition, they must be proactive, responsible, and reliable people, who will follow through on assignments and tasks.

The senior year is the faculty's final year of discipleship, bringing all four years together so that the student leaves not only with a degree but also with a mind and a heart for selfless dedication to service – servant leadership. The desire is that each student will leave with the capacity to lead where Christ has placed him/her, patiently waiting for God to increase his or her influence. The learning goal is that students will demonstrate the character qualities of humility and selflessness as they focus on service to their communities, that they will be able to function interdependently and collaboratively, and that they will be able to work effectively with others to accomplish tasks, in both group and one-on-one situations, assuming leadership and follower-ship roles. This is the focus of 400-level courses and specifically the two capstone business courses: Leadership Challenge and Strategic Management.

Following the example in Ezra 7:10, the four-year transformation process allows for students to *"See One, Do One, Teach One."* Freshmen can see the possibilities ahead of them – *see* by becoming familiar with multiple avenues of learning and the diversity of the campus population and *see* by testing the limits of their personal preconceptions and knowledge: hope and courage. The sophomore and junior years are those in which students are challenged to *do,* to be hands-on with their learning through class projects, division-sponsored activities, and intercampus activities. These are the classes in which *doing* is encouraged over passive learning (*seeing* only): where integrity and personal excellence are stressed. In the senior year, having *seen* the world and their capabilities and having practiced their passions by *doing,* they are now ready to truly integrate all they have learned by *teaching* others: servant leadership.

Assumptions and Keys to Success

The implementation of the transformation model was guided by several operating assumptions. The response from the entire faculty and staff at the college has been overwhelmingly positive primarily because at the beginning this model was embraced by everyone and periodically throughout each year there are opportunities for reassessment and sharing of implementation practices by everyone. The key assumptions and keys to success from the faculty viewpoint are summarized in Table 2.

This model is still viable without the overt reliance on Christianity and scripture. The character attributes and the themes are very relevant to a secular environment and should resonate with students and professors regardless of faith or lack of faith. Essentially the model can be adopted in a secular environment by simply eliminating the reference to scripture and, instead, focusing on desired character attributes.

Implementation Progress

The faculty has made significant progress implementing this model and, based on the results of student feedback on course evaluations, students are beginning to see the applications in their courses (see figure 2).

Specific implementation activities have evolved as new techniques have been tested, more powerful ways have been discovered to get the message across, and students have become more actively involved in their own transformation process. Table 3 summarizes the specific activities used to implement the transformation model during its first four years.

Table 2: Assumptions and Keys to Success

Assumptions	Keys to Success
1. Responsibility for model implementation must be shared by all faculty and staff.	1. At the conclusion of each school year, a week-long strategy session is held. One of the agenda items is the reassessment of the model and the expansion of integration within and across courses.
2. Faculty need to carefully articulate the model and its justification to the students.	2. Model linkage must be made within syllabi, course objectives, and assignments.
3. The model must be infused to the fullest extent possible into everything we do (cannot be perceived as an additional component to what we already do — it *is* what we do).	3. Adopting one of the four themes each year for all department activities keeps faculty, staff, and students focused and cognizant of the application of that theme.
4. The model relies heavily on experiential/service learning and co-curricular opportunities to complement classroom instruction.	4. Linking class assignments to activities which support and enhance the theme helps reinforce the relevance of the theme and helps faculty and students integrate it within their personal experience.
5. Faculty must embrace a more transformational approach to teaching.	5. Frequent open dialogue and best practice sharing results in positive reinforcement.
6. Transformation efforts must be assessed to the extent possible.	6. As assessment processes are developed, use the transformation model as the guiding principle. Take measurements at different points in time, combining student self-reflection and external assessment.

FUTURE OPPORTUNITIES AND CHALLENGES

This academic year completes the fourth year of implementation and will give the faculty the opportunity to review the preceding four years. The faculty is committed to continuously improving the delivery and communication of the model. There are unlimited possibilities for further integration of the model's learning goals and further releasing the process into the control of the students, enabling them to embrace for themselves the power of this opportunity for their own personal transformation. One potentially significant tool for student enablement is an e-portfolio, which can become the student's record of their progress toward each of the goals and a repository for documenting their years at the college. This system will also allow for Web-based assessment using pre-determined rubrics that measure the degree of proficiency for each learning outcome. This approach will allow assessment of learning outcomes on a student-by-student basis, as well as an evaluation by major and department. It will also facilitate shared responsibility for learning between the faculty and the student.

Perhaps the greatest opportunity and challenge for the faculty is to be living examples for the students, modeling that which we seek to foster in them. As Johnson (2003) asserted, "we teach most authentically that which we have been learning most actively" (p. 1). It is the intent of the faculty to purposefully and diligently role model the transformation process in all of our lives, faculty and staff, so that our students can *see* what it looks like, *do* or practice those behaviors resulting from God's transforming power, and *teach* the world by being salt and light – servant leaders.

The ultimate test of the implementation of this model for student transformation is the extent to which the specific desired learning and growth outcomes are achieved. Unlike many of the more traditional student outcomes such as teamwork or communication skills, assessing hope and courage, integrity, personal excellence, or servant leadership requires new approaches. The faculty has constructed an assessment tracking table, which includes the learning goals for each theme, a defined method of assessment, intended outcomes, and evidence of realized outcomes.

The methods of assessment will include internships, experiential learning, student e-portfolio, alumni surveys, and student exit surveys. The intended outcomes will be measured using those assessment tools and the results evaluated. The current academic year will produce the first measurable outcomes from the student-transformation model. It is faculty's future intent that each business student will work with his/her faculty adviser to develop annual learning contracts that will identify means of demonstrating proficiency in key learning outcomes.

Figure 2: Student Evaluation Results

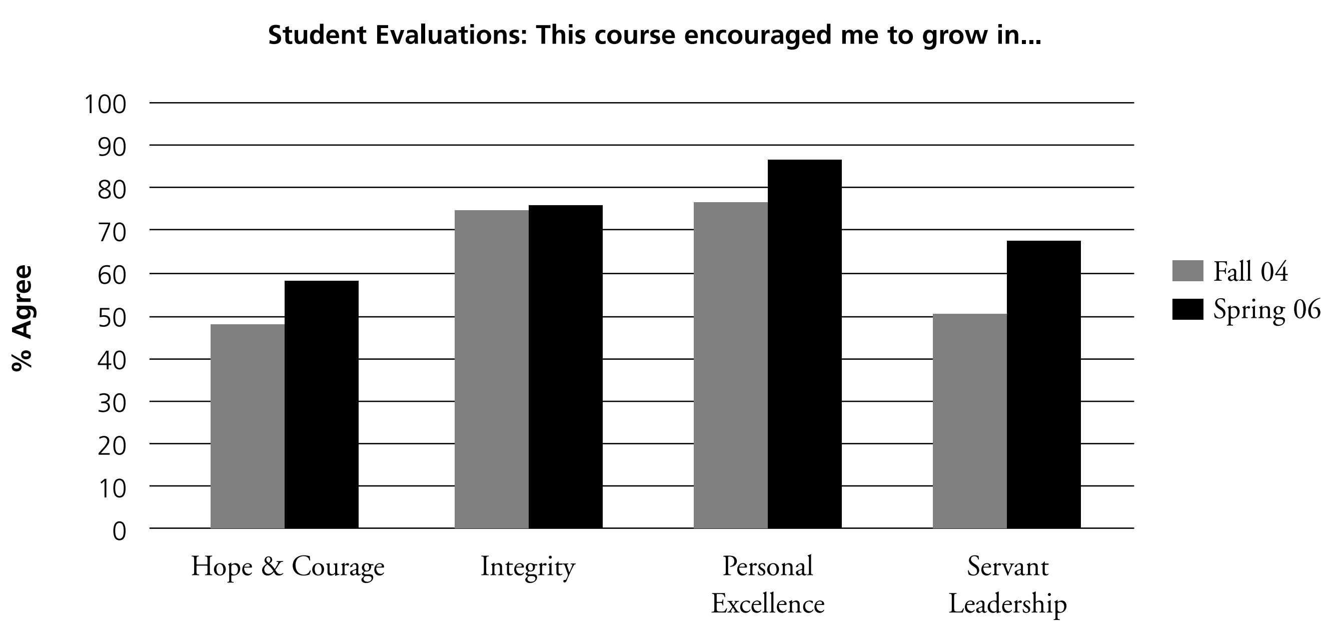


Table 3: Transformational Model Implementation Activities

Model Theme	Activity
Hope & Courage (Year 1)	• Kick-off picnic at beginning of year includes games that encourage getting out of comfort zone • Essay contest on the year's theme open to all business students • Assigned book reading[3] with required essay for selected courses • Faculty panel discussion • Experiential activities to encourage risk-taking • 1st annual awards banquet with senior awards in all four theme areas • Began SIFE project, Women of Hope business camp[4] • SIFE and class projects • Guest speakers in various courses
Integrity (Year 2)	• Kick-off picnic at beginning of year focuses on integrity • Assigned book reading[5] with required essay for selected courses • Formed student-led book-review session for in-depth discussion • Essay contest on the year's theme open to all business students • Panel discussion with local business leaders and educators • Assigned academic integrity officer • Class and SIFE projects including Biz World integrity workshops in area grade schools • SIFE and class projects • Guest speakers in various courses • Annual awards banquet awarding one senior for each category.
Personal Excellence (Year 3)	• Kick-off picnic at beginning of year focuses on personal excellence • Assigned book reading[6] with required essay for selected courses • Essay contest on the year's theme open to all business students • Panel discussion with THE COLLEGE staff and alumni • Began student nominations for awards in personal excellence. Each week students who were nominated by other students or faculty for personal excellence were surprised in class by a "prize patrol," at which time they received a Personal Excellence T-shirt, pin, balloons, and had their picture taken. Our faculty office hallway was turned into the "Wall of Personal Excellence," where the pictures of all the winners were displayed. Mass e-mails went out to the student body announcing the winners. • At the end of the year, students surprised faculty with their own version of "prize patrol," giving personal excellence awards to each faculty. • Class and SIFE projects including financial planning workshops in area grade schools • Guest speakers in various courses • Annual awards banquet awarding one senior for each category.
Servant Leadership (Year 4, in process)	• Kick-off picnic at beginning of year focuses on Servant Leadership • Panel discussion with alumni, business and non-business faculty, and staff whose lives demonstrate servant leadership. • Have student nominations for those who exhibit servant leadership. Will be publicized in a more understated manner than personal excellence, and awardees will be notified. • Students in selected classes will be required to perform a service of some type. The required essay will be their reflection about that experience. • Essay contest on the year's theme open to all business students

CONCLUSION

In this paper, we have presented a model for student transformation, spiritually, intellectually, and professionally. The implementation of this model has been supported by a paradigm shift in the thinking of the college business faculty members, who have embraced the challenge of developing leaders through an integrated process of curricular and co-curricular/experiential learning and transformational teaching. The evolution in faculty thinking that generated this model, the related approaches to teaching and learning, and some concrete examples of the model's implementation were presented. Anticipated steps to further integrate the model into teaching and learning efforts and to assess its effectiveness in achieving intended learning and growth outcomes were discussed. The business faculty at the college are committed to delivering an educational experience in which students "See One, Do One, Teach One": seeing in the classroom through teaching methods and observing faculty/staff behavior; doing what has been learned in and outside the classroom and working side-by-side with faculty/staff; teaching what has been learned and practiced, which is the ultimate demonstration of knowledge and of the Great Commission.

ENDNOTES

[1] Webb's 1997 research utilized the Miner Sentence Completion Scale (Miner, 1993), which measures motivation to lead, to compare business students at Messiah College to students from two nearby private, secular liberal arts colleges. This research was followed by a longitudinal study (Webb, 2001) that examined growth in motivation to lead from the freshman to senior years. Both studies were disappointing from the perspective that there was no significant difference in the motivation to lead, either across institutions or time.

[2] This is sometimes referred to as "situational leadership."

[3] You Don't Have to be Blind to See: Find and Fulfill Your Destiny Regardless of Your Circumstances (Stovall, 1996).

[4] Partnership with City of Rochester inner city school to bring 9th and 10th grade girls to campus over February break to teach business skills and create, make, market, and sell a product. Expanded the next year to include Jr. High boys for a Men of Standard business camp. Camps continuing every year.

[5] Time for Truth, Living Free in a World of Lies, Hype, and Spin (Guinness, 2000).

[6] Think Big, Unleashing Your Potential For Excellence (Carson, 1992).

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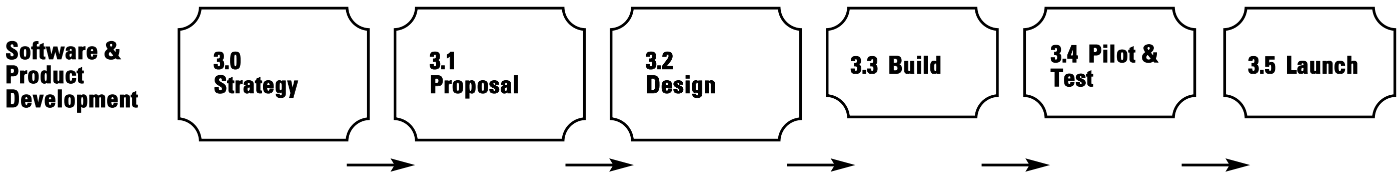
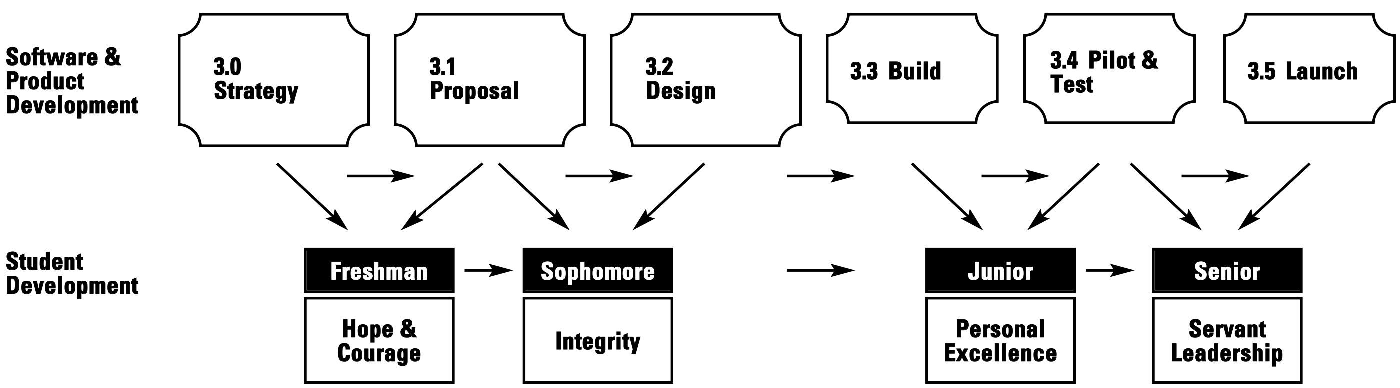
APPENDIX I

In business, we teach our students about the delivery process of a product (time-to-market or TTM), where an idea is transformed into a capability or product which then becomes a distinct and viable contribution to the organization's profit or process. That TTM process looks like this:



We adapted this process for our transformation model to span four years built on four primary themes: *Hope and Courage, Integrity, Personal Excellence, and Servant Leadership.*

The freshman year is the "strategy and proposal" time when students are exposed to varied academic topics and campus life experiences. The sophomore year is the "design" time when, having tested and stretched themselves in the previous year, they should be finding and "building" their inner person of *Integrity*. The junior year focuses on *Personal Excellence,* "building, piloting and testing" a personal mission for the future. The senior year is the "launch year" – our final year of discipleship, bringing all four years together with a focus on *Servant Leadership.* The steps in the delivery process collapse into the four years of the undergraduate program:



From Data to Love: Teaching Management of Knowledge Assets In the Christian Business Classroom

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ABSTRACT: *This paper provides a roadmap of how discussion related to the nature of knowledge, the uses of knowledge, and the management of knowledge assets could be done in a Christian business classroom. I offer some of the insights I have incorporated regarding integration of our Christian faith and scripture in this discussion. What is most important for this paper is that we can envision a unique role for Christian business educators, who will have much to add to the story of knowledge management, and who will teach these processes in unique ways to students who will often use knowledge for unique purposes.*

INTRODUCTION

Since Ikujiro Nonaka published his seminal piece about knowledge creation (1994), organizational scholars have begun to examine more closely the nature of knowledge and its critical role in organizational processes. At the same time, in the marketplace and in the business education classroom, we are increasingly confronted with the role of knowledge in modern society. We have heard that "knowledge is power," and indeed it seems that organizations that manage knowledge assets will have some important advantages. Many firms are creating positions for "knowledge specialists." Textbooks dedicated to the subject of knowledge management are just now emerging.[1] Even still, it is not entirely clear how to present these ideas to our students. It is not always clear how knowledge is different than information, and it is not clear how this translates into occupational capital. Most educational institutions do not (yet) have courses dedicated to understanding the management of knowledge assets (making the few existing textbooks almost irrelevant), and thus such ideas may show up in a number of other courses, often in disjointed fashion. It is also not entirely clear how this subject ought to be approached from an intentionally Christian perspective. While I have no penultimate panacea for such curricular problems, I do share in this paper the pedagogical approach I have developed for introducing business students to the critical role that knowledge and its management plays in modern business practice.

It should be noted that I personally have taught this material in courses on strategic management and organization theory (or organization design). The material, as I am presenting it here, can be covered in as little as two (jam packed) weeks of class meetings, or it can be stretched over several weeks, depending on the level of interaction between instructor and students, and additional materials brought into the discussion. It is possible that future iterations of knowledge management sections could be the subject of an entire semester course, but more materials will need to be developed for this to be the case. At this stage in the development of knowledge management studies, the materials can be covered as part of an existing management (or information systems) course.

My approach to teaching management of knowledge assets is undergirded by the Christian humility that arises from two specific passages of scripture — 1 Cor. 1:18-31[2] and Jeremiah 9:23-24.[3] As we explore the nature of knowledge and its role in business practice, students are reminded through these passages that it is God who defines knowledge and truth, and while He provides these for our use, we are cautioned to remain humble in their application.

The sessions on Management of Knowledge Assets — and the sections of this paper — proceed according to three basic "chapters." First, we explore and discuss "what is knowledge." The definition that emerges comes from a larger discussion of truth and reality, but it is also aimed at a *practical application in a business context.* That is, I do not attempt a deep philosophical or theological treatment in this paper, as the discussion centers on management of knowledge assets, not on the concept of knowledge itself. This simple working definition is then contrasted with similar concepts, and an evolutionary model emerges in which knowledge is placed in the context of data, information, knowledge, intelligence, wisdom, and (ultimately) love. Each of these elements is also considered according to its ability to provide a firm with a competitive advantage, as will be discussed below. Having developed an understanding of what knowledge is (and its role in developing competitive advantage — hence the impetus for managing knowledge assets), we turn secondly to exploring "knowledge about what?" or the factors about which firms must be knowledgeable. I have narrowed these down to three categories, discussed below. Finally, once we know what knowledge is, and we know what we want to know, we discuss several steps for managing knowledge assets. These steps are also discussed below. We begin however, with a brief overview of the recent literature regarding knowledge in organizations.

MANAGEMENT OF KNOWLEDGE IN ORGANIZATIONS[4]

Nonaka's work on knowledge creation (1994) is widely credited with jump-starting the recent examination of knowledge in modern organizations. As Nonaka observed, "the society we live in has been gradually turning into a 'knowledge society'…[and t]he ever-increasing importance of knowledge in contemporary society calls for a shift in our thinking concerning innovation in large business organizations" (1994:14). The focus on knowledge has emerged in the intersection of learning theory (e.g. Argyris & Schon, 1978; Bandura, 1974), information management (e.g. Powell & Dent-Micallef, 1997), and the resource-based view of the firm (e.g. Barney, 1991; Dierickx & Cool, 1989; Wernerfelt, 1984). That is, organizational scholars have metaphorically modeled firms as learning organisms, where information feeds the quest to create learning organizations engaged in evolutionary innovation (Morgan, 2006; Nelson & Winter, 1982). More recently, Barney (1991, 1995) and others have explained well the critical role of organizational assets in creating and sustaining competitive advantage, outlining the "resource-based view" of the firm. Assets that are least imitable provide the greatest advantage, and tacit knowledge[5] has emerged as perhaps the asset most difficult to imitate (e.g. Kogut & Zander, 1992, 1993). As a result, scholars and practitioners alike have begun to place greater emphasis on understanding knowledge in organizations and how it might best be managed.

Work in this area is emergent and very interesting. Knowledge has been studied recently in terms of its relationship with organizational control systems (Turner & Makhija, 2006), its ability to be protected in large scale or inter-organizational operations (Coff, Coff, & Eastvold, 2006; Schulz, 2001; Subramani & Venkatraman, 2003), its impact on firm boundaries (Coff, 2003), its group characteristics (Okhuysen & Eisenhardt, 2002), its relationship to Foucauldian power (Gordon & Grant, 2004), and its viability as a theory of the firm (Nickerson & Zenger, 2004). Numerous scholars have begun to look at the ramifications of knowledge management in the international business arena (Bhagat, Kedia, Harveston, & Trandis, 2002; Carlile, 2004; Tallman, Jenkins, Henry, & Pinch, 2004), as well as in networks (Dyer & Hatch, 2006; Hansen, 2002; Hansen, Mors, & Lovas, 2005; McFadyen & Cannella, 2004; Tallman et al., 2004). And yet, as these new studies emerge, we seem still to struggle with making concrete claims about knowledge and its role in organizations. Hence, the challenge for teaching about knowledge in business programs remains stiff. Anne Huff, in her 1999 Presidential Address to the Academy of Management, notes, "the explosion of knowledge production within business and other organizations poses a critical challenge to current modes of teaching and research within our business schools" (2000: 288). Turner and Makhija further observe that:

> The literature provides us with only a rudimentary understanding of such organizational processes associated with the treatment of knowledge. A primary impediment to developing a more comprehensive understanding arises from the fact that knowledge is inherently unobservable. (2006: 197)

Nonetheless, we would be remiss if we did not begin to wrestle with the implications of living in a "knowledge society" where business organizations are very much the knowledge centers upon which this society depends (see, for example, Hayek, 1945, 1948). In this spirit, we turn next to the simple, yet effective, system I have used to introduce the topic in the Christian classroom.

DEFINING THE CURRENT KNOWLEDGE AGE – SUBJECTIVE, OBJECTIVE AND SOCIALLY CONSTRUCTED REALITIES

Perhaps the greatest issue surrounding the study of knowledge in organizations is developing a definition that moves the conversation forward. I typically begin the discussion by asking students what they know to be True, with a capital "T." Such a question is sure to bring about a number of interesting responses, some predictable, some not. This process allows us to explore the nature of truth as understood in a Christian worldview and contrast that with post-modern portrayals of truth. Given the challenges of post-modern relativism, it is somewhat comforting to bring into the conversation Arthur Holmes' famous observation that "all truth is God's truth" (1977), but even still some will be uncomfortable with this idea. The critical task of the instructor at this point is to bring students to a point where they are thinking about how we might know what is real and what is not real. This point becomes critical for understanding knowledge, organizational decision-making, and sense-making.

Reality. In order to conceive of knowledge and understanding, students must first consider the subjective nature of "reality" as perceived by humans in social settings, including organizations. On the path to constructing reality (Berger & Luckman, 1966) we make sense of the world around us in order to make decisions and enact our environment (Weick, 1979). This is one of the most critical things managers can do (Pfeffer, 1980). Ultimately, it seems to make sense to students that organizations whose *subjective* rendering of reality is closest to *objective* reality will have an advantage, and can make better decisions.[6] That is, firms whose managers and workers construct a model of their environment that is closest (relative to their rivals) to the real state of the environment (in terms of customers' desires, production possibilities, demographic trends, etc.) will be in the best position to take actions that best take advantage of opportunities that others might not even perceive. Such firms would, presumably, have a competitive advantage where such advantages are most critical. This point, when made emphatically, resonates well with students as it brings the previously abstract discussion (regarding truth and reality) squarely back into the world of "relevance" and real-life business.

One tool I have found useful in helping students to understand this distinction (subjective vs. objective reality) and its importance is a very simple "knowledge box" (or K-box).[7] As indicated in Figure 1a, the K-box is a simple rectangle with square grids. The box in its entirety represents knowledge about a given subject or issue, while each grid square represents information leading up to that knowledge. As explained below in more detail, *knowledge* is defined in terms of understanding about a subject, and it derives from various sources of information. Thus, to the extent that the K-box is completely filled in, this would represent perfect, objective knowledge, or objective reality (see Figure 1b).

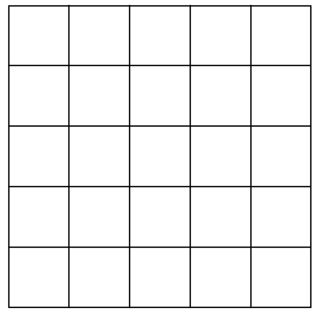

Figure 1a
Basic Knowledge Box

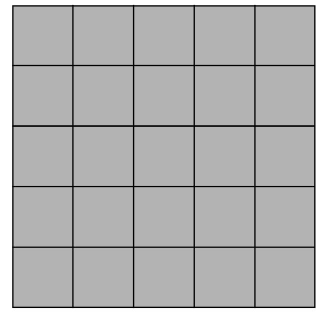

Figure 1b
Objective Knowledge Box

To the extent that only some boxes are filled in, and some more filled in than others (representing the fact that we always have incomplete and imperfect information), this represents subjective knowledge, or subjective reality (see Figure 1c). When organizational actors are able to make decisions on the basis of knowledge that is closer to objective reality than are their competitors — that is, their K-boxes are more completely and accurately filled with information — these organizations will have a distinct advantage.

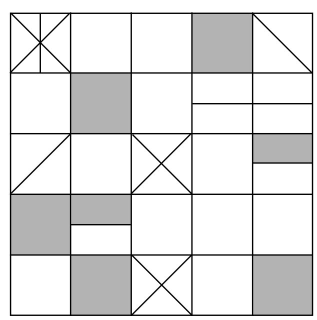

Figure 1c
Subjective Knowledge Box

With that in mind, we can then turn to a discussion of how knowledge represents this level of understanding and how firms with greater knowledge have a competitive advantage.

ELEMENTS OF KNOWLEDGE

In essence, we can talk about the interaction between several similar concepts in order to create a meaningful pattern of knowledge development. Concepts that we often use interchangeably or in an overlapping sense have important distinctions that impact their role in organizational decision-making. I have identified six elements of "understanding" that are interrelated and seem to represent an evolutionary pattern in business history and future thinking. Data, information, knowledge, intelligence, wisdom, and love (yes, love) are relevant to organizational decision-making and success, now, in the past, and in the future. Other authors and thinkers have arranged these elements in different ways (see Bierly, Kessler, and Christensen (2000), for example), but the elements tend to be consistent, with the exception of adding love to the equation. For example, Richard Chewning (2003) focuses on *wisdom* as the ultimate stage of these factors. In his examination of wisdom as it relates to God's nature, Chewning combines information and knowledge into one construct, while he separates out understanding from knowledge. As can be seen below, I have separated out information from knowledge and have defined knowledge in terms of understanding (see Table 1 right). Nonetheless, there are many possible ways of conceiving the relationship between all of these elements. In my courses, the elements are discussed according to the pattern that follows.

Table 1: Elements of Knowledge and Competitive Advantage

	Definition	Competitive Advantage
Data	Raw facts that initially lack meaning and context	Almost none
Information	Data made meaningful through operation or context	Still some temporary advantage through discovery
Knowledge	Combination of information sources to create understanding of environment or context	Most current advantages are knowledge-based
Intelligence	Information and knowledge that reaches a state of perpetuation or self-learning	Some advantage is based in dynamic processes and learning
Wisdom	An understanding of how and when to use knowledge	Perhaps much future advantage yet unknown
Love	The ultimate state in which the application of knowledge is guided by what is best for others, rather than what is best for self	Likely that competitive advantage may be meaningless when business is based in love

Data. Data are facts and figures that initially lack context or meaning. In the early to mid-20th century, data and data processing technologies had the capacity to provide competitive advantage, as in the rise of IBM. Large firms that relied on data (banks, insurance, etc.) could purchase the expensive machines and thus were able to store and retrieve such data in ways that smaller firms could not.[8] Eventually, as the technology disseminated, most firms had access to data processing capabilities and, thus, data could no longer be a source of sustained competitive advantage. Data, then, becomes the source of information.

Information. Information results from "data made meaningful through some operation (aggregation, average, mathematical function, analysis, etc.) or context." Informational elements become the basis for decision processes. For much of the mid- to late-20th century, information had the potential to provide firms with a competitive advantage, as some firms had access to more and better information than did others. This was a result of the "information revolution," and reflected some firms' superior information technologies and IT human resource assets. At some point (probably with the advent of personal computers and the internet), information technologies ceased to be largely proprietary, and information is in the process of becoming a commodity. As a result, little sustainable competitive advantage arises strictly from information or information technologies in the 21st century. This is not to say that information plays no role in the competitive environment. Products such as geographic information systems, internet mapping (e.g. Google and MapQuest) and other innovative approaches to using information sources continue to generate temporary advantages for a small number of firms. These advantages are not likely to be sustained, however, as information diffusion is more rapid.[9] In the quest for sustainable and significant advantages, information, however, becomes the source of knowledge (Nonaka, 1994).

Knowledge. Knowledge results from information sources combined to create understanding, as in the knowledge boxes discussed earlier (Figures 1a-1c). Information from various sources in the environment can be combined to create an understanding of aspects of that environment, thus leading to "knowledge" about that aspect. This, in the business context, may be related to the firm's customer demand function, competitor intentions and capabilities, likelihood of success of various strategic actions, environmental changes that require firm responses, paths to valuable innovation, etc. *It is knowledge that is currently the source of much of competitive advantage in the modern marketplace,* especially for the firm that has people who are able to filter through the plethora of information available and determine what information actually applies to their organization and its issues — unfortunately rare.[10] Firms that manage knowledge assets well will be able to make decisions that best exploit competitive opportunities and avoid competitive threats.

Nonaka (1994: 15) suggested that his work "follows a traditional epistemology and adopts a definition of knowledge as 'justified true belief,'" although he severely downplayed the "truth" aspect of that perspective and focused on personal beliefs and the justification of knowledge. While his original assertion ("justified true belief") is more consistent with a Christian epistemology that seeks objective knowledge through God's general and special revelation, his dismissal of truth renders Nonaka's work an interesting combination of post-modernism and positivism. Nonaka also noted that, "there is a clear distinction between knowledge and information," such that "information is a flow of messages, while knowledge is created and organized by the very flow of information, anchored on the commitment and beliefs of its holder" (1994: 15).

While we must acknowledge the important role of knowledge in business, we must also remind our students that there are even more important factors for the Christian business actor. Futurist Alvin Toffler wrote in his 1990 book *Power Shift* that the source of power throughout human history has shifted/evolved from strength (force/violence) to wealth to knowledge. Presumably, strength overwhelms rivals or competitors, wealth can buy strength, and knowledge creates wealth. Hence the phrase, "knowledge is power." Students will be comfortable with this idea, so it is at this point that we may introduce Jeremiah 9:23-24, which indicates that Toffler's wonderful epiphany was acknowledged and humbled by God thousands of years ago.

> This is what the LORD says: "Let not the wise man boast of his wisdom or the strong man boast of his strength or the rich man boast of his riches, but let him who boasts boast about this: that he understands and knows me, that I am the LORD, who exercises kindness, justice and righteousness on earth, for in these I delight," declares the LORD. (Jer. 9:23-24, NIV)

We see that, while Toffler identified strength, wealth (riches), and knowledge (wisdom) as the sources of power in modern society, the Lord indicates that we ought not boast of (or be overly impressed by) such things, as knowing God is better, and that He delights more in kindness, justice, and righteousness, which He models for us. This is also consistent with Proverbs 1:7a, "The fear of the Lord is the beginning of knowledge" (NIV), and it echoes the wonderful words of Micah 6:8:

> He has showed you, O man, what is good.
> And what does the LORD require of you?
> To act justly and to love mercy
> and to walk humbly with your God

That is, while human power may indeed be related to strength/might, wealth/riches, and knowledge/wisdom, the author of all these things — the omnipotent Creator — has indicated that he delights in such things as love, kindness, justice, righteousness, mercy, and humility, and these are the things he requires of us — not power, not profits, not other definitions of human "success." This is, of course, not to suggest that our God does not want us to have knowledge, or that our pursuit of knowledge is somehow at odds with our pursuit of God and his will. Indeed, as we see in Proverbs, "The fear of the Lord is the beginning of knowledge, but fools despise wisdom and discipline (Pr. 1:7) and "The fear of the Lord is the beginning of wisdom, and knowledge of the Holy One is understanding" (Pr. 9:10). It is knowledge for the sake of godly purposes and knowledge of God that is of most value for the believer, not knowledge for the sake of power.

Having made this important point, we note that, as business and academia continue to develop sophisticated (and cheaper) knowledge systems, we can anticipate that knowledge will over time become more disseminated and less unique as a source of competitive advantage. When and how this will occur is speculative. However, when such knowledge parity occurs, competitive advantage will most likely come from intelligence.

Intelligence. While intelligence is often understood in terms of a state or level of knowledge, we can conceive of a more dynamic element to intelligence, in the sense that it represents information and knowledge that reaches a point of perpetuation or self-learning. It is possible — perhaps likely — that we will in the future rely on "intelligence systems" in organizations. This is consistent with creating the "learning organization" as discussed by scholars and thinkers like Peter Senge (The Fifth Discipline) and others. It is also likely that an understanding of how artificial intelligence systems work will enter the discussion, as will allusions to other intelligence systems, such as human intelligence (HumInt), signals intelligence (SigInt), and electronic intelligence (Elint) currently utilized by "intelligence agencies," such as the CIA. I have specifically referred to Senge's work in this discussion with students, especially as it represents a good example of the dynamic nature of organizational capabilities, a subject closely related to knowledge management. Artificial intelligence is a well-developed field of study, and its implications for business systems of the future could make for a deep and worthwhile discussion as well.

It is possible at this point to also consider what implications the current debate between Darwinists and Intelligent Design Theorists has for business people. Class discussion could center on the nature of Darwinian business processes[11] versus the processes as seen through the lens of an intelligent design framework (Behe, 1996; Dembski, 1998, 1999). That is, if human beings are indeed made in the image of a God who is an "intelligent Designer," then what implications, if any, might that have for humans as creative designers of organizations, products, services, etc.? An understanding of competitive advantage may indeed be placed squarely in the realm of "survival of the fittest" vs. "intelligent design" that makes humans agents of change.

Meyer and Davis (2003) point to the coming age of the molecular economy, in which work in areas such as bio-technologies and nano-technologies represents intelligent production components, where systems learn on their own as they are engaged in the processes of production. There are numerous ethical considerations inherent in these trajectories, and students will be well served to consider the moral implications of bio-genetic engineering and other elements of the molecular economy (e.g. stem cell research, genetic manipulation, etc.). Such issues will become material for business decisions in the future, and potential sources of competitive advantage. Exactly what competitive advantage looks like in this realm is speculative, as the age of dynamic intelligence systems lies in the future. Meyer and Davis refer to the potential evolution of intelligence related to biotechnological advances as "the adjacent possible," and they agree that it is at best speculative to guess the details of this future state, although they make more general predictions. At some point, however, the acquisition and use of intelligence — including the dynamic, learning aspects of intelligence — will be less differentiated as intelligence gathering and interpretation processes are disseminated across firms through evolving technology and systems. This will clear the path for wisdom to be paramount.

Wisdom. It is generally believed that wisdom is superior to knowledge, being in essence an understanding of how and when to best use the knowledge we have. As Bierly, et al. put it:

> [S]uccess does not necessarily go to the firms that know the most, but to the firms that make the best use of what they know and know what is strategically most important to the firm and to the society at large. (2000: 596)

This definition, of course, assumes a standard for judging what is "best," and each discipline will have its own understanding in this sense. For example, some people are politically wise, in that they know best how and when to use knowledge for political gain. We could simply refer in the present context to the "best use" of knowledge for valued organizational outcomes, and that would be appropriate (necessary, but not sufficient) for the discussion in the Christian business classroom. At the same time, however, we will certainly want to consider with students how wisdom is inevitably tied to the outcomes one defines as salient, and explore the critical differences between worldly wisdom and God's wisdom (I refer often to Colossians 2:8[12] at this point). Wisdom in business is an understanding of the consequences of organizational actions, and it comes with experience, learning, prayer, and meditation (and as a gift of God — see James 1:5[13]). Chewning says of this relationship:

> Knowledge is the foundation for both wrong thinking and right thinking. Understanding and wisdom both rest on knowledge, but knowledge without understanding and wisdom could be likened to a torpedo without its guidance system — lots of latent power but with little chance of reaching its objective. (2003: 37)

At some point, we may envision "wisdom systems" being a main source of competitive advantage. While a Christian perspective may define wisdom in terms of God's will, it is possible that a secular marketplace will define wisdom quite differently, and act accordingly. For example, wisdom (when and how to employ knowledge assets) may be defined as that employment of knowledge assets which most creates financial wealth and weakens or destroys competitors. On the other hand, since a market in which wisdom is the main source of competitive advantage is still speculative, we might envision wisdom as pertaining to ethics, sustainability, and social responsibility. As we study, and think about, and learn more about wisdom, we will begin to see how wisdom is based on, and undergirded by, love. A Christian understanding of when and how to use knowledge is guided by what most demonstrates love to our fellow humans. Thus, in the future, we can hope for a new society in which God's wisdom has led us to love.

Love. Although I make no attempt to trivialize the concept of love by including it in the same discussion as sources of competitive advantage, I do sense that beyond wisdom is a society and a marketplace in which decisions are made on the basis of love — at least in theory. There is no question that knowledge and love are closely linked (e.g. Phil 1:9-11[14]). If knowledge may lead to wisdom, whereby one understands when and how to use the knowledge one has, can we not understand love to be the ultimate state in which the application of knowledge is guided by what is best for others, rather than what is best for self? Is it not true that what separates God's wisdom from our wisdom is that His thoughts and actions are guided by love in a way that often stands out in contrast with our self-interested rationality? God's wisdom led Him to use what He knew about human nature, human events, and justice to construct a plan of salvation that involved self-sacrifice, as opposed to self-interest, and this because he "so loved the world that he gave his one and only Son, that whoever believes in him shall not perish, but have eternal life" (John 3:16, NIV). Jesus gives an example of decision-making under love when he states that, "Greater love has no one than this, that he lay down his life for his friends" (John 15:13, NIV). The important point here is that it seems to be logical, and consistent with Christian theology, that decisions made out of wisdom and love combined are superior to decisions made simply through worldly wisdom. Examples could be coaxed from students, or the instructor may present several scenarios and ask how outcomes would be different if decisions were made without love as an input.

An example here might refer to the recent trend in American business toward offshore sourcing (moving jobs overseas). Managers and corporate decision-makers analyze information from many sources and may come to the conclusion (gain knowledge) that their publicly traded firm's competitiveness is at risk if they cannot lower labor costs, as rivals are doing. Having this knowledge evokes a decision scenario that will either be guided by wisdom or devoid of such. In this case, wisdom may pertain to how such a move should take place, when to announce plant closings, when to make the move, where new operations should be structured and located, and whom to retain from the existing employee base. Such decisions made in the light of wisdom AND love may further consider whether such a move is necessary at all. The love-based decision scenario certainly considers the plight of potential new employees in new locations, but also may involve a self-sacrificial redefinition of "success" or "performance," such that sacrificing short-term profitability in order to save local jobs demonstrates love for those under their care. It may require managers to take the firm private, such that some market pressures are removed from the equation. Obviously, we are not there yet, and such a discussion might seem abstract to students, but the exercise illustrates how far we have to go before the business realm moves from knowledge to intelligence to wisdom to love.

It is also possible to couch discussions of corporate social responsibility (CSR) in this framework. For example, the modern movement toward creating socially responsible firms seems to indicate a move toward wisdom, recognizing that corporations have great power (arising from knowledge and wealth) and ought to be more wise in how and when they use that power (e.g. Davis & Schoorman, 1997; Freeman, 1984; cf. Friedman, 1970). However, most studies suggest that CSR strategies are guided by market-based wisdom, aiming for public relations points, market position, and increased profitability (Margolis & Walsh, 2003). Wisdom based in love would lead to CSR that acted out of love for God's creation, love for the plight of workers, and love for "the least of these," the poor and powerless.

What does competitive advantage mean in this context, or has it become irrelevant in this future context? If marketplace activities and decisions have been (or will be) guided alternatively by the variable (across firms) availability of data, information, knowledge, intelligence, and wisdom, then we can understand in each phase what guides managers. In some future state, is it possible that managerial decisions will be based on which actions best demonstrate love toward organizational constituents? Is love a realistic basis for organizational action and decisions? Perhaps love leads managers to pursue the common good, or social justice, or some rendering of social gain, a scenario in which stakeholder and corporate citizenship perspectives take on greater — but certainly not exhaustive —

meaning. To say that an answer to these questions involves much speculation would be an understatement. Moving on, however, we next consider what are the critical elements about which firms must be knowledgeable.

KNOWLEDGE OF WHAT?

Because we are firmly within the knowledge age, we focus again on management of knowledge assets. In this section, I will explain how the class discussion turns to consideration of the factors about which firms must be knowledgeable. If the current market environment rewards knowledge, and decisions based on superior knowledge assets are most likely to convey competitive advantage, then we must consider what knowledge is important. Three categories are explored in this paper (and in the class discussions), although it is possible to state them differently. These include environmental factors, processes, and cause and effect relationships.

Environmental factors. Firms (i.e. managers, employees, decision-makers) must have knowledge about — and understanding of — the environment in which they operate. All aspects of the environment are important. The general environment requires knowledge about economic conditions, demographic factors, legal and regulatory trends, socio-cultural trends, and technological boundaries/opportunities. In the firm's more specific environment, knowledge about organizational culture, employee morale, strategic strengths and weaknesses, supplier relationships, customer preferences, etc. becomes a source of advantage. Firms must also be aware of conditions, factors, and trends in their industry and among their competitors. Knowledge of rivals' intentions and weaknesses can certainly be advantageous. At the same time, organizations must have self-knowledge — that is, they must have insights about their own strengths and weaknesses, such as is common in the typical SWOT analysis with which business professors will be familiar.

Processes. In order to have an advantage in the marketplace, firms must have knowledge about the processes relevant to their operations. These processes include, but are not limited to, manufacturing processes (possibilities), management processes, marketing and sales techniques, motivation, innovation, creativity, regulatory compliance, financing, accounting, public relations, etc. Essentially, managers must have knowledge about the management of each type of resource utilized by the firm. Human resources must be hired, trained, motivated, and managed. Financial resources must be acquired, allocated, and accounted for according to established legal and systemic principles. Physical plant and equipment must be integrated, maintained, coordinated, and controlled. Processes exist for each of these elements of economic life, and firms must have knowledge of these processes to be successful. Further, processes for relationships with external entities must be known and mastered. Regulatory processes, promotional processes, negotiation processes, and others require knowledgeable managers.

Much of the recent literature in the knowledge management arena deals with the process of knowledge transfer, suggesting that firms must not only have knowledge of processes, but also knowledge about processes involving knowledge (e.g. Bhagat, et al., 2002; Dyer & Hatch, 2006). Where the learning literature in the past spoke of "double-loop learning," whereby firms gain the capacity to learn how to learn (Levitt & March, 1988), we may likewise conceive of the process of "double-loop knowing," whereby firms either learn how to know, or know how to know.

Cause and effect relationships. Beyond simply knowing how to accomplish various things, as in "processes," firms must also have knowledge about why things happen the way they do. Senge (1991) notes that organizations that understand systems (i.e. engage in systems thinking) move in the direction of becoming learning organizations. This involves understanding numerous relevant cause-and-effect relationships (Turner & Makhija, 2006: 198). For every desired organizational outcome, firms must understand (have knowledge about) how to get from point A to point B. What is the *cause* of the outcome *(effect)* desired? And for every organizational action considered (cause), what are possible effects that may not normally be anticipated? For example, if a firm has a problem with employee turnover, knowledge of what *causes* turnover will be necessary before the problem can be solved. Not all firms have such knowledge in equal proportion. If a firm wishes to be more successful at innovation, knowledge about what *causes* innovation will be required. At the same time, firms considering shifting jobs to foreign facilities must have knowledge about the multiple *effects* such a move will have. Organizational change actions also bring about a complex multitude of effects that firms should seek to understand as much as possible in order to anticipate problems in the process.

Having considered these categories of factors about which firms must be knowledgeable, we would move next to a consideration of steps in the process of managing knowledge assets.

MANAGEMENT OF KNOWLEDGE ASSETS

If knowledge is the most prevalent source of competitive advantage in modern markets, then firms must consider what steps are necessary to manage knowledge assets. Recently, Turner and Makhija talk about four "stages" of the knowledge management process, which they call:

> "(1) knowledge creation and acquisition, (2) the transfer of knowledge to other individuals or organizational units, (3) the interpretation of this knowledge in a manner conducive to the objectives of the organization, and, finally, (4) the application of the knowledge toward organizational goals" (2006: 201).

In my courses, I have typically worked with six stages that are consistent with those discussed by Turner & Makhija and go into more depth where necessary. The process could be expanded and made even more complex (as appropriate), depending on how much time the instructor is devoting to the subject.

(1) Determine what specific information and knowledge is critical. For our firm, what specific knowledge is critical to our success, given our mission, and our industry and our position and our strategy. What must we know to succeed? And what informational elements are necessary to create this knowledge? This process may require representatives from all parts and levels of the organization coming together for the specific purpose of its consideration. Strangely enough, this is not a typical point of discussion in organizational meetings, and thus its inclusion in the knowledge management process is critical.

Use of the knowledge boxes shown in Figures 1a-1c again is helpful here. Organizational actors must labor at this point in the process to actually name the boxes, or determine what knowledge is being constructed by a given box. At the same time, what information goes into each box? What makes up the little squares in a given knowledge box? Naturally, this is not a perfect science, but the exercise itself tends to be very useful. Instructors could create exercises around this process, allowing students to create knowledge boxes for various business scenarios. Outside of the classroom, simply engaging in the process of considering what knowledge is critical will be valuable for any organization.

(2) Determine sources of information and knowledge. Having agreed in general on the things that we must endeavor to have knowledge about, we must then consider the sources for this information and knowledge. As human assets represent a firm's greatest knowledge assets, much of our knowledge is found in existing employees (Kogut & Zander, 1992). Some knowledge we must acquire may be found through the hiring of employees with the knowledge we need. We must also consider informational sources necessary to create knowledge. Various media are critical here, including information systems; online news sources; trade and industry publications; training, development, and education; etc. At the same time, firms acquire knowledge through trade, espionage, transfers (Carlile, 2004; Schulz, 2003; Tung, 1994), opportunism (Parkhe, 1991, 1993) and spillovers (Eden et al., 1997), although some of these processes are more desirable than are others. What is most critical is that firms determine how they will fill in the squares of their knowledge boxes, or how they will "acquire" knowledge boxes, such as in the case of hiring valuable employees.

(3) Disseminate information and knowledge. We next must determine how to disseminate knowledge throughout the organization. Intact knowledge, and the information necessary to create knowledge, must be disseminated to the right person (people) at the right time, given the time-sensitive nature of information. For example, executive information systems represent efforts to ensure specific people have access to specific knowledge and information resources at specific times. Schulz (2001; 2003) has found that the flow of knowledge throughout organizations is complex and subject to dynamic forces that must be understood in order to best take advantage of organizational knowledge assets. He also found that the relevance of new information and knowledge must be ascertained through vertical knowledge "flowpaths" (2001), emphasizing the criticality of knowledge dissemination for developing knowledge boxes.

Hansen (2002) found that innovation is facilitated by intra-organizational (interunit) network paths that shortened knowledge flow time and ensured that product development teams shared knowledge on an ongoing basis. At the same time, firms must consider whether boundaries ought to be placed on dissemination of information and knowledge in order to ensure the next step in the process.

(4) Store and protect information and knowledge. Firms must develop systems and procedures to ensure that information and knowledge are stored for speedy retrieval when necessary, and that these assets are protected from destruction, theft, or over-dissemination. With modern network technologies, data theft is not unusual. Further, the more firms utilize their knowledge-based advantages, or share knowledge assets across business units, the more likely it is that competitors will have an opportunity to learn their secrets (Coff, 2003; Coff et al., 2006). There is also the consideration of what to do with information or knowledge that seems to be of little present value, but which might have great value in the future. Firms that have the ability to store and retrieve information in order to turn previously useless information into valuable knowledge at

some future point are said to have "transformative capacity" (Garud & Nayyar, 1994), a potential source of competitive advantage.

For example, information regarding a rival's competitive capabilities may be acquired in the course of gathering information about other factors. Such a piece of information may not make sense in the present context, but if it is stored, catalogued, and retrievable, the information may become a critical piece of information in the knowledge creation process at a later time when it becomes evident that this competitor is preparing for strategic moves. In this sense, storage and protection of knowledge assets can become systematic. Lewis et al. (2005) describe a "transactive memory system," (TMS) as a "collective memory system for encoding, retrieving, and communicating group knowledge" (581). They further suggest that, "knowledge embedded with a transactive memory system (TMS) helps groups apply prior learning to new tasks and develop an abstract understanding of a problem domain, leading to sustained performance" (581). These ideas point out that transformative capacity and transactive memory systems are examples of processes by which firms can move beyond the simple protection of data (in terms of security) to storage and retrieval systems that make learning more dynamic.

(5) Use knowledge. Having developed, disseminated, stored, and protected the firm's information and knowledge, we must discuss the use of knowledge. Just as in physics we speak of potential energy and kinetic energy, we can understand knowledge as having both potential and kinetic value. In general, however, as an organizational asset, knowledge must be used in order to bring about the greatest advantage in fulfilling the organization's mission. As Coff et al. note, "once valuable tacit knowledge is identified, firms must transfer and replicate it to increase the scale and meet the demand for the scarce resource" (2006: 452).

Organizational actors must be able to recognize where knowledge assets are best employed. What decision scenarios require which knowledge assets? This is where wisdom begins to make a difference in organizational action. Employing knowledge assets in organizational processes sets in motion the forces that lead to competitive advantage, yet wisdom about when and how to best use these assets may bring sustained advantage. As with any other asset, however, rents cannot be earned on knowledge that is not utilized in pursuit of organizational objectives.

Knowledge turnover. As noted earlier, knowledge and information are time sensitive. Firms must manage knowledge assets to ensure proper turnover. Knowledge — or the understanding of how the world (or markets or other processes, etc.) works — is derived from informational elements, and information can become outdated quickly. To the extent that knowledge is based on information that represents "the state of things," it will soon be obsolete as the state of things changes. Organizational decisions made on the basis of consumer surveys collected in 1972 are likely flawed as a basis for current decision-making. The discussion of knowledge management, thus, ends with the subject of ensuring the freshness of information and knowledge.

Much of the emerging research on knowledge management involves processes that ensure knowledge turnover. For example, knowledge transfers and spillovers expand the pool of firms that have access to the latest technologies, ideas and discoveries (Eden, et. al., 1997). Knowledge networks place numerous firms in a position to continually update their understanding of opportunities, threats, and conditions in their industries (Hansen, 2002). Knowledge creation processes are aimed at exploring new possibilities in light of existing realities (Meyer & Davis, 2003; Nonaka, 1994). These and other efforts are aimed at ensuring firms are constantly engaged in meaningful knowledge turnover.

CONCLUSION

As one might imagine, the discussion of management of knowledge assets can be quite complex. I offer in this paper a roadmap of how it might be done, and I offer some of the insights I have incorporated regarding integration of our Christian faith and scripture in this discussion. And yet there is still much room to articulate a Christian view of knowledge and knowledge management. Chewning goes a long way toward explicating knowledge and wisdom and God's nature (2003), however his analysis is not specifically oriented to business or management.

Further studies will look into the ways we might teach innovation processes from our unique worldview. That is, we understand that God has created all things, and we simply discover his creation. However, the process of discovery may be taught from a biblical perspective, with consideration given to path dependence (e.g. Arthur, 1989; David, 1985), mindful deviation, and intelligent design. Innovation is a critical part of the modern business world, and it is closely related to knowledge. We ought not wait long to articulate a Christian understanding of innovation.

Anne Huff (2000) has identified a unique challenge for business educators in the 21st century. While business schools and programs have operated from a specifically academic paradigm in the past 100 years, there has been much pressure to focus more of our efforts in the future on applied business education. Huff sees this as a pendulum effect that will eventually swing back toward academics and scholarship. In the meantime, however, she urges business educators to adopt a middle ground in which we continue in our core, distinctive competence, which is knowledge production. As a result, business educators will emphasize education over training, and they will work as allies with business in understanding the nature of knowledge, the uses of knowledge, and the management of knowledge assets. Each realm (business and academia) has unique capabilities in this quest. What is most important for this paper is that we can envision a unique role for Christian business educators, who will have much to add to the story of knowledge management, and who will teach these processes in unique ways to students who will often use knowledge for unique purposes.

I welcome and look forward to insights from other teachers and scholars on how this subject might proceed and take shape in the Christian business classroom.

ENDNOTES

[1]E.g. Madanmohan Rao, *Knowledge Management Tools and Techniques: Practitioners and Experts Evaluate KM Solutions,* Elsevier Publishing, 2004; Helen Rothberg & G. Scott Erickson, *From Knowledge to Intelligence: Creating Competitive Advantage in the Next Economy,* Elsevier Books, 2004.

[2] [18]For the message of the cross is foolishness to those who
are perishing, but to us who are being saved it is the power
of God. [19]For it is written: "I will destroy the wisdom of
the wise; the intelligence of the intelligent I will frustrate."
[20]Where is the wise man? Where is the scholar? Where is
the philosopher of this age? Has not God made foolish the
wisdom of the world? [21]For since in the wisdom of God the
world through its wisdom did not know him, God was
pleased through the foolishness of what was preached to
save those who believe. [22]Jews demand miraculous signs
and Greeks look for wisdom, [23]but we preach Christ cruci-
fied: a stumbling block to Jews and foolishness to Gentiles,
[24]but to those whom God has called, both Jews and
Greeks, Christ the power of God and the wisdom of God.
[25]For the foolishness of God is wiser than man's wisdom,
and the weakness of God is stronger than man's strength.
[26]Brothers, think of what you were when you were called.
Not many of you were wise by human standards; not
many were influential; not many were of noble birth. [27]But
God chose the foolish things of the world to shame the
wise; God chose the weak things of the world to shame the
strong. [28]He chose the lowly things of this world and the
despised things — and the things that are not — to nullify
the things that are, [29]so that no one may boast before him.
[30]It is because of him that you are in Christ Jesus, who has
become for us wisdom from God — that is, our righteous-
ness, holiness and redemption. [31]Therefore, as it is written:
"Let him who boasts boast in the Lord."

[3] [23] This is what the LORD says: "Let not the wise man
boast of his wisdom, or the strong man boast of his
strength or the rich man boast of his riches, [24] but let him
who boasts boast about this: that he understands and
knows me, that I am the LORD, who exercises kindness,
justice and righteousness on earth, for in these I delight,"
declares the LORD.

[4] In this paper, I make no attempt to develop a treatise on the concept of knowledge, or even on a Christian epistemology. Such a treatment is beyond the scope of the current effort. Rather, I am more interested in the teaching of the management of knowledge assets, and how our unique perspective might inform the task in the classroom. For readers interested specifically in a Christian treatment of knowledge and epistemology, see Chewning (2003), Moreland & Craig (2003, esp. Chs. 3, 6, &7), and MacDonald (1993 — interesting discussion of Aquinas' theory of knowledge).

[5] Basing his discussion on Polanyi's (1966) classic work, Nonaka describes tacit knowledge as having "a personal quality, which makes it hard to formalize and communicate. Tacit knowledge is deeply rooted in action, commitment, and involvement in a specific context. In Polanyi's words, it 'indwells' in a comprehensive cognizance of the human mind and body" (1994: 16).

[6] The space shuttle *Challenger* disaster serves as a tragic but effective example of this point. The administrators and managers who forced the decision to launch the ill-fated shuttle worked hard to construct a subjective rendering of reality that allowed them to "rationally" launch the shuttle, while objective reality (i.e. physical laws and properties) was quite distant from their construction, and ultimately worked against them.

[7] See also Turner & Makhija, 2006, p. 199, footnote #3 for a similar example.

[8] One could show or make reference to the entertaining movie, *The Desk Set,* starring Katherine Hepburn and Spencer Tracy here. The story revolves around the attempts of an "efficiency engineer" (Tracy) trying to convince a large corporation that the new International Business Machines data computer is more efficient in finding answers to the firm's questions than the existing "information department" under the leadership of Hepburn.

[9] I am indebted to the insights of an anonymous *CBAR* reviewer for his point.

[10] I am grateful to an anonymous *CBAR* reviewer for reminding me of the point that discernment is critical and valuable.

[11] For example, random environmental variations, such as typified in the organizational ecology literature (Hannan & Freeman, 1989); or deterministic group behaviors, such as typified in the evolutionary psychology literature (e.g. Nicholson, 2000).

[12] "See to it that no one takes you captive through hollow and deceptive philosophy, which depends on human tradition and the basic principles of this world rather than on Christ"

[13] "If any of you lacks wisdom, he should ask God, who gives generously to all without finding fault, and it will be given to him."

[14] [9]And this is my prayer: that your love may abound more and more in knowledge and depth of insight, [10]so that you may be able to discern what is best and may be pure and blameless until the day of Christ, [11]filled with the fruit of righteousness that comes through Jesus Christ — to the glory and praise of God.

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The Use of Biblical/Christian Metaphors in the Teaching of Economics

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ABSTRACT: *This paper will examine the use and significance of biblical/Christian metaphors in economics and put forth some ideas for consideration by Christians who are involved in economic education. This paper will put forth explanations for the use of metaphor and will discuss why biblical metaphors are useful and relevant. This paper includes discussion for the design of instruction in undergraduate economics, particularly in a Christian academic context, and includes a case study in the art of metaphorical economics.*

INTRODUCTION

Webster's Ninth New Collegiate Dictionary defines a "metaphor" as "a figure of speech in which a word or phrase literally denoting one kind of object or idea is used in place of another to suggest a likeness or analogy between them." In recent years, a number of economists have observed that metaphors are commonly employed in economic analysis. Deirdre McCloskey is probably the most well-known proponent of this argument, maintaining that metaphor is "the most important example of economic rhetoric" (1998, p. 40). She asserts that many of the most familiar phrases in economics — model, curve, function, cycle, invisible hand, human capital — are metaphorical in nature (1998). Philip Mirowski has expressed agreement with McCloskey on this point, especially with respect to the metaphorical character of mathematics in economics, "because most extensions of mathematical formalism proceed by metaphor and analogy" (1988, p. 149). Mirowski, however, maintains that this line of inquiry should be extended into questions such as:

1. Which metaphors were chosen?
2. Why were they thought plausible when they were adopted?
3. Are they still thought to be plausible? Why? (p. 40-44)

The preceding questions, as well as others which stem from this list, can be applied to the frequent use by economists of metaphors which are derived from biblical references or Christian theology. In the second volume of his biography of John Maynard Keynes, Robert Skidelsky has documented a number of cases in which Keynes made use of biblical rhetoric in formulating and defending his arguments concerning the economy (1992). Robert Nelson has written that "economics has been said by many observers to exhibit 'scholastic' tendencies; economists are said to be a contemporary 'priesthood'; and the assumptions of economics are said to be beyond refutation and more in the nature of a 'divine revelation'" (1991, p. xxi). Kenneth Boulding referred to "the doctrine that tastes are simply given and we cannot inquire into the process by which they are formed as the 'Immaculate Conception' of the indifference curve" (1970, p. 199). In the ongoing professional and public conversation about economic issues, one consistently witnesses the use of phrases which are derived from the Bible or Christian tradition. Economic policies, ironically reflecting varying degrees of governmental intervention, are described as "the old-time religion." Advocates of the free movement of goods and capital internationally are charged with (and sometimes accused of!) promoting "the free-trade gospel." Over 50 years ago, George Soule provided an example of such rhetoric in the following characterization of the views of free-market advocates:

> Like Sunday School teachers in a slum, they bid us return to the classical gospel, so that the balance of prices and production which is supposed to emerge from unrestricted operation of the laws of supply and demand under free enterprise may prevail. The world is all but lost; not a nation in it, with the possible exception of the United States, clings to the faith, and even here false prophets have led us astray. But to these authors, the truth is clear and whole. They seem to believe that we have wandered from the truth only because we did not understand. Patiently they explain it to us all over again, often in words of biblical simplicity. Once more they convict us of sin in a score of public policies, all the way from the protective tariff to compensatory spending by government. (1951, p. 8).

Those who contradict certain elements of conventional economic theory or methodology may be characterized as "heretics" who are threatened with "excommunication" (professional ostracism) or being "burned at the stake" (denied tenure or opportunities to publish). A number of books and journal articles, such as *The Seven Fat Years* by Robert Bartley and *Day of Reckoning* by Benjamin Friedman, have also employed biblical metaphors in their titles, and the recent PBS television series, *Commanding Heights: The Battle for the World Economy* (2002), contains several examples where economic policies and theories are described in terms which include biblical terminology.

EXPLANATIONS FOR THE USE OF METAPHOR

How might one answer the second of Mirowski's questions concerning the use of metaphors in economics: Why were they thought plausible when they were adopted? Perhaps the use of this type of language in economic discourse is a legacy of the period in the history of the discipline where economics, or "political economy," was viewed more broadly as a moral enterprise. Contemporary students of economics may not know that Adam Smith was a professor of moral philosophy, (Boulding, 1970) that the subject was once part of the moral science tripos at Cambridge University, (Skidelsky, 1983) or that approximately 40 percent of the attendees at the first meeting of the American Economic Association in 1885 were current or former members of the ordained clergy (Nelson, 1998; Fogel, 2000). The continued use of such language might suggest that the modernist/positivist attempt to purge economics of any explicitly ethical content, in the name of "pure science," may not have been entirely successful, especially in those areas of analysis that are most relevant to public policies and institutions. It could also indicate that certain economic objectives take on such a degree of importance within the field that economists feel compelled to give "sermons" that testify to the level of priority that such goals should have. Nobel Laureate George Stigler asserted that economists have often taken on a role of a "preacher," especially with respect to "social policies and institutions" (1982, p. 217). He went on to state that "in the economists' sermons the dominant theme has been that good policy favors, and bad policy interferes with, the maximizing of income of a society" (p. 6-7). Stigler offered the traditional case for free trade between nations, based on comparative advantage, as a prime example of such a "sermon," concluding that no better case "of the economists' use of efficiency as the criterion for desirable economic policy could be given" (p. 7). On a related point, Charles Goodhart has concluded that the international movement in the direction of "liberal" (in the classical sense of that term) economics over the past few decades has been "driven largely by the successful preaching of liberal economists" (2001, p. 217).

Assuming that this message is correct, the expansion of world trade will make a positive contribution to global economic growth. (The issues surrounding the consequences of free trade for the domestic and international distribution of income, as well as the question of whether the benefits of trade are dependent upon the existence of certain legal and institutional pre-conditions, are outside the scope of this analysis.) If this is regarded by the proponents of such a regime as "good news," especially for the poorest nations of the world, then one can see where the "gospel" metaphor (lower-case, of course!) might be applied to this argument. Opponents of globalization, a broader concept which implies free movements of financial capital, information, workers, and cultural values as well as goods, might counter that this is a "false gospel." Nevertheless, the biblical language is retained for the purposes of argument. It should be noted that the observation has been made that the historical use of such language might simply have represented the transfer of certain terms and phrases from one context to another without any broader intent, particularly in those decades which followed an era in which religious discourse played a more visibly significant role in public life. However, this contention fails to provide an explanation for the ongoing employment of phrases such as "market fundamentalism" in contemporary discussions of political economy. This expression has been employed by a number of critics of overly liberal (in the classical sense) approaches to economic policy and institutions, most notably Nobel Laureate Joseph Stiglitz and George Soros, the hedge fund manager turned philanthropist and political activist. As an aside, the use of this phrase is not necessarily of recent origin. For example, chapter one of George Soule's previously cited volume, published in 1951, is titled, "Economic Fundamentalism."

WHY *BIBLICAL* METAPHORS?

Mirowski's third question can be amended to read, "Why are *biblical* metaphors still thought to be plausible?" Two possible answers to this query come readily to mind. John Tiemstra, in making the case for Christian economists to address an audience that extends beyond the parameters of the Christian community, has concluded that "there is enough of a residuum of Christianity in our culture and enough disenchantment with cynical secularism that some people are still interested in Christian perspectives on economic life" (1994, p. 3). This could possibly constitute a sole explanation for the continual and frequent use of biblical language in economic dialogue if Christian (or in the case of Old Testament images, Jewish) economists were the only ones who were engaging in such rhetoric, but this is clearly not the case. If Tiemstra is correct, however, about the residual presence of a certain degree of Christian understanding in the culture at large, then perhaps the meaning of these metaphors lies *in a search for language that will provide a broader moral justification for particular economic policies and institutions.* When speaking to each other, economists usually justify such entities in the language of efficiency; are the benefits of certain social arrangements greater than the costs, especially when measured in a quantitative manner? Such arguments, as it were, are often not nearly as persuasive in the public square as appeals to justice or equity. Joseph Stiglitz has observed that "any of us with more than one child knows the importance of issues of equity. No charge is heard more often than 'It's not fair.' (Indeed I cannot recall an occasion on which I heard the complaint, 'It's not efficient.')" (1994, p. 240). By contrast, Charles Schultze has made the case that economists, especially in the area of public policy, "should see themselves as *partisan advocates of the efficient solution* (emphasis in the original) . . . If economic advisers do not speak for efficiency, who will?" (1996, p. 31). Richard McKenzie has supported this point by maintaining that "the professional and public esteem enjoyed by (certain) economists" is due, in part, to the fact that "people sense in them a commitment to some higher goal, some transcending normative purpose, that guides and shapes their research and their social commentary" (1981, p. 714-715).

Therefore, a catalyst is provided for the search for alternative descriptions of what is taking place in the world. Susan Gallagher and Roger Lundin have written that "the metaphorical process is one of *interaction*" where in choosing a particular metaphor, *"we say that one thing is another"* (emphasis in the original) (1989, p. 23). Gallagher and Lundin went on to expand upon this argument in the following manner:

> If we think of metaphor in this way, we see that metaphors are relished by almost all who are capable of human speech. If making a metaphor involves "saying that one thing is another," rather than "substituting" a false but pleasing image for a literal but unsatisfying word, then we see that metaphorical process is at the heart of all our knowing. We acquire information, we organize what we know, and we make innovative breakthroughs through the use of metaphor (p. 23).

HOW SHOULD WE THEN TEACH?

What are the implications of the preceding discussion for the design of instruction in undergraduate economics, particularly in a Christian academic context or other institutional environment which is open to this type of inquiry? One possibility is that the use of this language constitutes one of the "conventions" of economic instruction, along with other familiar devices such as the "positive/normative" distinction. Instructors commonly use this convention in order to distinguish between objective descriptions of economic reality and subjective judgments concerning the relative merits of alternative theories, policies, and institutions. Although the establishment of such a distinction, especially in its most rigid forms, between "facts" and "values" remains a source of some philosophical controversy, many teachers of economics find this concept to be a useful element of their instructional design. Samuel Weston has asserted that "it is worthwhile to distinguish between positive economic analysis and normative judgments, even if economics is viewed as being permeated with ethical values" (1994, p.1). In an analogous manner, the incorporation of biblical and Christian metaphors into the "rhetoric" (as McCloskey would put it) of economic instruction might represent a means of communicating the *spiritual* dimension of economic life, even though one is not "evangelizing" or "preaching the gospel" in the literal sense of those terms. Bob Goudzwaard has written about this subject as follows:

> The return of the Lord, who is the ultimate owner of the earth, is a theme that permeates the biblical texts that deal with human economy. Jesus interprets economic life as having an eschatological dimension from the outset. A judge stands at the end of all our economic efforts and institutions, for when the Lord comes back to his *oikos* — his creation — he will ask all persons and all nations to render an account of their economic behavior *(oikonomike)*… That which might appear to be the most secular, most neutral sector of contemporary economic activity will be exposed for what it is. Its underlying presuppositions will come to light (2001, p. 22).

Another option would be to view the employment of biblical/Christian metaphors as a manifestation of the "art" of economics; a third category between positive and normative economics. David Colander defines this concept, which was initially advanced by John Neville Keynes in 1891, (1992) as "applied economics" which "relates the lessons learned in positive economics to the normative goals determined in normative economics" (p. 192). From a teacher's standpoint, Colander maintains that "separating out the art of economics allows one to point out that objectivity in the art of economics is not achieved by avoiding value judgments, but, rather, by making clear what are the value judgments upon which one is basing the policy recommendation" (p. 196-197).

A CASE STUDY IN THE ART OF METAPHORICAL ECONOMICS

Over the last two decades, a number of nations in both Eastern Europe and Latin America have pursued, to varying degrees, a process of economic transition that has been categorized by the metaphor of "shock therapy." The Web site for the "Commanding Heights: The Battle for the World Economy" television and DVD series, based on the book of the same title by Daniel Yergin and Joseph Stanislaw, defines this strategy as "a policy of rapid economic reform" which includes four primary objectives (2002):

1. Liberalization — the abolition of government control over economic activities such as production, price setting, and distribution;
2. Stabilization — the imposition of deep cuts in government spending and firm limits on the growth of the national money supply;
3. Privatization — the transfer of most government-owned enterprises to the ownership of individuals and private companies;
4. Internationalization — the opening of the economy to foreign trade and investment.

Those countries which have adopted these policies have done so in the belief that such actions would produce certain economic outcomes — faster economic growth, reductions in poverty (but not necessarily in income inequality) and inflation, a more attractive climate for international investment, greater access to global markets and technology — that they regarded as good and desirable. If one makes this judgment, and also comes to the conclusion that this set of policies and institutions is the right *choice* (given a person's ideological commitments), or the *only* choice (given the perceived failures of alternative policies and institutional arrangements), then such a program can take on some of the characteristics of a "sermon" in which the "preacher" is attempting to "convert" his/her listeners into acceptance of the message being presented. In fact, Joseph Stiglitz has stated that a great deal of the discussion over rapid, as opposed to incremental, approaches to reform in transitional economies "has been carried on in metaphorical terms," as follows (2001, p. 154-155):

Metaphor: Crossing a chasm.
Shock Therapy: Jump across in one leap.
Incrementalism: Build a bridge.

Metaphor: Repairing a ship.
Shock Therapy: Rebuild in a dry dock, which prevents being disturbed by the conditions at sea.
Incrementalism: Repair at sea; there in on "dry dock" for institutional change outside of society.

Metaphor: Transplanting a tree.
Shock Therapy: Do it decisively and all at once in order to get over the shock as quickly as possible.
Incrementalism: Prepare and wrap the roots one at a time to improve the odds of success.

In the classroom, students might be encouraged to think about these issues through the presentation of the following set of questions:

1. In what ways do the policy proposals associated with the "shock therapy" approach to economic transition in developing and formerly communist economies take on some of the characteristics of a sermon or theological doctrine? Was there a overall "message" that was associated with the *preceding* economic policies and institutions of these nations?
2. What judgments of value are associated with both the "shock therapy" program and its predecessors?
3. What kinds of metaphors are optimal for Christians who are engaged in economic analysis? Are there certain figures of speech that we should *not* use, or only use in certain ways?
4. What opportunities and risks are presented by the use of biblical/Christian metaphors in the teaching of economics?

The last question stems from the work of Thomas Green. Green has suggested that the use of metaphors in teaching is "helpful" because "they permit us to construct ways of leading the mind from the familiar to the unfamiliar," and because they are "useful in suggesting new relations and new similarities" (1971, p. 60). Along these lines, the employment of such metaphors in economic instruction might facilitate, as previously suggested, the establishment of a connection between the material and spiritual dimensions of life, and dispel the notion that economic policies are merely technical solutions to certain problems. In the case of the choice between a more rapid, as opposed to an incremental, approach to the transition towards a market-oriented economy, the utilization of metaphorical language is of value in illuminating the judgments of value that are associated with alternative programs for institutional change, the nature of the trade-offs which are associated with these policy proposals, and the potential for over-stating the outcomes that can reasonably expect to be achieved within a given period of time. For example, the presentation of "shock therapy" (or free trade, for that matter) as an economic "gospel" may very well contribute to public expectations that are unreasonably high, as well as a certain level of disillusionment with the results of these changes.

On the other hand, Green draws a distinction between "live" and "dead" metaphors, defining the latter in the following terms:

> A dead metaphor is one which we use in thought as though it were literal. It no longer impresses us as metaphorical. Its inference is so shrouded in custom and habit, its comparison so covered over by the blind convention of everyday thinking that the metaphor controls what we think. These are the dangerous metaphors. They frequently obscure useful philosophical questions that we want to raise and force us to frame our investigations within unnecessary limits (p. 62).

Therefore, the risk of using biblical/Christian metaphors in economic instruction may lie in the potential for over-reliance on such figures of speech to the point where one's student become indifferent hearers of either the true Word, or the connection to economic issues and controversies that we, as teachers, are trying to convey through the use of such language. There is also the prospect that biblical/Christian metaphors might employed in a way that is theologically misleading. As a case in point, Robert Skidelsky has observed that in the course of making his case for public policies that would stimulate consumption in the face of the Great Depression, John Maynard Keynes borrowed a phrase from the story of the Prodigal Son when he made reference to the social benefits of "riotous living." (1992, pp. 447-448). The use of this phrase in this manner appears to constitute an implicit endorsement of behavior for which the Prodigal Son eventually seeks the forgiveness of his father.

CONCLUSION

This paper has sought to examine the use and significance of biblical/Christian metaphors in economics, and to put forth some ideas for consideration by Christians who are involved in economic education. It is the overall conclusion of this author that Christians who are engaged in the ministry of political economy need not shy away from metaphors that stem from our faith. Not only can the figurative, non-literal use of these phrases constitute a valuable element of our efforts at discerning "the signs of the times" in an economic sense, but we can also play a critical role in helping the community at large, both believers and non-believers alike, to understand and interpret such figures of speech. At the same time, we must be careful not to take ourselves, and the use of this language, so seriously and literally that these phrases are drained of their spiritual life and explanatory power. In this, as in all things, we need the wisdom, power, and guidance of the Holy Spirit.

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Book Review

The Way of the Shepherd: 7 Ancient Secrets to Managing Productive People

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I picked up this book at the San Antonio CBFA meeting on a whim. When I first saw the book, I thought oh, well, another tired old treatise on leadership. What I later realized is that it was anything but that. The book is a refreshing look at leadership through an allegory. One will still see some similarity with typical "principles" of management books, but the author's method is so unique that the book breaths new life into the meaning of leadership and management. Frankly, the book impacted me personally more than any other book short of the Bible.

This non-fiction work tells a story about an interview by one of the book's two authors, William Pentak. The interviewee is the CEO of General Technologies, Theodore McBride. It is during the interview that the reader discovers this is no ordinary book on leadership, and the insights contained in this very pleasant little book are taught in no ordinary fashion, as you will discover. The book retails for $14.99 in the United States.

Leman and Pentak (2004) is appropriate as either an optional or required reading in an MBA leadership course or organizational behavior course, but would be just as appropriate in an undergraduate leadership, organizational behavior, or principles of management course as a primary or required secondary text. The book is so small (7.25 by 5 inches) and short (117 pages, plus a 2-page notes section. It also has a small bibliography section), that it can be read in one day. I read most of it on the plane coming back to Charlotte from San Antonio.

As I began reading in my hotel, I realized the book was a story about the insights gained from a successful leader's experiences; not experience in the workplace per se, but about experience learned from a sheep rancher in the Texas hill country. For those not familiar with that area, the hill country is found around Austin and San Antonio. The story is told by the head of General Technologies, Theodore McBride, of when he was an MBA student at the University of Texas in Austin, the capitol city. The stage is set when Mr. McBride explains the circumstances of landing his first job (the year was 1957). After he won this first job as financial manager, he went back to one of his former professors, Dr. Jack Neumann, for advice on how to manage a finance department. You see, the authors make clear from the outset, Ted McBride was a whiz at finance as the MBA student but didn't have a clue about how to manage employees. It is here that the story really begins, as Dr. Neumann, the new fledgling's most admired former professor, tells and shows his student about how to properly raise sheep. It is with the pedagogy of allegory that the reader learns the "7 Ancient Secrets to Managing Productive People." If you're like me, you won't be able to put it down once you've started.

Storytelling is probably the oldest pedagogical tool know to mankind. It has been used to hand down knowledge from generation to generation for probably thousands of years. Certainly, we know that Christ used storytelling frequently, in the form of parables. We also know that he chose parables and allegories to convey lessons rich with meaning to those who would listen. I use storytelling as a teaching tool as well, but it seems to work best with MBA students for some reason unknown to me. (A case study analysis accomplishes much the same thing since it tells a story.) It is a great way to illustrate an abstract idea, and it is an especially effective method in the mentoring relationship exemplified in this book. Perhaps it's the richness of the communication medium (Daft and Lengel, 1984) or maybe because a story is perceived to be especially vivid or concrete (Richardson, 1969). Regardless of the particular psychological mechanism, if Jesus used it, it works, and we should make more use of it in the classroom as this book implies.

There is much more to the book than a very interesting story. The book also illustrates the power of mentorship in shaping lives. The young Mr. McBride gets into the professor's pickup after accepting the invitation to learn how to manage people, not knowing what he was getting into. Certainly, the book highlights the utility and relevance of experiential learning since the management and leadership lessons are learned on a sheep ranch. Hmmm…yes, Jesus did that too, didn't he? He would take his disciples on trips down unknown roads to unexpected places. He provided a sense of suspense and surprise, even anxiety, to his followers. That is the same experience that this future CEO had with his professor, and it can be the same with some, perhaps many, of our own students.

Each of the seven secrets is given a separate chapter. At the end of each chapter, the student's insights are summarized. At the end of the book, all seven secrets are listed with handy notes for each. It wouldn't be a bad idea to photocopy them for a place on an office wall. The first secret turns out to be "Know the Condition of Your Flock."

One of the first things we learn about teaching is from the reaction of the young Mr. McBride to the unexpected visit to the dirty, smelly sheep ranch. Some might say that the sheep metaphor is not apt in this day and time, but a case can be made that this novel metaphor shifts attention to new, interesting insights about management and leadership. He hadn't expected to learn about leadership and management at a sheep ranch. The student had come with assumptions and expectations about what it meant to manage employees, not sheep. He was shocked at the unique teaching method used by Dr. Neumann. For example, we find a young Mr. McBride who impatiently wonders when the learning about managing people was to begin. As the mentor, Dr. Neumann replies, "We already have, and they're not a bunch of smelly sheep" (p. 23). In other words, real teaching and learning were already occurring in the field that confronted the student's preconceptions.

This reminds me of an exercise I use in my Principles of Management course, using an exercise from Griffin's (2006; 315-316) textbook, which illustrates the influence of underlying stereotypes in the personnel selection process. A variety of individual applicant descriptions are given, and student teams are instructed to match each applicant's description with the job he should perform. Of course, virtually none of the chosen matches are correct, proving the teaching point that prior assumptions are often incorrect. Chapter one of *The Way of the Shepherd,* which highlights the difficulty of faulty expectations noted above, could be used to reinforce the notion in lecture that fair and objective personnel selection is a skill that must be learned. The connection to expectancy theory is evident. Employees may have expectations that are off-base. Student expectations may also be misguided. A good shepherd manager, or teacher, will frequently communicate expectations so subordinates will be clear on what is expected of them.

Once things get underway in the book, a very important point is stated by the professor:

"A manager can't manage what he doesn't know" (p. 25). In this, Dr. Neumann points out that we must first discover subordinates' (i.e., students') unique personal needs so that we may shepherd each one individually. Only after we know each individual need, will students be most receptive and want to know more. In other words, take a sincere interest in our students as Christ, the Shepherd, exemplified. That mentoring relationship will lay a foundation for better student learning. But first, common misconceptions have to be dispelled.

Management literature does not focus on the issue of genuine human caring. Perhaps it does not sound scientific enough. Pages 26-28 explain how managers can fully motivate their subordinates to want to follow and perform by showing each individual employee how much for which he or she is cared.

Perhaps chapter 2 should have been the first chapter because this chapter focuses on the notions of recruitment, selection, and placement of personnel. In this chapter, the wise, old Dr. Neumann, by now an acknowledged and better appreciated mentor to the young McBride, describes his personal model of human resources management. The model is captured by Dr. Neumann's acronym SHAPE: (1) strengths, (2) heart, (3) attitude, (4) personality, and (5) experiences, as described by Leman and Pentak. (The acronym is a handy little device that makes this lesson easier to teach, as well as recall.) To illustrate how his model works, the professor takes his understudy to a sheep auction. There, he learns how to select the best sheep. The book does not shy away from the issue of termination either. If a sheep has a bad attitude, or is not teachable, he or she must be resold at auction in order to protect the remaining stock.

When I use this book in lectures, I go back and forth, comparing and contrasting a good shepherd's way of managing and leading with the way of the secular humanism. This method surprises some students, but catches the interest and attention of all students. I believe it helps remove the varnish over the truth so students can gain greater insights into what managing and leading are really all about: People. Besides, it makes teaching more interesting, challenging, and rewarding, if not more effective.

Chapter 3 explores the idea of follower's identification with their leader. For example, the authors provide a notable quote from Dr. Neumann:

> "Great leaders instill a sense of meaning and belonging in their followers by putting the personal imprint of who they are and what they stand for on their people" (p. 45).

This notion is taught via an episode where Mr. McBride is instructed to place an identification tag in a sheep's ear that is new to the flock. After hesitating, knowing full well that tagging the ewe's ear would cause pain; he finally does tag the animal. The illustration is carried further to show that the ewe can trust her shepherd even after he has inflicted pain on her; pain that was necessary to mark the sheep with the common identity of the flock. Great leaders take personal interest in their followers even if they must inflict some pain. Certainly Jesus did not promise us a pain-free walk with him. The Bible is full of references to suffering followers. Actually, pain in the Christian's life is often a good thing (Heb. 12:10-11), since it enables an ever closer walk with the leader, Christ himself.

Chapter 4, "Make Your Pasture a Safe Place," is an object lesson. Dr. Neumann surprises his protégé when he drives up in a 1957 Corvette, which would have been new at that time, and they drive out to another rancher's flock to show how run-down the sheep are. It is obvious that the neighboring rancher's sheep have not received the necessary medical care. He uses this example to teach about managing employee relations, especially the chronic problem of anxiety from fear of neglect or of being fired. The authors let Dr. Neumann teach us to make sure our employees feel secure, for example, by continually sharing information with subordinates. That way, uncertainty is reduced and employees are less distracted by apprehension.

To give you some idea how this is conveyed in the book, Dr. Neumann shows his apprentice how the other rancher's sheep did not want to lay down to get enough sleep because they were afraid of being attacked by predators. They stood up night and day, being continually vigilant. As a result, the sheep became exhausted. A good shepherd protects his sheep. A good leader defends his flock's safety (i.e., department), even takes the blame, as Christ did. The subordinates of a good shepherd do not worry so much about getting fired, nor do they look for greener pastures. Likewise, the Lord gives assurances of rest (Hebrews 4).

The most interesting chapters for me were chapters 3 and 4 because the issue of trust undergirds all human relationships. The closest principle to trust in the management literature is that of participative management. The premise of participative management is that if one is given a say in planning, eventual acceptance will be better, leading to greater employee commitment and motivation. But, participative management cannot work if there is no trust. Trust is a prerequisite for participative management.

Being transparent is also necessary. There will always be some students who do not like who we are or what is being taught, but, they will usually give us respect and an honest hearing if we level with them. Personally, I develop trust by first breaking the ice with humor. I am certainly no comedian, nor do I aspire to become one, but I have found through years of experimentation that humor is a very effective classroom tool. I may fall on my face the first attempt, but I eventually figure an angle to build on. Successful humor sends the message to students that the professor has come down off his high horse, and then they can begin to trust and learn. They also begin to participate more in class since their natural anxiety has been relieved. Strategic humor is but one angle to break the ice toward building trust.

The next chapter focuses on leadership per se, consistent with the book's dust cover. The cover shows a man dressed in a suit holding a 200 year old staff. Under his arm is a copy of *The Wall Street Journal.* It is in this chapter that the authors tell how Dr. Neumann instructed his student how to gently lead with the staff. The staff of the shepherd has four functions according to Leman and Pentak's telling of Dr. Neumann's teaching: (1) directing (2) setting and maintaining boundaries, (3) rescuing sheep from danger, and (4) encouraging. In other words, a gentle reminder keeps employees going in the right direction, we might assume like the Holy Spirit. Rules and policies (i.e., boundaries) are clarified and enforced in a loving way. Troubled employees are counseled, therefore, protected. Employees are encouraged by great leaders, not punished. In short, a manager should lead in a fashion that identifies and addresses employee boundary violations early, before that employee gets lost. Likewise, the Holy Spirit prompts immediately, and provides warm encouragement. A good leader or manager does the same. Psalm 23:4 tells us that a shepherd's staff is a source of security and comfort to sheep.

Personnel management policy typically requires employee reviews on some fixed schedule, such as annually, biannually, every quarter, etc. But, according to *The Way of the Shepherd,* personnel reviews should occur as needed.

Managers need to talk informally with their subordinates, and chapter 5 teaches that we need to communicate more frequently with our students about their performance.

If chapter five is about the staff, what do you think chapter six is about? Sometimes, it is important to use a tool of discipline to correct a member of the flock. The authors begin by giving a historical background of the rod, explaining that it is thrown at a predator to scare it off, or thrown near a sheep to bring it back to the flock. Professor Neumann explains to his student that employee discipline is not done to punish, but to redirect an employee away from something that might be harmful. As the authors explain through the professor, employee discipline is done best from the perspective of teacher and learner. The supervisor disciplines by teaching because the goal is to prevent subordinates from making errors and only one who can see better what potential harm lies ahead, such as a shepherd, can teach this lesson. The point is to work closely with subordinates with an attitude toward continual training and development. Wasn't that Jesus' approach? He knew much more about what was ahead of his disciples, and the whole world for that matter, and he warned, challenged, and developed his disciples continually, not at the end of the year after it was too late.

An effective CEO is able to turn around a failing company because he or she knows the painful choice necessary to succeed and is willing to make the hard choices to bring about big changes, even as he or she takes greater personal risks. Likewise, we as teachers have seen students succeed and fail. We have seen the same mistakes made each semester by our students and that is to be expected because some concepts and/or skills are just harder to acquire. We already know the most likely mistakes. Therefore, just as good managers who can see well ahead of his or her subordinates, we can warn students what to watch out for to avoid a negative situation. This focus works especially well when teaching a strategic simulation. In our strategic management course, students run a simulated manufacturing company for "eight years." During the course, some student management teams will get an unexpected, high-interest loan. Once this happens, students know that the instructor can see beyond their sight because they recall that they were already warned about this possibility. The result of the unwelcome loan: students start asking a lot more questions and learning more. They also now know that the shepherd-teacher allows pain only to teach them important lessons. Genuine trust is strengthened.

Chapter 7 concludes the lessons Dr. Neumann models to his protégé, Ted McBride. The last lesson is that being a leader with a shepherd's worldview is expensive, not for the flock, but for the shepherd-leader. In the language of the world, the chapter might be considered a disclaimer. In the language of Christ, it is meant to warn of the high cost of being a great leader (Luke 14: 25-35). As a way to end their student-teacher relationship, Dr. Neumann has Mr. McBride over to his home for dinner. As they sit on his veranda, the professor gives his student one last lesson, a final lesson we should all heed if we are educators:

> "What makes a shepherd a shepherd isn't the staff or the rod; it's the heart. What distinguishes a greater leader from a mediocre one is that a great leader has a heart for his people" (p. 101).

Certainly, something so subjective as the heart is not a hot topic among management principles, but heart is still an important issue, nevertheless. Dr. Neumann concludes with a demonstration of his heart for his flock. He calls his sheep to come near him. All his sheep quickly respond. Then, Mr. McBride gives the same call, but no sheep respond. Because a leader sincerely loves his sheep, the flock is loyal, but building love and trust takes time. Without a loving, heart-felt relationship, the sheep do not follow. Remember, Christ's sheep know him by his voice (John 10). The issue is a challenging one to business educators as well as to those who espouse to lead in business: Truly effective leadership requires genuine love and personal sacrifice for the sake of the flock. Nothing else can substitute. As it was with Christ, the greatest leader, it still is today, for those who are shepherd-leaders.

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The Integration of Family Stability into Income Distribution Measures: A Teaching Methodology

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ABSTRACT: *Many of our students have experienced the internal cost of family instability. Out of wedlock births, divorce and separations have imposed substantial psychic cost upon them. The purpose of this paper is to expose them to the more macroeconomic external cost of family instability. The teaching method illustrated here provides a visual lesson on the external cost created by family dissolutions.*

INTRODUCTION

The goal of this paper is two-fold. First, the paper illustrates an opportunity for faith integration within the context of principles of economics curriculum. The opportunity rises within the course discussion of poverty and income distribution, which normally appears in our micro principles courses. Second, the paper offers a teaching tool that reinforces the cause/effect relationship.

EXPLAINING CHANGES IN INCOME DISTRIBUTION

In our course discussion of income distribution, we typically use two measures to illustrate the issue — the Lorenz Curve and the GINI coefficient. Both tools are created by the Bureau of Labor from the Current Population Survey conducted in March (Jones and Weinberg, 2000). The survey bases the two measures on the income shares of families.[1] The Lorenz Curve provides the visual illustration and the GINI gives us a more quantitative measure of income distribution. There are two important conclusions that come out of that discussion. One is that incomes in the Untied States are distributed very unequally. In 2001 the top 20% of income earning families earned 50.1% of all earned income in the United States The bottom 20% of all income earners had only 3.5% as their share of income. The second conclusion is that inequality has been rising over the past three decades (Ryscavage, 1995 also Bishop, Formby and Smith, 1997). In 1971, the shares of the top and bottom 20% were 43.5% and 4.1% respectively. From 1971 to 2001 the top quintile increased from 43.5 to 50.1, while every other quintile share fell over that same period.

The reason for the first conclusion, unequal income distribution, is primarily due to our choice among economic systems. Capitalism is an efficient system for generating economic output because of the incentive driven mechanism. However, the free market system rewards productivity and creativity without regard to income outcomes. Since productivity and creativity are unequally distributed, incomes are also unequally distributed.

The reason for the second conclusion, rising inequality, is not so straight forward. What has changed in the U.S. economy that has driven the income distribution more toward the higher GINI values? The research literature can provide the instructor with a reasonable set of explanatory variables (Chevan and Stokes, 2000). We can talk about the diminishing influence of labor unions and the impact of global markets. We can include mention of technological change and the unequal educational outcomes. However, one specific determinant holds a special interest for the Christian community. A key determinant of the changing income distribution is family structure. The percent of families with a single-parent head of household has risen from 15% in 1974 to 28% in 2003 (Statistical

Abstract of the United States). Over a similar time period (1980-2004) the percent of children living with a mother who had never been married increased from 2.2% to 9.9%. Over that same time period, the percent of children living with a divorced mother rose from 7.5% to 8% (Ibid.).

Why is family structure so important? From a research perspective, it is no more interesting than any of the other determinants. However, from a Christian perspective it is another piece of evidence of the importance of family structure and the cost of family instability. When families divorce or fail to form, income distribution is adversely affected. Given the current conflict between the position of the Christian community and the more secular world we have an opportunity to add some clarity to the issue.[2] Clearly, there are economic implications for the non-traditional formation of families.

At the federal level, there are policies that influence the formation/dissolution of families in a number of areas. For example, tax legislation penalizes the traditional family by "stacking" the earned income from marriage partners, potentially moving them into higher marginal tax brackets. Perhaps the biggest controversy is centered on the qualifications for redistributive programs. Often, married with children excludes a couple from benefits. The vast majority of programs require the presence of children and the absence of a parenting partner. The clear incentive of programs like these is to dissolve a marriage or fail to form one. We subsidize child care so that "single" parents can enter the labor market, but in doing so, we create more incentives to dissolve two parent families. How can we best illustrate this to our students? Given the perverse outcomes of the destruction of family structure, how can we best illustrate the economic impact upon income distribution?

A VISUAL ILLUSTRATION

In the following table, I illustrate the significance of family stability upon the quintile measure of income distribution. I assume that dissolved families split the family income between the two units upon dissolution. I assume that family dissolution creates a greater number of families in the nation. In the first iteration I am also assuming that family dissolution occurs at the bottom end of the income distribution. I can relax this particular assumption and also show that family dissolution throughout the income distribution also causes deterioration in income shares.

Column one identifies each family in this hypothetical nation with the unimaginative names of A through J. Column two provides an initial starting point for this country's income distribution. In this world, there are high-income families ranging to low-income families. Quintile shares (two families per quintile) are recorded at the bottom of the quintile. For example, the highest income quintile is recorded with family B, the bottom of that particular quintile. I calculated a GINI coefficient for our starting point by using five discrete points from the quintile distribution. I calculated the area under the curve then subtracted that value from the area under the diagonal to get the area between the diagonal and the Lorenz Curve. Then I set the ratio of that area (numerator) to the area under the diagonal (denominator) to calculate the GINI. The GINI has a value of .1668 for this hypothetical example.

Column 3 records the demographic changes that occur when families in the lower half of income dissolve and form families with one head of household. In this example, our 10-family world becomes a 15-family world. This is an extreme example of demographic change. I have imposed all dissolutions at the bottom of the income scale to show the result of this extreme case on income distribution. The lower case letters represent two families created from the single upper case family. Hence, we have two "f" families from the original F family. All incomes, under the new demographic outcome remain the same, but the income for each upper case lower-income dissolved family has been divided by two. There are now 15 families, and therefore, each quintile contains three families instead of two.

The upper quintile has added family C, with an income of $47,000. The upper quintile now has a total of $146,000 income from the same total national income. So, its share has risen from 27.6% to 40.7%. Compounding this shift, we look at the bottom end of the income distribution and find that the share of the lower quintile has fallen from 12.3% to 9.1%. Using the same method as before, I calculated the GINI for this iteration. That value is .3232. The GINI has increased by almost 94%.

Even though the higher income families have not gained any income and even though national income has not changed, the shares of the quintiles have changed dramatically. This is a major point of the lesson, that the dissolution of the traditional family structure "artificially" modifies the income distribution measures. One can carry the lesson even further and draw the conclusion that family dissolution contributes to the creation of poverty. This is particularly true if the dissolution of families is sending single parent families to the bottom end of the income distribution. If this is happening, then we would expect to see more dispersion at the bottom end of the income distribution. Greater dispersion is exactly the conclusion drawn by Daly and Valletta (2006).

Table 1

Family Name	Income & Share By Quintile			Income & Share By Quintile			Income & Share By Quintile	
Col. 1	Col. 2	Share	Col. 3	Col. 4	Share	Col. 5	Col. 6	Share
A	50,000		A	50,000		B	49,000	
B	49,000	27.6	B	49,000		D	45,000	
C	47,000		C	47,000	40.7	F	35,000	35.9
D	45,000	25.6	D	45,000		H	25,000	
E	37,000		E	37,000		a	25,000	
F	35,000	20.0	f	17,500	27.7	a	25,000	20.9
G	27,000		f	17,500		c	23,500	
H	25,000	14.5	g	13,500		c	23,500	
I	23,000		g	13,500	12.4	J	21,000	18.9
J	21,000	12.3	h	12,500		e	18,500	
			h	12,500		e	18,500	
			i	11,500	10.1	g	13,500	14.1
			i	11,500		g	13,500	
			j	10,500		i	11,500	
			j	10,500	9.1	i	11,500	10.2

What if we relax the assumption that all of the family dissolution occurs at the bottom end of the income distribution? A second iteration of the example leads us to columns 5 and 6. In this iteration, family dissolution occurs throughout the income range. Alternating the dissolutions, every other family is dissolved starting with family A and continuing through the 10 families. Again, we are left with 15 families in the distribution. The changes to the income distribution are not as extreme this time. However, the GINI still increases from .1668 to .2328, an increase of almost 40%. Under any realistic assumption about the distribution of single parent families, the GINI always reflects a less equal distribution of family income. The interested reader can perform other iterations, relaxing the assumption of constant income to find that a less than equal split of the family's income leads to greater deterioration in the GINI, as more families are forced to fall further down in the distribution. A less than equal split in family income is probably a more realistic description of actual outcomes. One could also experiment with increased income, post family dissolution.

Why should the average student in our classes care about this conclusion? An increasingly larger number of our students have experienced family dissolution firsthand. They have seen the interpersonal impact of single parent families. Now they have the opportunity to see the collective impact of family instability. This simple illustration can provide a visual relationship between family structure and income distribution. We bring clarity into the issue of the causes of income disparity and poverty by revealing this relationship. We also reinforce the importance of a traditional family structure.

IMPLICATIONS AND CONCLUSIONS

How does this paper fit into the overall discussion of family structure and income distribution? We do have to be careful how we interpret the income distribution measures. By arranging the distribution by families (or households) we distort the percentage of the population in each of the quintiles. For example, the top 20% of families does not necessarily contain 20% of the population. If the average family size is larger in the higher quintile, then more than 20% of the population is included in the top quintile. In that case, a per-capita income distribution methodology would provide more clear information. The measures also ignore the progressive tax rates that depress the inequality of the income distribution, nor do they include the redistributive programs that also equalize income distribution. A more thorough discussion of these issues can be found in Rector and Hederman, 1999.

The use of the table provides a good entry point into the discussion of income distribution and poverty. It can also be used to help explain the phenomenon of the disproportionate incidence of poverty among women and children in the Untied States It also helps to dispel the politicized nature of the discussion on income distribution. Daly and Valetta (2006) report that the two most significant determinants of the changes in income dispersion are the growing dispersion of men's wages and changing family structure. According to their calculations, fully one-third of the changes in the GINI coefficient are associated with changing family structure. There are those among the more politicized who simply attach the responsibility for the changes upon federal administrations. The evidence suggests that the changes that we have experienced in the past three decades are largely micro economic in nature. The role of the government is more indirect and its significance is argumentative.

We can add to the church's position on the importance of the traditional family structure. Not only is there religious and sociological significance, but there is also an economic impact. Summed together, these three disciplines can provide a strong argument for the formation of traditional families.

ENDNOTES

[1] The BLS also offers the GINI measured by household instead of family structure, see: Jones and Weinberg (2000).

[2] Clapp (1993) offers a moderate discussion of this issue, while Lahaye (1982) gives the more Evangelical side of the argument.

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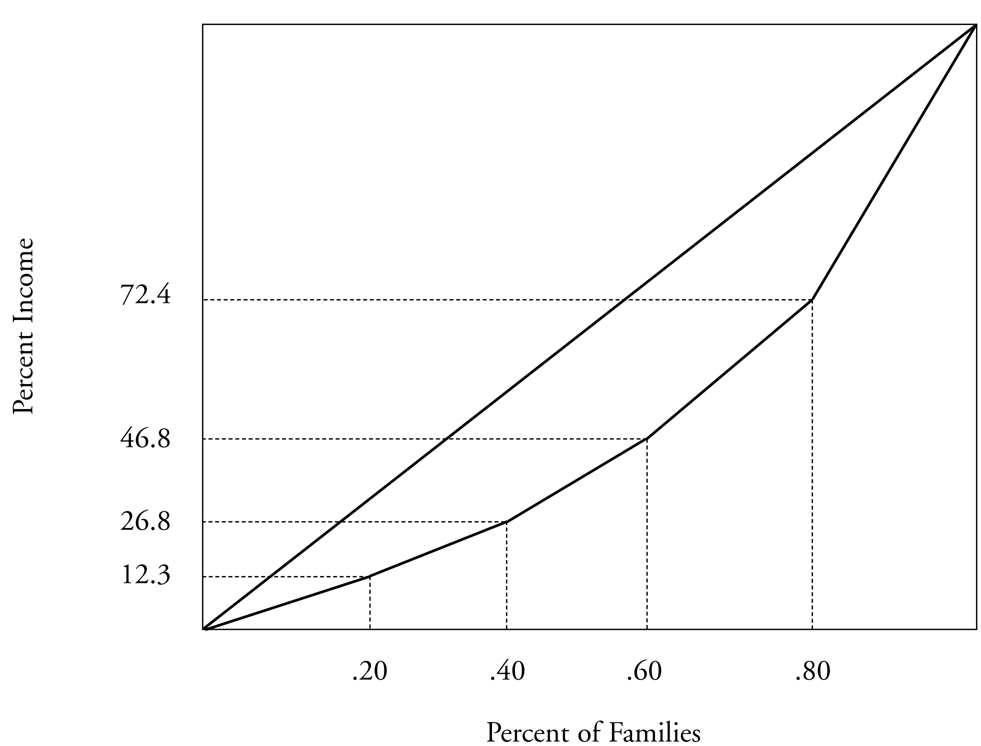
APPENDIX:
Construction of the GINI and Lorenz Curve

The Lorenz Curve is presented as a boxed graph with percentage of income scaled on the vertical axis and percentage of families scaled on the horizontal axis. A diagonal curve represents a perfect distribution of income. For example, 20% of the families earn 20% of the nation's income, 40% of the families earn 40% of the nation's income, etc. I have plotted the five points from the initial distribution presented in table 1 into illustration 1. Note, that the percentages are cumulative across each of the axes. For example, in the initial distribution, the poorest 20% of families hold 12.3% of the income. The poorest 40% of families hold 26.8% of the income. If we connect the five points linearly, we can create a Lorenz curve for the income distribution of this hypothetical income distribution. The GINI is then calculated by summing the area under the Lorenz Curve and dividing by the total area under the diagonal. In a formula that would appear as A/(A+B). Area A can be calculated by first taking the area of the triangle outlined by the axes and the diagonal. So, that area is ? bh=.50. Then we can use the area under the Lorenz Curve (.4166) to calculate the value of A= .5-.4166=.0834. The area under the Lorenz Curve can be calculated using simple algebra since that area is a combination of triangles and rectangles. If the Lorenz Curve had been presented as a continuous curve, we would have measured that area using integral calculus. This possibility would seem inappropriate for most economics courses. Using the numbers generated from our calculation of A and B, we can compute the value of GINI. GINI = .0834/.5 = .1668.

Illustration 1



Bringing Truth, Joy, and Eternity into the Classroom: Using Perfume to Teach Introductory Marketing.[1]

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NOTE: *I would like to express my thanks to my friend and colleague Dr. Larry Sayler for his helpful comments. I would also like to express my thanks to the three anonymous reviewers for their insightful comments on an earlier version of this paper.*

ABSTRACT: *This paper explains how to reinforce the teaching of basic marketing concepts through a simple group experiential exercise. After dividing the class into small groups, the exercise involves spraying perfume on students' wrists and instructing each group to develop a marketing plan that targets the segment of the market that they consider to best fit the perfume product. The paper clearly outlines how to prepare and run the exercise, some perfumes that the instructor might consider using, and what students will learn about marketing through the exercise. The paper concludes with some ideas on how to integrate our Christian faith into the learning experience.*

INTRODUCTION

Those of us who have been teaching for any length of time will be aware of the importance of capturing and holding students' attention in the classroom (Bain, 2004). Keeping students' attention, however, has become more difficult in an age of 30 second sound bites, online gaming, and chat rooms. As we move toward a post-literate world (Kelly, 1999), academics and publishers have been developing new ways of teaching traditional material so that the students' attention is captured and retained. Among the newer developments in pedagogy are a more formal use of Hollywood movies (Champoux, 2007), the use of interactive gaming in the classroom (Williams, 2007), experiential learning (Brown and Harvey, 2006), and management simulations (Management Simulations, 2007).

Having recognized that the traditional lecture format is becoming an increasingly redundant method of instruction for post-modern students, the author has spent the last number of years exploring the effectiveness of a number of innovative pedagogical approaches. Some have worked well; others were less successful in terms or achieving learning outcomes. This paper introduces one of the author's more successful experiential exercises that involves spraying perfume on students' wrists and instructing the students to develop a marketing plan for the scent, focusing on the 4Ps of price, product, place, and promotion. The exercise is easy to set up, provides significant experiential learning of basic marketing concepts, and provides opportunities to raise issues of faith. It has also produced highly positive student evaluations. Many students are familiar with Donald Trump's *The Apprentice* and students have commented that they see the exercise like a mini *Apprentice.*[2] Many students describe it as "fun and exciting."[3] One student noted that the author was "by far the most interesting teacher (he had) ever known. He does some crazy things to keep our attention, but that is what makes his classes so fun and interesting."[4] Another student commented that the perfume exercises were such a good way to learn and recommended that the author be paid $150,000 per semester to keep him at the college.[4] So far the administration appears not to have followed this advice!

The remainder of this paper is divided into six main parts. The first part outlines the learning objectives of the exercise. The next part focuses on the necessary preparation for the exercise and outlines the briefing instructions that need to be given to students. Part three explains how to run the exercise successfully in the classroom. Part four highlights the marketing concepts that students will learn through the exercise. Part five identifies some ways that the exercise can be used as a springboard to discuss issues of faith both within and outside the classroom. In the final part, some concluding comments are offered.

PART ONE: LEARNING OBJECTIVES

The exercise is designed to be conducted at an early stage in an introductory marketing course. Most introductory marketing texts follow a very similar unfolding of content (Boone and Kurtz, 2006; Kerin, Hartley and Rudelius, 2007; Hiam and Rastelli, 2007). Given these similarities it is recommended that the exercise be introduced about a third of the way through any introductory marketing course regardless of the particular textbook that the instructor has adopted. By this stage, students typically will have been introduced to varying definitions of marketing, the basic concepts of marketing planning, Porter's Five Forces (Porter, 1979), SWOT Analysis, market segmentation, target marketing, the marketing mix, and consumer behavior. While these early marketing classes often focus on what Bloom (1956) identifies as the *knowledge* cognitive domain, this exercise is more concerned with assessing the students *comprehension and application* of marketing knowledge. This move from lecture to creative exercise helps create the type of diverse learning experience so highly praised by Bain (2004).

Learning Objectives

The primary objectives of the exercise are to:

- Assess the students' comprehension of the elements of the marketing mix and how these elements are interrelated.
- Evaluate the students' ability to use secondary data (NAICS Codes) to analyze a given industry (in this case, perfume).
- Assess the degree to which students can effectively apply the elements of the marketing mix to develop a consistent marketing plan for their given scent.
- Assess the students' ability to make an effective and professional classroom presentation.

Secondary objectives include introducing the students to the concepts of branding, semiotics, intellectual property, and international business. The skilled instructor will also be able to use the exercise to help students reflect on the consistency of their own faith, the importance of character in business, and the important role that branding and advertising often play in the construction of our identity. In doing so students (and instructors) often realize that they conform to patterns of this world far more than they might have realized (Romans 12:2).

PART TWO: BACKGROUND AND PREPARATION

Collecting Perfume Samples

Before the exercise can be conducted, the instructor will need to collect samples of perfume products such as perfumes, eau de toilettes, colognes, aftershaves, and/or body sprays. Some might typically be found in the instructor's home. Other products can be borrowed from family and friends. Finally, local department stores and perfumeries are generally quite willing to donate small samples once the nature of the exercise has been explained. Some might even ask the instructor to provide feedback after the exercise has been completed!

The exercise is more interesting if the instructor is able to collect samples that target different segments of the perfume market. There are a number of useful Web sites and blogs such as *Perfume Smellin' Things, Perfume Critic.Com, Now Smell This,* and *ScentBloggers* that the instructor might wish to consult to better understand the market segmentation of perfume products. Table 1 identifies some of these market segments along with representative perfumes that the instructor may wish to consider using. Table 1 also highlights some reasons why these particular scents enrich the classroom experience.

The instructor will need to collect one less perfume sample than the number of student groups in the class. Thus, if the class is divided into seven groups then the instructor will need six perfume samples. This is because one perfume will be applied to two different groups so that similarities and differences in marketing plans can be discussed in the classroom. Very often, the groups will come up with completely different marketing plans for the same perfume. Frequently, groups place the same scent perfume in different market segments. A particularly good scent to use for this is *Vera Wang for Men.* Students often struggle to decide whether this perfume is designed for men or women. Some groups conclude that it is a women's perfume. It is easy to imagine their surprise when they discover that it is in fact marketed to men!

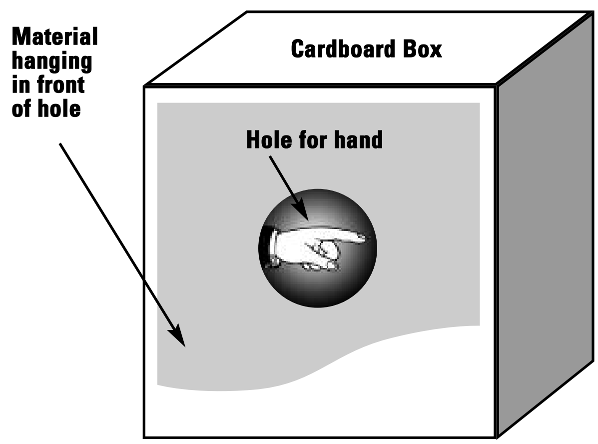
Table 1: Market Segments, Perfumes and How They Enhance the Classroom Experience

Segment	Perfume	Why this scent is interesting
Kids	Disney Collections	Generally students think these scents smell "disgusting" and either put them in mature woman's market, or among cheap supermarket brands. Some wonder if it is a cleaning product. So far only one group has ever placed it correctly as a kids' perfume
Teenage Girls	Tommy Girl Summer Splash by Tommy Hilfiger	*Tommy Girl* is quite a familiar scent for many female students, but Tommy Girl Summer Splash is much less well-known. Occasionally mistaken for a kids perfume to the chagrin of students who wear *Tommy Girl!*
Men's	Ozone by Sergio Tacchini	Students find this one tricky too. Generally they identify the correct segment, but the students' pricing strategies vary enormously.
Men's	Vera Wang for Men	Often mistaken for a woman's perfume!
Women's	Choose both a well known women's brand and also a cheaper imitation.	For one group you might spray the original scent but for another the cheaper imitation (available from Signature Scents and Make Up Madness). Generally, both groups market the scent in high price brackets. Despite the fact that many women cannot distinguish between the scents when they are initially applied, women nonetheless report that they would still prefer to receive the higher-priced brand. This raises important issues about the importance of advertising and how we are more shaped by our culture than we might care to admit.
Unisex	Eau de Cartier by Cartier	Unisex scents are still quite rare in the United States, so students tend to be less aware of this segment. The author tries to bring one over from Europe so that the students will not be familiar with it. Using a unisex scent helps students recognize that products may vary from one geographical region to another due to different cultures and concepts about gender identity.
Women's Daytime Perfume	Pacific Paradise by Escada	Marketed as a perfume for daytime, rather than evening wear. Many students do not recognize that some perfumes are designed to be worn at different times of the day, thus creating different sub-segments.
Special interest groups – e.g. Skateboarders	Vurt by PacSun	Vurt is targeted at male teenage skateboarders. Using this or other colognes targeted at these smaller segments helps students to understand different ways of behaviorally segmenting the market.
Air freshener	Fabreze Summer & Splash Proctor and Gamble	The author often sprays Fabreze on one group. This is to help students realize that perfume is also used in soap, detergents, and air fresheners, etc. Students often mistake the scent of Fabreze for a well-balanced high-priced women's perfume and suggest a retail price of $50-$70.

Preparing the Props

Next, the instructor will need to find a fairly large cardboard box. If one is not readily available in the college they can typically be collected from local grocery stores. In the bottom of the box the instructor will need to cut a hole large enough for a man to put his hand through. Finally, some material is attached to the box so that it drapes over the hole preventing students from seeing the perfume as it is sprayed onto their wrists. Figure 1 illustrates how the finished box will look.

Figure 1: Preparing the Cardboard Box



Briefing the Students

The exercise works better if the instructor tells the class not to apply perfume, aftershave, or strong scents (including very highly scented hair products) on the day that the exercise will be conducted in the classroom. In addition, the class should also be asked if any students are allergic to perfume products. If so, the instructor can spray the scent on a perfume sample card, similar to those used in perfumeries, rather than on the student's skin. Occasionally other students will ask to have the perfume sprayed on a sample card rather than on their wrists. It is recommended that you allow this but explain that it may change the scent of the perfume product considerably. By giving this degree of flexibility, all students can still participate in the exercise and avoid having any student covered in an allergic rash!

PART THREE: RUNNING THE EXERCISE IN THE CLASSROOM

Dividing the Class into Groups

At the beginning of the class period the instructor divides the class into small groups of between five and nine students. The exercise works better if there are both men and women in each group because the same perfume can often smell quite different on men's and women's skin. One-by-one, each group is invited to the front of the classroom and perfume is applied to each member's wrist as they place their hand behind the cloth and through the hole in the box.

The Assignment

Figure 2 outlines the assignment to be given to students after the perfume has been sprayed on each student.

Figure 2: Student Assignment Handout

1. You will need to consult the *www.census.gov* Web site and the North American Industry Classification System (NAICS) section to examine the perfume industry. Type in "Perfume" in the search box and prepare an analysis of the perfume industry.
2. Identify the segment of the perfume market that you will target. Explain your reasons for selecting this segment.
3. In which state will you manufacture your scent? Explain your reasons for selecting this location.
4. Where will you market your scent to effectively reach your target market? Why did you choose these locations?
5. What name, image, packaging, pricing, and promotion strategies have you developed to make the product appealing to the target market? Explain the reasons for your choices.
6. Prepare a 10-minute class presentation justifying your use of the marketing mix to target your selected segment.

After the perfume has been sprayed on each group, the instructor should distribute the assignment and allow students to begin working on their marketing plans during the remainder of the class period. This is important because the aroma of perfume lasts only a few hours, so the class period provides the best (and perhaps only opportunity) for the group to appreciate and discuss the scent.

At this point it is interesting and helpful if the instructor can explain how perfume is produced. The art of the perfumer is not simple. Perfumers must select their ingredients, decide how essential oils are to be extracted and then blend these ingredients so that the required aromatic notes are created and balanced. Central to the art of the perfumer is the knowledge of the time that it takes for various scents and oils to evaporate. This knowledge is used to structure perfume into three notes: top, middle and bass (Filby, 1998).

The three notes need to be balanced in such a way that middle and bass notes pick up and reinforce the aromatic themes introduced by the top note. The rate at which notes evaporate is dependent on many factors including the quality of the perfume, whether it is alcohol or oil based, the air temperature and skin type on which it is applied. This movement from one note to another may have some bearing on the exercise and students should be encouraged to smell the perfume regularly to see if they can detect these subtle changes in aroma throughout the day. Students are often quite surprised at how unpleasant the bass notes of some perfumes smell once the more appealing top and middle notes have worn off. This realization will be discussed later in the paper during the discussion of faith integration.

The instructor should not be surprised if students try to guess the brand of their perfume. While this adds to the enjoyment of the exercise, it is important that the instructor neither confirms nor denies these suspicions. In the author's own classroom experience no student has so far correctly identified the perfume and many are often very wide of the mark. For example, one girl was convinced that she knew the brand of the perfume that was sprayed on her. She was so insistent that her group followed her advice and targeted the perfume at the higher priced end of the young-to-middle-aged professional women's segment (retailing at $50 for a small bottle). While her group made a compelling presentation and did very well in terms of the assignment, she was surprised and mildly embarrassed when the author revealed that the actual scent was *Fabreze Summer & Splash* air freshener!

Student Presentations

The student presentations should be scheduled about three weeks after the initial classroom exercise. This gives students enough time to think about the issues and plan their presentations without allowing too much time to elapse between the initial classroom exercise and the final student presentations. The students' presentations tend to be very compelling. Some students develop quite sophisticated multi-media advertisements for their product. Others have done research on perfume wholesalers, bottlers and costs of packaging. One group of students ran around campus doing an impromptu market survey to gauge their peers' reactions to their scent and then built this data into their marketing plan. While we should be pleased that our students can make such good presentations, it is important not to lose sight of the fact that the purpose of the assignment is to see how convincingly they can develop a marketing plan to capture their target market.

PART FOUR: WHAT STUDENTS SHOULD LEARN

The Interrelationship of the four Ps of Marketing

After each group has presented, the instructor should reveal the actual perfume used. Sometimes the group identified the same segment the product actually targets; at other times they opt to market to a completely different segment. While students will celebrate if they identify the perfume's actual market segment, it is important to remind them that this is not the aim of the exercise. Rather, it is to assess how well they can develop a coherent and believable market plan.

What the students will learn is the interdependence between price, place, product, and promotion. The exercise will also reinforce the importance of market segmentation, target marketing, and how the four Ps need to be changed when a company targets different segments. The author has not found a better exercise for making this point.

Market Research Using the North American Industry Classification System

All too often marketing students lack the ability to analyze an industry. This exercise (and subsequent debriefing) helps students identify the rich secondary data available in the North American Industry Classification System (NAICS). Even though students are initially unfamiliar with the NAICS, those who are prepared to spend some time exploring and analyzing the NAICS Web site can gain important insight into the perfume market. For example, students will learn how to find common industry definitions on the NAICS Web site where the U.S. Census Bureau defines NAICS 325620: Toilet Preparation Manufacturing as "establishments primarily engaged in preparation, blending, compounding, and packaging toilet preparations, such as perfumes, shaving preparations, hair preparations, face creams, lotions (including sunscreens), and other cosmetic preparations."

Students will also find that that NAICS identifies three other perfume related industries, namely the: Perfume Material Manufacturing (325199), Perfume Stores (446120), and the Perfume Merchant Wholesalers (424210). Students will also be able to use NAICS data to see how these industries are geographically located throughout the Untied States. For example, in 1997 (the most recent) using the U.S. Census Bureau's Industry Statistics Sampler — NAICS 446120: cosmetics, beauty supplies, and perfume stores — it is interesting to note that California accounted for 1,117 of the 9,014 cosmetic, beauty supplies, and perfume stores in the Untied States and accounted for the largest total sales by state. In contrast, the Industry Statistics Sampler — NAICS 325620: toilet preparation manufacturing — reveals that the state with by far the largest perfume production was New Jersey on the opposite coast. Better students will recognize that this geographic distribution is likely to mean that there is an important role for wholesalers in the industry.

Semiotic Analysis

Perfume advertisements are a wonderful tool for introducing semiotic analysis to marketing students, helping them to understand how perfume becomes a sign for sophistication, success, romance, rebellion, masculinity, femininity, etc. From a Christian perspective, of course, many of these aspirations have becomes idols in contemporary society.

The Importance of Branding, Advertising

Most students are unable to distinguish between branded perfume and cheaper copies that are available from a number of sources such as Signature Scents and Make Up Madness. Nevertheless, they almost universally prefer to own the more expensive branded product. This realization helps students understand the importance of branding and how advertising can add value to a product. There can be no doubt that an important part of the consumer's pleasure in wearing a perfume is derived through identifying with the images and values that the perfume promotes.

Intellectual Property

The existence of similar copycat perfumes resulted in L'Oreal filing a lawsuit against Bellure, a Dubai-based perfume company, for producing and selling nearly identical copies of some of L'Oreal's most famous perfumes such as Emporio Armani and Anaïs Anaïs. The officiating court, The Tribunal de Grande Instance de Paris, concluded that:

> a fragrance is the result of an intellectual research of a composer which appeals to his accumulated imagination and knowledge to create an original bouquet of odorous products chosen for an aesthetic goal and thus constituting a work of the mind (McDermott, Will & Emory 2006).

Thus, even though Bellure could not be sued on the grounds of trade mark infringement because both the packaging and name that Bellure gave to its perfumes differed significantly from those used by L'Oreal, by finding that perfume is a work of art, the court held that Bellure infringed the copyright of the olfactory architecture of the perfume and was ordered to pay L'Oreal $1.48 million in damages (McDermott, Will & Emery, 2006). It is interesting to note that it is the actual copying of the olfactory architecture that is illegal; a case that L'Oreal filed in London against a company claiming that its cheap copycat perfume smelled like one of L'Oreal's products was dismissed by the judge (Independent, 2006). In the French case, L'Oreal initially lost the case but on appeal provided a chromatographic analysis of the constituent smells of one of the copycat perfumes showing that 50 out of the 52 elements of the copycat perfume were identical to the L'Oreal perfume. Lancôme successfully won a similar case in the Netherlands (Nurton, 2006), and the likelihood is that these finding will have implications for many countries (McDermott, Will & Emery, 2006).

International Business

The perfume industry affords great opportunities to introduce students to different aspects of international business. For example, the French perfume region centered on Grasse provides a good example of a regional cluster that has developed an international competitive advantage (Porter,1990; Ramanantsoa, 2005). The relationship between national and corporate identities is well explored by Puig (2003) in her analysis of the internationalization of the Spanish Perfume industry. Other research examines the successes and failures of multinational perfume companies attempting to break into new international markets such as China and India (Peter, 2004).

PART FIVE: USING THE EXERCISE TO DISCUSS FAITH

This exercise offers a number of opportunities to discuss faith both within and outside the classroom. The author has used all of these on different occasions, although there is generally not the time available to discuss them all in a classroom environment. On some occasions students have been willing to enter into discussion of these issues. However, as the author's marketing classes have gotten larger (now averaging 70 students, including students from both Christian and non-Christian backgrounds), the points are now more frequently made as lecture points and discussed after class with individuals or small groups of students as opportunities arises.

Do Not Be Conformed To The World

Many students will be surprised at how much advertising has influenced their choices in perfume selection. Perfume manufacturers use advertising to link particular scents with images of success, love, romance, popularity, sophistication, femininity, and masculinity. Some of the images portrayed are neither biblical nor wholesome. As Christians, we are exhorted not to be conformed to the pattern of the world (Romans 12:2), yet we are too often unaware of the powerful ways in which our culture shapes us. Semiotic analysis can help students become more aware of ways in which we are shaped by contemporary culture and how concepts such as success, love, and popularity can become idols replacing the centrality of God in our lives.

Living a consistent Christian Life

One of the main differences between quality perfumes and cheaper copies are the quality of their bass notes. Many cheaper perfumes have pleasant top and middle notes, but rather unpleasant bass notes. Until the end of the day, however, the differences between the genuine and copy are not easy to distinguish. However, as the perfumes' bass notes appear one product may give off a pleasant aroma while the other can be downright unpleasant.

Similarly, some students in a Christian College are quite adept at presenting a good Christian image to the outside world, but remain essentially unconverted in their hearts. This perfume metaphor can be used to press home the point that our conversion needs to be as real in our private lives (our bass notes) as we present it to be to the outside world (our top and middle notes). Like all metaphors, the use of perfume in this way cannot be pushed too far. Nevertheless, the author has found it very effective in making this point, especially when it is made while the classroom is still full of aromatic perfumes.

Being the Aroma of Christ

2 Corinthians 2:15 tells us that we are the aroma of Christ to those who are perishing and those who are being saved. The instructor can challenge his or her students to make sure that they live their lives in such a way that this aroma can be experienced by all. In addition, the instructor can also take the opportunity to remind students that their primary witness in the workplace is the quality of their work. Being active in sharing our faith but producing substandard and tardy work does not glorify our God of excellence.

The Importance of Character

Ecclesiastes 7:1: tells us that a good name is better than fine perfume. A small drop of perfume fills the entire room, and our lives should impact those around us in the same way. This simple point provides a challenge to students to examine how their character is regarded by others on campus and/or in the workplace. This can lead into fruitful discussion of the importance of character in business and leadership. John Maxwell's *Becoming a Person of Influence* (Maxwell, 2005) provides useful insights for business students on how character is formed and why it is so important in business and life.

PART SIX: CONCLUSIONS

Following Sayler (2006), this article maintains that business classes can be fun! Furthermore, in a postmodern and increasingly post-literate world, they need to be! This paper shows how the teaching of introductory marketing concepts can be reinforced through an enjoyable experiential exercise that involves spraying perfume on students' wrists and getting them to develop appropriate marketing plans for the perfume. Through the exercise students come to understand the interrelationships between the four Ps of marketing, the importance of market segmentation and target marketing. It also provides opportunities to introduce the concepts of international business, intellectual property and semiotics. The exercise also affords the instructor opportunities to explore the importance of character in business, the importance of living consistent Christian lives and the extent to which branding and advertising can shape our lives, often unwittingly, causing us to bow down to the contemporary idols of success, influence, and romance.

ENDNOTES

[1] Truth, Joy, and Eternity are names of Perfumes: *Truth* and *Eternity* by Calvin Klein, Joy by Jean Patou.

[2] After class feedback, March, 2005.

[3] Student evaluations, Marketing, May 2005, and May 2006.

[4] Student evaluations, Marketing, May 2006.

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CASE STUDY
The Zambia Medical Mission: An Operations Management Perspective

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ABSTRACT: *The Zambia Medical Mission is an annual short term medical mission conducted in the remote bush of southern Zambia, providing medical treatment and ministry to thousands of people each year. Planning and executing this large-scale project embodies many opportunities for application, teaching, and learning of operations management techniques within a Christian mission context.*

INTRODUCTION

It was a hot, dusty July afternoon in rural southern Zambia. Long lines of men, women, and children stretched off into the distance. Jay Starkey was assigned to line control that day. "Where did all these people come from?" There appeared to be a few scattered huts along the way as the convoy of vehicles drove here, but crowds of people emerged all morning from the tall elephant grass. The crowd, estimated at 2,000 people, may have walked for hours or days to seek medical help. It seemed like the people had to wait for hours in the hot sun, including some who were very ill. The clinic's goal was to effectively treat as many people as possible. A process for planning and operating these traveling clinics in the African bush had evolved over about 10 years, but could it be improved? The mission was rife with applications for project management planning and risk assessment, process modeling, and methods improvement to better serve real people with real needs.

BACKGROUND

Zambia is a country in south central Africa about the size of Texas. Dr. David Livingstone was one of the first Europeans to travel in this part of the continent and discovered the great water falls on the Zambezi in 1855 which he renamed in honor of Queen Victoria. The area came under the colonial control of Great Britain in 1888 and remained so until Zambia's independence in 1964. Current estimates of the incidence of HIV/AIDs is about 17% of the population of about 11.5 million, contributing to the limited life expectancy of 40 years (CIA World Fact Book, 2006). According to the UNDP Human Poverty Index scale, Zambia ranks among the poorest nations in the world — 90th poorest out of the103 nations in the index (World Health Organization, 2006). From a business and economic perspective, the primary drivers have been copper mining in the north and agriculture. However, copper market prices are cyclical, and much of sub-Saharan Africa is subject to periodic severe droughts, so neither mining nor agriculture serve as the basis of a long-term thriving economy. The GDP per capita is $900 per year, and unemployment is at 50% (CIA World Fact Book, 2006).

Drs. Kelly Hamby and John Estes from the United States began the first medical mission in the southern province of Zambia in July 1995 using one vehicle and treated 500 people. The mission has since evolved and grown into an annual effort involving about 220 people (120 Americans and 100 Zambians) who are transported several hours out into the bush to provide care for people who otherwise receive little or none. The doctors and their staff offer clinic services in the dry Zambian winter season because vehicles could not travel to the remote sites during the rainy season.

Figure 1: Overview of Clinic Process

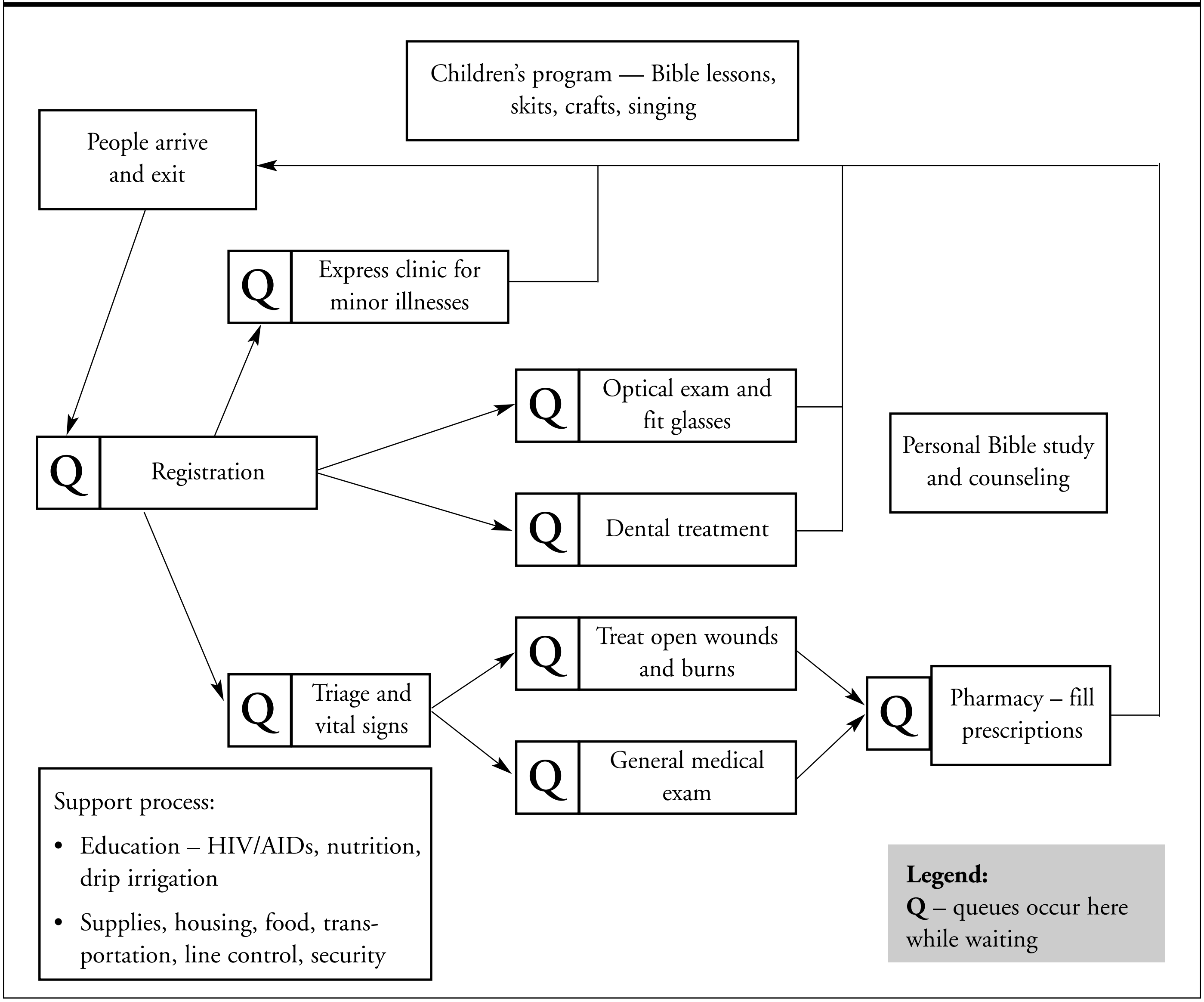


Figure 2: People arriving to the registration queue

Figure 3: Nurse measuring body temperature in the triage process

CLINIC PROCESSES

The overall goal of the clinic is to provide as much quality care and dignity to as many people as possible and help them understand the gospel of the Great Physician. It is essential that the core medical processes be operated as effectively as possible to assist as many people as possible per day. The processes, as summarized in Figure 1, have evolved to include these basic elements:

- Registration to obtain basic information about medical needs and then route the people to the next process. The arrival of people and the registration queue are shown in Figure 2.
- Recording of vital signs (temperature, weight, and blood pressure), as shown in Figure 3. People with fever, very high blood pressure, infants with low weight, or any person with an open wound are taken to the front of waiting lines for medical treatment. Otherwise, the doctors need the information for each patient in determining appropriate medical treatment.
- Express clinic for minor illnesses – many people come to the clinics along with sick relatives who do not require significant medical consultation themselves. These people consult with a nurse who provides vitamins, pain relievers as required, and redirects people with serious health problems to the queue for the general medical exams.
- General medical exams – a core process for the majority of people who come to the clinic. The process includes several parallel stations, each of which has a medical doctor and a nurse/translator. The doctors examine the people, prescribe needed medications, and identify the most severe cases for immediate transportation to an urban medical facility (possibly several hours away) or other medical follow up as needed.
- Wound care for open sores and wounds, leprosy, ringworms, etc. – an area segregated from the other processes because of blood and concerns with HIV/AIDs. The open wound cases are not as common as general medical needs, but require significantly longer time to treat, and may involve surgical procedures.
- Dental care – extraction of teeth and treatment of abscesses, as shown in Figure 4. Each station includes a dentist assisted by a nurse/translator. This area is also segregated from the other processes because of hypodermic needles, blood, and the HIV/AIDs concern. Dental instruments are processed through a series of washing/chemical sanitation steps after each use. Several support staff are required to wash the instruments and prepare injectable medications.

Figure 4: Patient Receiving Dental Care

- Optical exams and eye glasses – patient vision correction needs are measured and eye glasses in inventory are matched up as closely as possible with the correction needed.
- Pharmacy for providing prescribed medications and non-prescription vitamins and pain relievers. Several support staff are required to fill prescriptions from inventory and dispense to the people along with instructions for proper use. Several other team members are engaged full time in counting out pills from large containers into individual plastic bags with quantities of 30-60 pills each as shown in Figure 5.

Figure 5: Pill Counting and Repackaging Process in the Pharmacy

- Bible study and counseling for adults and programs for children – singing, Bible lessons, crafts.

- Teaching for adults in nutrition, HIV/AIDS, drip irrigation, and other topics.

The clinic processes begin treating people at 9 a.m. in the morning. People who have camped nearby overnight immediately form the queue for registration. At about 4 p.m. in the afternoon, if the clinic will not be located at this site the next day, all capacity is diverted to the express process whereby quick consultations are provided, vitamins and pain relievers dispensed, and any immediate life-threatening illnesses identified for emergency treatment.

SUPPORT PROCESSES

The support processes for the mission encompass a series of year-long activities to raise funds, recruit team volunteers, arrange air travel, acquire and maintain land vehicles, solicit pharmaceutical donations, prepare medications and supplies for shipment in containers, and travel to Zambia. Once in Zambia, the entire team (including Zambians) joins together at a mission school at Namwianga (near Kolomo in the southern province) and loads supplies on vehicles for departure to the remote clinic sites. Like a very large version of a family camping trip, provisions must be made for tent housing for personal shelter and clinic processes, food and water, latrines, supplies, power generators and other items needed for 220 people for several days in the bush. During the time periods of clinic operation, non-medical team personnel are busy preparing food, distributing supplies, directing the flow of the crowds of people, providing site security, and disposing of medical wastes.

APPLICATIONS OF OPERATIONS MANAGEMENT TECHNIQUES

There are a number of opportunities for the application of operations management techniques in planning and executing the mission. These include:

- Project Management – planning project tasks using a work breakdown structure (WBS), risk analysis, scheduling, human resource assignment, and budgeting. Figure 6 is a work breakdown structure (WBS) for the medical mission. In addition to project task planning and scheduling, risk assessment is a vital element in ensuring the successful accomplishment of the project's mission. Table 1 provides an example of a Failure Modes and Effects (FMEA) risk analysis. An FMEA analysis identifies categories of risks, the specific type of failure, the degree of severity (using a 1-10 scale with 10 being the most severe), the event probability (using the same scale with 10 being most probable), and the risk event score, which is the product of the severity times the probability. Those potential risk events having the highest score receive special attention ahead of time in developing mitigation plans.
- Simulation Modeling – analysis of the process flows and capacities required to handle the significant volume of people while minimizing wait times and highly utilizing the critical medical skills. Figure 7 shows a snapshot from a simulation model of the clinic processes using the SIMUL8 (2006) simulation modeling software. The simulation model as been used for the following purposes:
  - balance staffing capacity among the various processes,
  - estimate process staffing capacities to accommodate various levels of patient volume, and
  - better understand the waiting times for each process and the span time to get through the entire clinic.
- Process methods improvements – developing effective methods for labor-intensive processes such as loading and unloading trucks, lifting heavy loads (drums of water, trunks of medicine), and counting very large volumes of pills from large bottles into individual packets. The current pill counting method, as shown in Figure 5, is an especially tedious and labor-intensive task, given the overall demand of up to 200,000 pills dispensed in a single day of clinic operation. This task consumes thousands of volunteer hours all year long in preparation for shipment, and during the days of the actual clinic operation.

CASE CONCLUSION

The planning and execution of the Zambia Medical Mission embodies the responsibility of all Christians to effectively allocate resources at our disposal to best serve God's purposes in the world. The complexities of this particular project – the remote location, technical nature of the medical processes, size of the team, and size of the crowds and the severity of their medical and spiritual needs – provide interesting real-life applications for project management, process simulation modeling, methods improvements, and other techniques. The project serves as a reminder of the unique opportunities and responsibilities of students and practitioners of operations management to make a difference in the world – in the name of Jesus Christ.

Figure 6: Work Breakdown Structure (WBS) Example

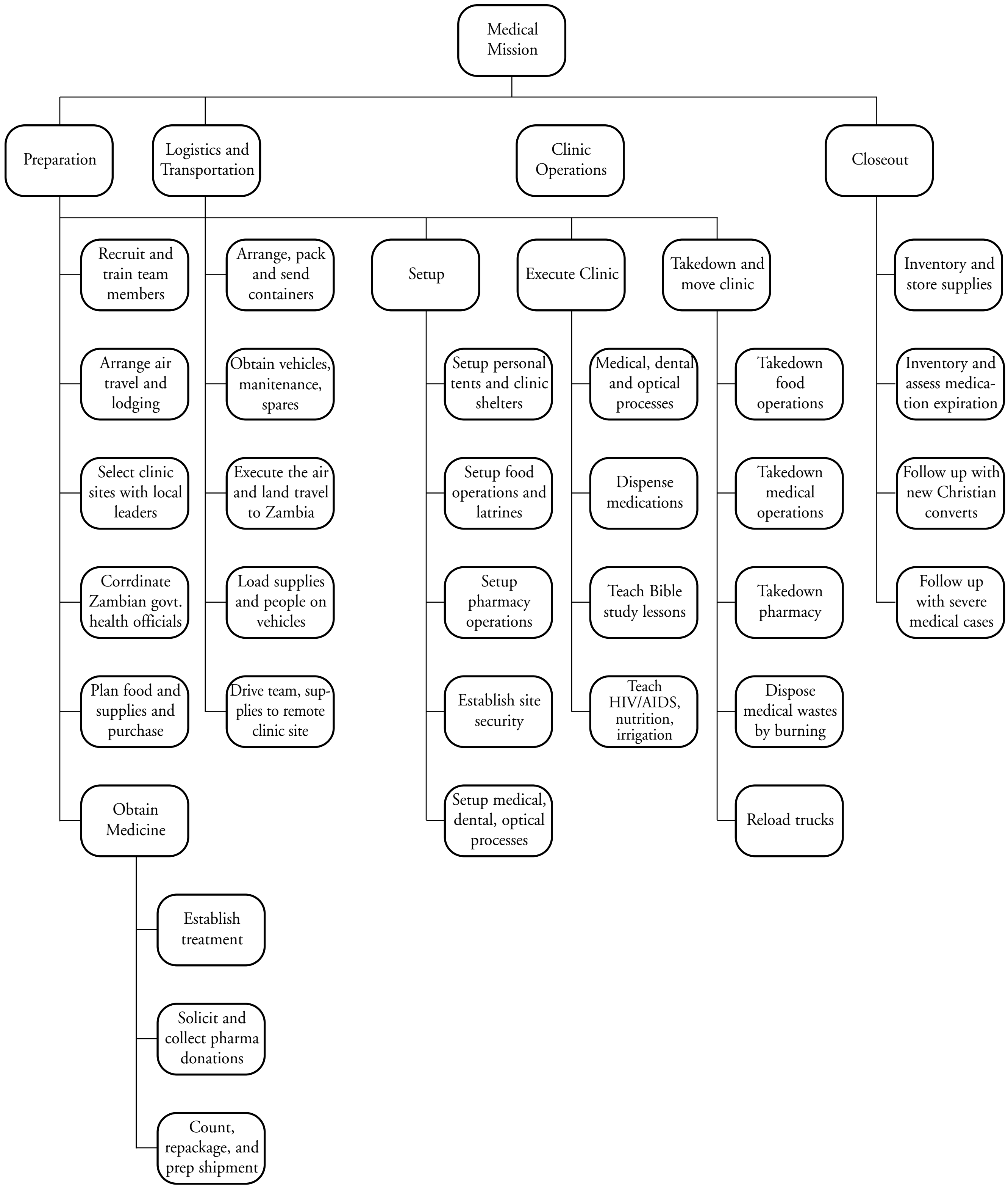
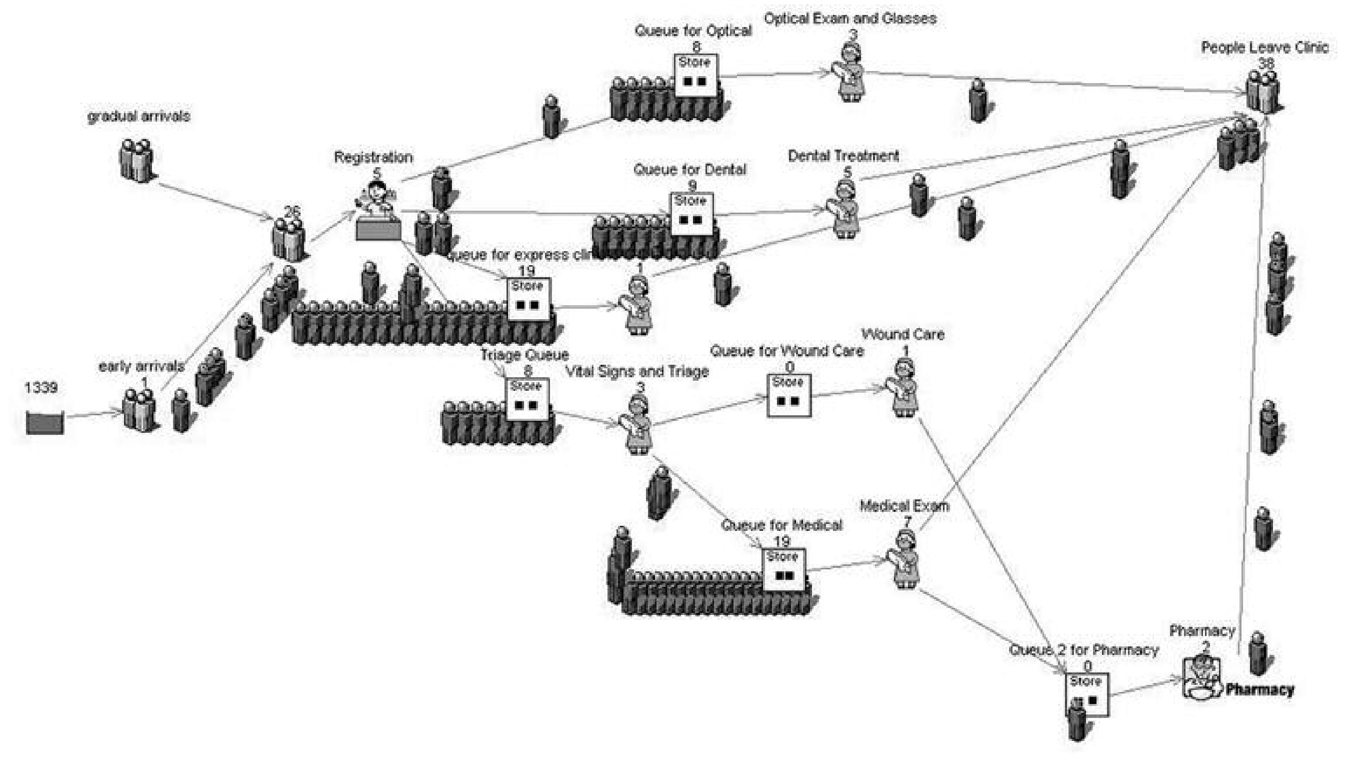


Table 1: Example of Failure Modes and Effects (FMEA) Risk Analysis

Process	Failure Mode	Effect	Severity (10 max)	Probability (10 max)	Score: Prob* Severity	Mitigation
Transportation	Lost luggage	Lack of personal items needed by team	4	8	32	Send as much as possible ahead of time via shipping container. Pack essential items in carry-on back packs.
Transportation	Missed flight connections	Team arrival may be delayed up to 24 hours	5	3	15	Schedule flights with plenty of time between flights to allow for flight schedule variation and collection of large amount of luggage.
Transportation	Vehicle breakdown in rural areas	Late arrival to clinic site	5	7	35	Carry commonly used spare parts and tires. Include a mechanic on the team. Use multiple vehicles.
Logistics	Container late arrival	Lack of food, supplies, and medication	10	3	30	Send container 6 months in advance of clinic operation. Use experienced freight forwarder.
Clinic Operations	Illness among the team	Team members unable to function in clinic operation	8	5	40	Perform infection control, especially in food areas and latrines. Encourage team members to seek immediate medical assistance from team physicians. Require physicals and immunizations before start of clinic.
Clinic Operations	Small crowds in attendance	Fewer people are treated than desired	5	1	5	Effective coordination and communication ahead of time with local officials and village and church leaders
Clinic Operations	Theft of medications or supplies	Supplies or medications unavailable for treatment.	8	6	48	24 hour security from a team comprised of both local villagers and team members.
Clinic Operations	Seriously ill patient not identified or not able to be treated because of waiting	Possible death of patient	10	5	50	Visual check of initial waiting lines for severe cases. At vital signs station, take people with high blood pressure or temperature or low infant weight to front of lines. Zambian team members talk to people in lines to identify worst cases.

Figure 7: Simulation Model of Clinic Processes



TEACHING NOTE

The Zambia Medical Mission has been used to accomplish two overall learning objectives in teaching operations management. The first objective is for the student to acquire a sense of Christian mission in learning and using operations management concepts. I begin the discussion with this question: "What majors on this campus are most directly related to serving God and helping people?" Typical responses include ministry, missions, education, social work, pre-med, etc. In my classroom experience, senior business majors do not perceive their major subject areas and future careers as being significant in God's service in the same way as the other degree programs mentioned. And of all possible business subject areas, operations management (engineering, manufacturing, quality, process modeling, queueing theory, etc.) tends to not fit the student's vision of potential Christian ministry.

My next step in this discussion is to describe the Zambia Medical Mission and show photographs from the Web site (Zambia Medical Mission, 2006). At the conclusion of the photographs and discussion of the mission processes, I ask them if such a complex humanitarian relief project could succeed with only medical doctors and ministers involved in the planning and execution. The answer, of course, is a resounding "no!" A project of this magnitude is absolutely dependent on many types of business expertise:

- Project Management in planning and executing the mission tasks
- Marketing – fund raising, communication, government relations
- Accounting/Finance – funds management, budget planning, international banking
- Operations – clinic design and execution
- Purchasing – food, supplies, medicine
- Human Resource Management – volunteer recruitment, matching skills and personalities to specific jobs, conflict resolution
- Logistics – warehousing, shipping, loading, unloading, vehicle management
- Information Systems – developing data bases and query/reporting for volunteer data, donors, accounting records, and supply inventories

- Facilitie/Equipment Management – planning, acquisition, maintenance

The second overall learning objective facilitated by use of the medical mission example is to understand and properly apply specific operations analysis techniques. The following specific assignments have been used:

Assignment Questions and Discussion

1. Develop a work breakdown structure (WBS) outline of the tasks necessary to execute a medical mission or other humanitarian project in a remote area like the Zambia Medical Mission. Include all aspects of travel, food and housing, and medical care. Develop a project schedule using the Microsoft Project software.
2. Develop a project risk analysis for a large project to build housing for the poor in a city in a developing country in the world using a failure modes and effects (FMEA) format similar to that shown in Table 1. Identify the project tasks with the highest risk score and discuss possible mitigation strategies.
3. Develop a simulation model of the core medical processes (those having a queue) shown in Figure 1 using the process time data summarized in Table 2. Answer questions such as the following:
   - What is the system output in eight hours?
   - What is the average wait time for each process?
   - What is the overall span time in the clinic?
   - What is the effect of variability in process time?
   - What capacity is required for various volumes of people per day?
   - On a more complex level, assess the impact of the lunch break on the throughput of the system. Study the effect of a simultaneous lunch break versus a "rolling lunch break" through various processes.

   Table 3 contains partial results of an analysis of this system using the SIMUL8 (2006) simulation modeling software. The data in Table 3 are not intended to be "the correct answer." They are merely representative of the type of results expected. The students should analyze system behavior under a variety of conditions. Any simulation software package will be sufficient to provide analysis of the clinic processes for the baseline case. In general, increasing process time variability in the model will increase the amount of waiting, which is consistent with queuing theory.
4. Improve process methods for dispensing medications from large containers with 500-1000 pills into plastic bags for individual use, typically containing 30-60 pills as prescribed by a physician. Develop and demonstrate simple (non-electronic) devices to assist in the following steps:
   a. Print information on a sticky label which indicates the type of medication, number of pills, how many to be consumed per day, and the expiration date.
   b. Attach label to a small plastic bag.
   c. Count out the small quantities from the large container.
   d. Place the desired number of pills into the bag and seal.

   Perform a time study on your method and estimate staffing levels, assuming a volume requirement of 200,000 pills per day.

The student response to the use of the medical mission in teaching operations management and project management courses has been very positive. The assignments have proven to be effective learning tools for learning the proper use of project management and simulation modeling techniques. The medical mission example is often mentioned in course evaluations. A number of students have expressed interest in participating in this particular mission or others similar to it. One former student and his wife are participating in the next Zambia Medical Mission.

In addition to the study of operations analytical techniques, another potential use of the medical mission example is to motivate a discussion the application of business skills in economic development and entrepreneurship to help relieve suffering longer term in Africa. Students should research Dr. Livingstone's dream of "Christianity, Commerce, and Civilization," which is inscribed on his statue at Victoria Falls. Livingstone discovered cataracts in the Zambezi that prevented the great river from being the transportation pipeline of commerce into the southern Africa interior that he had envisioned (Dugard, 2003). The students should discuss what obstacles remain to accomplishing Livingstone's dream today, and how business leaders can address these issues in remote areas having little economic infrastructure in place.

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Table 2: Process Data for Simulation Modeling

Process	Average Process Times (all times are distributed exponentially	Capacity for queue and process	Next Destination
Arrival to clinic	Assume that 1,500 people come from nearby or have camped overnight, arrive every .12 minutes. Another type of arrival occurs all day long from people walking in every .6 minutes.		Registration
Registration	1 minute	Queue has unlimited capacity. Process has 5 staff.	10% of people to optical queue, 15% to dental queue, 25% to express clinic queue, and 50% to triage queue.
Express Clinic	1 minute	Queue capacity = 20, process has 1 staff	Exit the clinic.
Triage and Vital Signs	.7 minutes	Queue has capacity = 20, Process has 2 staff	98% enter queue for general medical, 2% enter queue for wound care
Wound Care	20 minutes	Queue capacity = 20, process has 2 staff	Pharmacy queue.
Dental	7 minutes	Queue capacity = 20, process has 5 staff	Exit the clinic.
Optical	7 minutes	Queue capacity = 20, process has 3 staff	Exit the clinic.
Medical Exams	4 minutes	Queue capacity = 200, process has 7 doctors	Pharmacy queue.
Pharmacy	2 minutes	Queue capacity unlimited, process has 3 staff	Exit the clinic.

Table 3: Example Results of Simulation Analysis			
Process	**Volume of Patients Completed in Eight Hours**	**Capacity Utilization**	**Average Waiting Times in Queue**
Registration	2,065	4.95 out of 5	115 min.
Express Clinic	505	.78 out of 1	23 min.
Triage and Vital Signs	1,029	2.2 out of 3	1.8 min.
Optical	204	2.94 out of 3	38 min.
Dental	289	4.45 out of 5	36 min.
Wound Care	25	1.1 out of 2	10 min.
General Medical	855	6.85 out of 7	35 min.
Pharmacy	792	3.36 out of 4	1.9 min.
Exit the Clinic	1,854		Total time in system = avg 223 min. with standard deviation = 125 min.

Teaching Resources

Photographs of the medical mission from several years of operation are available at Zambia Medical Mission (2006). The photographs add rich content and motivation to the class discussion. A PowerPoint presentation is available from the author upon request. Information about the SIMUL8 (2006) software is available at their Web site. There are several other such simulation software packages available.

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Case Study

The Corporate Blame Game: Firestone Tires and the Ford Explorer

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ABSTRACT: *This case focuses on ethical decision-making during a corporate crisis. Recounting the Ford Explorer/Firestone tire case of 2001, it places students in the boardrooms of the two companies, corporate partners for close to a century who suddenly found themselves fighting for survival. The case includes extensive background information on which to base a decision, questions for use in preparing the case write-up, and a detailed teaching note to simplify class preparation. In classroom testing, this case generated lively debate and convincingly demonstrated the difficulty of objectively interpreting data when one's corporate survival is at stake.*

INTRODUCTION

The dawn of the 21st century was a glum time for the American automotive industry. In the first seven months of the new millennium, automakers were forced to undertake 70 separate product recalls affecting more than seven million vehicles (Bott, 2000), and on August 9 officials from Ford Motor Company and Bridgestone/Firestone were preparing to announce yet another recall, this one involving 6.5 million Firestone tires installed on Ford Explorer sport-utility vehicles (SUVs). While the previous recalls had generated little publicity, the August news conference would play out before a packed house of reporters (Penenberg, 2003), and its outcome would force both firms to face difficult choices.

The Press Conference

For several years, consumer safety advocates and attorneys had been compiling data which suggested that numerous Ford Explorers were rolling over during routine driving maneuvers. A National Highway Transportation Safety Administration (NHTSA) analysis found the Explorer four times more likely to overturn than comparable SUVs and pickups, and six times as likely to roll over as a typical family automobile (Kumar, 2001). Although Ford and Firestone disagreed on whether the tires or the vehicle was at fault, the two firms' century-long partnership was holding strong, and they had agreed to recall several million tires in a gesture of concern for public safety.

While the accidents under investigation had occurred in a variety of driving situations, Explorer/Wilderness AT rollovers occurred most often in hot climates while traveling at highway speeds. As the vehicle's tires gradually heated up, one tire's internal structure would fail, causing the tread to fly off and the tire to disintegrate. In a fraction of a second, the vehicle would veer sharply, turn sideways, and begin skidding before flipping multiple times. In most cases the roof of the vehicle collapsed, killing or severely injuring those inside (NHTSA, 2003).

By the day of the press conference, Ford and Firestone openly admitted that a problem existed: accident data spanning the years 1990 to 2001 projected that 1 in 2,700 Explorers on the road would eventually roll over and kill someone inside. Each company had attempted to stifle questions about its respective role in the problem, at times publicly blaming Explorer owners for driving too aggressively or for not properly maintaining their tires. But with lawsuits mounting and Congress convening hearings on the matter, the firms were finally ready to take action; the result was the day's scheduled recall announcement.

Despite extensive planning, the Ford/Firestone press conference did not go well. Firestone's phased-in recall plan meant that some drivers would continue traveling on defective tires for a year or more (Crigger, 2000), despite the fact that more than 20 deaths were already blamed on the tires. Reporters also confronted Firestone with the fact that it had been quietly recalling tires overseas for some time, while only now acknowledging the problem and launching a recall in the United States.

Further clouding the issue, a Firestone spokesman suggested that Explorer owners inflate their tires to 30 pounds per square inch (psi) to improve heat dissipation and reduce the chance of tire failure. Firestone's recommendation, however, clashed with Ford's recommended pressure of 26 psi, a lower pressure specifically chosen to improve the stability of the vehicle and prevent rollover accidents. When asked about this discrepancy both firms' representatives waffled, leaving Explorer owners unsure what they should do (Bott, 2000). By the end of the news conference the press was in a feeding frenzy, consumers were confused and frightened, and both Ford and Firestone were facing a potential product liability nightmare.

History

The relationship between Ford and Firestone was one of the oldest and closest in the automotive industry, stretching back almost a century. During the 1890s, Henry Ford and Harvey Firestone were neighbors in Detroit, and in 1903 each launched a company bearing his respective family name. Five years later the first Model T rolled off Ford's assembly lines on Firestone tires, and for several decades Firestone supplied all of Ford's tires (Dickson & Hickman, 2000).

The modern automobile, despite its ease of operation, is a surprisingly complex piece of machinery. Weighing two tons, it includes thousands of parts built in a dozen or more countries, and is often the result of five or more years of research, development, and testing. Not surprisingly, such complex creations are costly to develop. During the 1990s, Ford launched a new family sedan, the Contour. Developing the vehicle from the ground up cost Ford an estimated $7 billion over six years (Geyelin and Templin, 1993), and with typical profit margins of less than $1,000 per car, such high costs are difficult to recoup.

To control costs, automobile designers often adapt existing hardware for new vehicles rather than starting from scratch; identical air conditioners or windshield wipers, for example, may be used on numerous models in order to reduce complexity and cut costs. Multiple vehicles often share the same frame, engine, and transmission, allowing designers to radically restyle a vehicle simply by changing the passenger cabin and exterior styling. Chrysler successfully employed this technique when designing the first minivans, building them on a car "platform" (the underlying structure including frame, wheels, and engine) rather than a traditional cargo van platform. This decision yielded a van that handled like a car, birthing a new market segment which Chrysler dominated for more than a decade. The use of an existing platform for a new automotive design can dramatically reduce both the cost and the time required to bring a new car to market, improving its chance of becoming profitable.

Past Problems at Ford

While every major automotive company has experienced product defects and recalls, Ford had endured one of the most embarrassing product defect cases in automotive history. Facing competition from small cars built by Volkswagen and other firms in the late 1960s, Ford quickly designed the Ford Pinto, a lightweight car selling for $2,000. Introduced in 1971, the car eventually sold more than 2 million units. However the car is best remembered for a fundamental defect: Pintos involved in rear-end collisions tended to explode as the lightweight bumper collapsed, crushing the fuel tank and spraying the car's interior with gasoline (Dowie, 1977).

While the Ford Pinto was hardly the only car of its era with flammability problems, the Pinto came to symbolize all that can go wrong when profitability and safety collide. A 1977 magazine exposé revealed that Ford engineers not only knew about the Pinto's tendency to burst into flames, but had conducted a series of calculations comparing the expense of repairing Pintos with the cost of settling lawsuits from burned drivers and passengers (Ford, 1968). Based on this analysis, the firm decided not to spend the estimated $11.00 per vehicle required to fix the defect. The Pinto was ultimately blamed for 27 known burn deaths and numerous injuries.

In 1976 the consumer automobile market consisted of two distinct categories: cars and light trucks (pickups). That year Jeep introduced the CJ-7, the first vehicle in what would become the industry's most profitable market segment, sport-utility vehicles. The SUV segment quickly became white-hot, both with consumers who loved SUVs' combination of practicality and sportiness, and with automakers, who pocketed as much as $10,000 per vehicle in profit (compared to as little as $500 on many cars) (Kiley & Welch, 2005). With the Jeep CJ-7's popularity soaring and General Motors poised to introduce the Chevrolet Blazer in 1982, Ford hurriedly began developing its own small SUV, the Ford Bronco II.

Facing tight deadlines and immense cost pressure, Ford engineers chose to design the new Bronco II on the platform already used for the Ford Ranger compact pickup. This choice saved months of development time and millions of dollars, but also proved to be one of the costliest mistakes in company history. Although the Bronco II was the same width as the Ranger, it weighed more and carried its weight higher, raising its center of gravity and making it less stable. In testing, Bronco II prototypes rolled over at speeds as low as 30 mph (Geyelin, 1993).

Ford eventually sold more than 800,000 Bronco IIs (Ford, 1990), but the vehicle was blamed for 42 fatalities in 1987, and one analysis put the overall fatality rate for Bronco II's at 1 death for every 500 vehicles sold. Lawsuits and falling sales led to the Bronco II's cancellation in 1989.

Previous Problems at Firestone

Like Ford, Firestone had faced its own embarrassing product recall two decades before. During the 1970s, automobile makers began equipping their cars with radial tires, a completely new design which lasted far longer than traditional bias-ply tires. Firestone, long considered one of the best managed companies in the United States, faced a difficult question: how could it phase in the new radial tires without handicapping its lucrative bias-ply tire business?

Just as Ford decided to adapt the Ranger pickup platform for the Bronco II, Firestone chose to refit existing tire factories and production equipment to produce radial tires, rather than building an entirely new factory. As a result Firestone was quick to market with its new Firestone 500, and by the mid-1970s, the tire was the best known radial in the American market.

Problems with the 500 soon became evident, and industry observers blamed these defects on the decision to adapt existing production equipment rather than procuring new factory tooling. An internal memo written in 1972 described tests in which the outer surface peeled cleanly off a Firestone 500 tire; such failures, known as tread separation, became so frequent that Chevrolet considered ending its use of Firestone 500s. Despite extensive engineering and public relations efforts, mounting pressure eventually forced Firestone to recall and replace more than 14 million tires in 1978, the largest tire recall up to that time. Firestone 500s were blamed for more than 40 deaths, and the Firestone 500 recall remained a bitter memory as the firm planned a new recall of tires mounted on Ford Explorers.

THE FORD EXPLORER AND THE FIRESTONE WILDERNESS AT

When the Bronco II was cancelled in 1989, Ford had an attractive follow-up vehicle ready, the Ford Explorer, which was introduced in 1990 and soon began flying out of Ford dealerships. Built on the same platform as the Bronco II, the Explorer was larger and heavier, and Explorer prototypes soon began tipping up on two wheels in testing (Ford, 1987).

Realizing they could not afford to sell vehicles which were less stable than the Bronco II, Ford executives commissioned a study to explore solutions to the Explorer's instability. Of the options presented, all but one involved significant changes, high costs, and lengthy delays (Levin, 2000). Ford engineers ultimately adopted the simplest, cheapest solution available: rather than redesigning the vehicle they simply reduced the pressure in the Explorer's tires, improving stability and allowing the Explorer to ship on schedule. By 1991 the Ford Explorer was the nation's best-selling sport-utility vehicle, a title it held for a decade. Even more impressive, the Explorer boasted a staggering profit margin of 38%, earning Ford more than half a billion dollars in 1991 alone (Levin, 2000), a year in which Ford lost a record $2.3 billion.

The tire Firestone designed for the Ford Explorer was, like the vehicle itself, a compromise. To match the Explorer's rugged image, Ford specified a tire that looked sporty and oversized, but that also provided a comfortable highway ride like a passenger car tire. Ford also demanded that the tire be produced less expensively than previous models, and since Firestone could not afford to alienate its largest customer it complied. The result was a tire which appeared to meet everybody's needs, the Wilderness AT.

Wilderness AT tires mirrored the Explorer's rugged image, boasting a high profile and a deep tread pattern reminiscent of a truck tire. Firestone also met Ford's weight and cost objectives, shaving materials to reduce the tire's weight by 10%. As a result Ford got a lightweight car tire disguised as a rugged truck tire, while Firestone got to keep Ford's business, which accounted for almost one-third of Firestone's sales (Penenberg, 2003). But these design compromises were not without a price, and government testing revealed that the lightweight tires tended to heat up prematurely, increasing the risk of tire failure. Underinflating the tires, as Ford had chosen to do in order to improve stability, simply exacerbated the problem of heat buildup. Soon thousands of new Explorers were rolling down America's highways on Wilderness AT tires and as the fleet grew larger, reports of disastrous accidents began to trickle in. The trickle soon became a torrent.

DECISIONS TO MAKE

By the day of the ill-fated news conference, both Ford and Firestone recognized that they faced potential disaster. For Ford, a loss of public confidence in its most profitable vehicle could plunge the company even deeper into the red. Firestone faced a double threat, both with its largest customer (Ford) and with the public, who bought millions of Firestone replacement tires each year. A Harris Poll conducted as the crisis spiraled upward found that public confidence in both Ford and Firestone was shaky, and when asked whether the two firms had acted responsibly a majority of respondents said "no" (Power & Ansberry, 2000). Federal accident statistics backed up public opinion: by the date of the news conference, 16,000 Explorers had rolled over, causing more than 600 deaths (Gustafson, Devening, Wehking, et al. v. Bridgestone/Firestone, Inc., 2000). While the press conference was intended to relieve pressure on the two firms, it appeared to have simply thrown fuel on the fire. Both firms immediately went into crisis management mode, each deeply concerned that an already costly problem might explode. Action was needed, but what was the proper response?

Your Assignment

Following the unsuccessful news conference your firm's executives met for several hours to discuss their options; they will meet again in 24 hours to make a final decision on the company's position and what actions it should take. As a company analyst, you have been assigned to assess the data in the case, consider your firm's alternatives, and make a recommendation to your firm's top executives. As you consider your recommendation, keep in mind that the final course of action must consider the needs of the driving public, your firm's shareholders, and the other firm, which has been a reliable partner for close to a century. As you conduct your analysis you should use any relevant data included in the case, as well as the following information.

General Information:

A new car warranty typically covers all parts and accessories except tires, which are warranted by their manufacturer.

All tires sold in the United States are NHTSA rated for traction, tread wear, and temperature (how well they dissipate heat). Wilderness AT tires were rated C (the lowest rating) for temperature.

Heavier vehicles normally require higher tire pressures; higher pressures reduce traction.

Research and Testing:

A 1996 study of crash-related auto insurance settlements found that of 1,800 accident claims involving Firestone tires, 1,400 occurred on Explorers.

NHTSA conducted routine high speed testing of ATX (a variation of the Wilderness AT) tires. When tires were spun up to 112 miles per hour, almost 10% of the tires disintegrated.

NHTSA testing of the Ford Explorer was conducted at a pressure of 32 psi, despite Ford's recommendation that tire pressure not exceed 26 psi (Federal News Service, 2000).

A 2000 Harris Poll asked Americans about their impression of the Ford/Firestone situation: Was the tire recall broad enough? (60% said no). Did Ford act responsibly in the Explorer case? (26% said yes) Did Firestone act responsibly? (14% said yes)

A Ford dealer in Saudi Arabia, after reporting tire failures on Explorers, was instructed by Firestone to direct customers to check tire pressure every two weeks and before long trips.

An analysis by Ford found that some Firestone lines had double the historic levels of problems. Tires from Firestone's Decatur plant had damage rates up to 100 times normal.

Firestone analyzed the same 1997 data and concluded that the root cause of Explorer rollover accidents was the vehicle's high center of gravity and poor stability, noting that Explorers tended to roll over regardless of which manufacturer's tires were installed.

History:

Ford dealers first reported tread separation problems in Saudi Arabia. Firestone examined the tires and blamed poor maintenance and road hazards. Ford eventually replaced the tires with Goodyear tires and reprogrammed vehicle computers (without informing owners) to limit the vehicles' maximum speed (Pearl, 2000).

In Venezuela, Firestone quietly replaced its tires with Goodyear tires. Firestone also installed new shock absorbers and an accessory bar to hold them in place at no cost to customers.

In 2002 Ford introduced a newly redesigned Explorer which had much lower rollover rates. The company's CEO said the changes were unrelated to alleged vehicle safety issues.

TEACHING NOTE

This case emphasizes decision-making, with a particular focus on weighing ethical considerations against financial objectives. It is appropriate for courses dealing with general management and business ethics at the undergraduate level. The case wording is not company-specific; as a result you may produce identical copies of the case for all your students. In previous use students were assigned to one of three groups: Ford, Firestone, or an independent analyst. This division produced extensive discussion regarding how individual perspective colors decision-making.

Questions & Suggested Answers

1. Based on the available data, which of the two firms is responsible for the death toll in Explorers equipped with Firestone tires? If the responsibility is shared, what percentage of the blame may be fairly assigned to each side? Be sure to support your response with case facts.

Answer: The data in this case is ambiguous at best. Ford supported its case by pointing to the exceptionally high failure and defect rates in tires produced at the Decatur facility, a problem Firestone seemingly acknowledge when it later closed that plant. Ford also argued that Firestone remained ultimately responsible for the safety of its tires, and that if it could not produce a safe tire to Ford's specifications it should have declined the contract. Firestone countered that it had designed a tire that met Ford's specifications, but that Ford's decision to reduce the pressure in the tires was causing tire failure. Firestone further contended that Explorers experienced excessive rollover rates regardless of which tires were installed, suggesting design problems with the vehicle. Finally Firestone cited the 1996 study which found that 78% of all accident claims involving Firestone tires had occurred on Explorers. Objectively it appears that Ford's use of the narrow Bronco II platform traded stability for quicker time-to-market. Firestone also appears to have made too many compromises on the Wilderness AT.

2. What is the best overall resolution to the problem? In other words which action would provide the best outcome for all parties involved? Your options include the following:

a. Firestone can stand by its recall announcement, replacing defective tires with new Firestone tires. This plan will take several months due to capacity constraints. Some observers might interpret this as an admission that the tires were at fault.

b. Firestone can recall the tires and replace them with competitor's tires, which could be accomplished much more quickly than building new Firestone tires for the replacements. This alternative would be both embarrassing and expensive, but would put customers on new tires more quickly.

c. Ford can recall the tires and replace them with a competitor's tires at Ford's expense. This alternative is costly to Ford, but allows it to place the blame largely on Firestone.

d. Ford can install additional equipment on all Explorers to reduce the vehicle's tendency to roll over. This solution was adopted on a small scale in Saudi Arabia, but its effectiveness is largely unknown. This choice could be seen as a tacit admission that the vehicle has design problems and might hurt Ford's litigation position.

e. Ford can recall the Explorers, buying them back from consumers at current market value. This choice would be devastating to Ford's bottom line and reputation, but would allow it to take the high ground by putting customer safety first.

f. Both Ford and Firestone have the option to blame the other company and demand action, while doing nothing themselves.

g. Your firm can claim that the recall already in place is adequate and declare the matter closed.

h. Any other option you feel is appropriate. If you choose another option, you must state explicitly what it would be and how you would carry it out.

Answer: In the actual events of the case, option A was initially chosen; capacity constraints forced Firestone to phase-in the recall as it worked overtime to build enough replacement tires. The slow pace of this response led to harsh criticism of both firms. Following the dissolution of Ford and Firestone's partnership, Ford announced that it would adopt option C, a costly choice which allowed Ford to win the public relations war in the short term but which hurt quarterly earnings. In selecting an option students should justify their choice with case data.

3. Explain to the public (in a press conference) why your solution is appropriate. Then explain to shareholders why your decision makes sense. Finally explain the ethical reasons for your choice. Explain clearly why your choice is the moral one.

Answer: One of the challenges in a case such as this one is managing the communication process effectively. Ford and Firestone each have extensive data to support their actions, however the choice of which data to use will impact the ultimate outcome. In responding to this question one must consider how to assign blame without unnecessarily harming the partner firm.

This question requires an ethical justification of the choice made. If the decision was made on the basis of safety concerns this item should be relatively straightforward. If the choice was driven largely by efforts to minimize financial losses, this item will become an exercise in rationalization. Students should be able to present concise ethical principles underlying the choice they made; good responses to this item will balance their ethical obligation to customers with the fiduciary obligation to properly manage the assets of shareholders.

4. Your recommendation in question two may have placed the burden on your partner firm. If so, now assume that they receive your recommendation but reject it and choose to do nothing. Given this new development re-answer questions two and three.

Answer: This item introduces the type of complication which often separates real-world business encounters from simplistic in-class exercises. Every business decision is made in the context of changing and frequently unfavorable environmental forces. This item recognizes that in some situations the "most responsible" party is unwilling to address the problem, and as an ethical organization our firm may be required to take action even though we are convinced the responsibility lies elsewhere.

In responding to this item, students must re-examine the underlying reasons for their previous decisions. If profit maximization was their primary goal and they demanded that their partner firm take steps, they are forced to decide whether they should now put safety first instead. In this scenario the student is confronted with a business partner who has his own set of goals and priorities and who may expect the student's firm to take action. As so often happens, the original plan comes up short, and the decision-maker is forced to re-evaluate what his true objective is and how much he is willing to spend to achieve it.

5. What responsibility does a corporation have when its products or services injure people? What biblical principles define the duty of a company in such a case?

Answer: When seeking scriptural guidance for business transactions we begin by noting that general scriptural guidelines dealing with honesty and seeking the good of others apply in commerce just as they do in other aspects of life; therefore business transactions should be carried out in a spirit of agape love, with concern for the other party as well as for one's own interests. Although it was written long before modern corporations were conceived, the Bible is no stranger to commerce, containing numerous teachings on conducting business and dealing with customers and employees. For example, both the Old and New Testaments condemn the practice of withholding or delaying payment to workers, describing these practices as sinful (Deuteronomy 24:15, James 5:4).

Three scriptural principles appear relevant to the case of Ford and Firestone:

First: Merchants are to deal honestly with their customers.

Ancient merchants who weighed out goods using a balance often owned two different sets of weights, one for buying and the other for selling, in order to shortchange customers and suppliers; this widely accepted practice is repeatedly condemned in scripture.

The LORD abhors dishonest scales, but accurate weights are his delight. (Proverbs 11:1)

Honest scales and balances are from the LORD; all the weights in the bag are of his making.
(Proverbs 16:11)

In the case of Ford and Firestone, several questions related to honesty can be raised. Did Ford know the Explorer was unstable before it went on sale? Did Firestone know the tires it designed were inadequate and that defective tires were being produced? Did Ford and Firestone try to conceal these problems when they first became evident? And did the two firms try to cover up evidence during legal proceedings brought by injured drivers and passengers?

Second: Individuals are to take reasonable precautions to protect others and are responsible for damage caused when they do not.

Exodus 21 offers two examples of this principle in use. The first case involves a man whose bull attacks and kills another person, in which case the bull was to be destroyed. However if the bull had a known history of aggressive behavior and the owner had failed to restrain the bull, both the bull and its owner were to be killed. In this case the man's negligence in allowing his property to endanger others appears to be the key differentiating factor.

The second example in Exodus 21 describes a construction project in which a man digs a pit but fails to cover it at the end of the day. If another man's animal falls into the pit and dies, the first man is required to replace the dead livestock.

In the case of Ford and Firestone this principle defines the responsibility that Ford and Firestone, have to compensate those injured or killed by their product. A reasonable application of this principle would make Ford and Firestone, responsible for the financial support of those injured by their product; such costs should be considered the normal consequence of selling a dangerous product, and the ethical duty of the seller.

Third: The strong are charged by God to defend the rights of the weak and not to take advantage of them.

Scripture repeatedly reminds those who follow Jehovah that they are to defend the rights of the widow, the orphan, the foreigner, the poor, and others who are without standing in society. The New Testament notes that the practice of shepherds "lording over" their underlings is inappropriate.

The righteous care about justice for the poor, but the wicked have no such concern. (Proverbs 29:7)

…so that the Levites (who have no allotment or inheritance of their own) and the aliens, the fatherless and the widows who live in your towns may come and eat and be satisfied, and so that the LORD your God may bless you in all the work of your hands. (Deuteronomy 14:29)

Cursed is the man who withholds justice from the alien, the fatherless, or the widow.
(Deuteronomy 27:19)

In a modern legal setting, the individual bringing suit against a corporation is clearly the weaker, poorer party, facing an adversary with an army of lawyers, very deep pockets, and a willingness to drag out the proceedings for many years. In cases of catastrophic injury, the use of such delays sometimes allows a corporation to postpone an actual court hearing until after the defendant has died, a truly cold-blooded approach. At least one paralyzed Explorer rollover victim faced the daunting task of paying for round-the-clock medical care (she was paralyzed from the neck down) while also pursuing her case against Ford. While corporations should defend themselves in court, the use of their extensive wealth and power to tilt the playing field in their favor and deny justice to the injured violates scriptural teaching against exploiting the weak and the poor.

EPILOGUE

The Ford Explorer/Firestone Wilderness AT debacle quickly degenerated from a civil discussion of options into a high-stakes exercise in finger-pointing. For Firestone, conceding that it had produced and sold an unsafe tire would prove embarrassing and costly, reviving the bitter memory of the Firestone 500 debacle of the 1970s. For Ford, already struggling financially, an admission that the top-selling Explorer was fundamentally unsafe might lead to bankruptcy.

As the game played out, each side maneuvered to cast itself in the best possible light while simultaneously deflecting criticism toward the other firm. In May of 2001, Firestone beat Ford to the punch and formally ended their decades-long partnership, citing a lack of trust between the two partners as well as data it claimed placed the blame for Explorer rollovers on the vehicle's design.

The following day Ford announced it would spend $2 billion to replace 13 million Firestone tires with tires from other manufacturers. Ford justified the action, which resulted in a quarterly loss of 35 cents per share, with data it claimed placed the blame for Explorer accidents squarely on Firestone. While Ford portrayed its actions as motivated by a concern for customer safety, some analysts observed that Ford's $2 billion expenditure painted the firm as both concerned for customer safety and innocent in the entire affair. Considering the potential cost of recalling Explorers, Ford's decision was cynically viewed by some as a relatively inexpensive solution to a potentially disastrous problem.

Many of the tires which failed on Explorers were produced at Firestone's Decatur, Illinois, factory, the same plant responsible for producing the ill-fated Firestone 500 radials in the 1970's. In 2001 Bridgestone closed the facility, laying off 1,500 workers. The firm also announced it was spending almost $30 million to recall an additional 3.5 million tires. It then completed its overhaul by firing Chairman Yoichiro Kaizaki.

Ford Motor Company lost more than $6 billion in 2001 and 2002, while its market value shrank by two-thirds. Ford's 2002 Explorer was redesigned with a wider frame and an improved rear suspension, easily passing the Consumer Reports stability test failed by the original Explorer and the Bronco II. In October 2001, Ford fired CEO Jacques Nasser.

Ford Explorers with Firestone tires were ultimately implicated in almost 300 rollover deaths. In 2003 Firestone settled a class-action suit brought by tire owners for a total amount of less than $30 million. The firm admitted no defect in the tires, and each plaintiff received a settlement worth less than $100.

Accident data supported Firestone's contention that Explorers rolled over at an alarming rate, regardless of which tires they were riding on, while other data supported Ford's position that Firestone tires failed at an alarmingly high rate. In summing up the debacle, one plaintiff's attorney spread the blame between the firms: "A bad tire on a bad vehicle."

In mid-2006 Firestone launched a renewed effort to track down and replace the estimated 200,000 Wilderness AT tires still in use, most as spare tires on aging Explorers and Rangers. Three recent accidents involving tread separation and multiple deaths prompted the new campaign. Two of the vehicle owners have launched new lawsuits against Firestone.

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Case Study

R. W. Beckett Corporation: Corporate Culture

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ABSTRACT: *This case introduces strategic, integrity, and lifestyle issues that make it a suitable case in any class featuring strategic management or ethics discussions. It could be a good case for a capstone course such as strategic planning or an introductory management course. The application of this case has relevance for strategic management and business ethics theory and processes. Regarding strategic management organizational culture is the most relevant issue related to this case scenario. In the area of business ethics, this case could also be presented to support corporate culture. Other secondary topics which might be applicable to the case study include competitive advantage, corporate governance, internal and external environment, product strategy, leadership, and social responsibility.*

CASE SYNOPSIS

Kevin Beckett has recently become president and CEO of R. W. Beckett Corporation, a company started by his grandfather almost 70 years ago and effectively and efficiently run by his father, John, for close to 40 years.[1] Kevin will be leading the company into the 21st century with many changes and challenges on the horizon. One of the most immediate dilemmas was a decision to outsource some of the manufacturing activities to China.

The company had never outsourced labor activities to a foreign country before. However, increased competition and decreasing product margins necessitated that all feasible options be considered. Company employees had remained extremely loyal to R. W. Beckett over the years, even preferring to remain non-union in a highly unionized area and industry.

Greatly complicating the decision process was an underlying corporate culture of the organization. John, a devout Christian, had spent years perfecting a biblically based corporate culture that was foundational to all aspects of the business's activities. The thought of transferring some business to China, an atheist nation, with questionable labor practices, seemed to go counter to much of the values that the company stood for.

There were other corporate culture related issues that Kevin would soon have to confront, including new senior leadership, acquisitions, changes in society, and new entrants in the workforce, along with governmental non discriminatory regulations and intervention. Could or should the current corporate culture withstand these changes over time?

Kevin was also aware that a large percentage of family-owned businesses do not survive through the third generation. This added pressure made Kevin realize that decisions he made could be even more critical. Would the company corporate culture help or hinder Kevin's ability to operate effectively in the years ahead?

INTRODUCTION

In the fall of 2004, Kevin Beckett, 37, became president and CEO of R. W. Beckett Corporation, succeeding his father, John Beckett. John Beckett had been president from 1965 through 2003. As the third generation of the company's leadership, Kevin soon realized he would need to make some major decisions. To remain competitive, the company needed to reduce costs. The most feasible option appeared to be outsourcing some of the manufacturing functions to a foreign country — most likely China. Because of R. W. Beckett Corporation's values-based corporate culture, this outsourcing decision was even more complex for Kevin than for many manufacturing executives throughout the United States.

R. W. Beckett Corporation's values-based corporate culture, shaped by R.W. (Reg) from the company's inception almost 70 years earlier, was foundational to everything it did. John added a biblical dimension to this values-based approach after becoming a Christian. Kevin and his five siblings grew up knowing how important this concept was to their dad and how key it was to the company's success.

Now, with the company under his watch, Kevin realized cultural considerations would have to either be set aside or sustained across multiple "thresholds" as the company brought in new senior leadership, established facilities in other locations (including globally), made acquisitions, wrestled with changes occurring in society, and adjusted to the uniqueness of new entrants into the workforce. Decisions and actions in all of these areas would impact or be impacted by the R. W. Beckett corporate culture.

The most immediate dilemma was outsourcing. It would test the corporate culture in ways not previously considered. Kevin wondered how, if at all, Beckett's values-based corporate culture, which incorporated biblical principles like an absolute truthfulness and accountability to a divine authority, could be incorporated into foreign operations. In a country such as China with the government's promotion of atheism and where most of the population followed decidedly different standards and norms, the challenge was even greater.

R. W. Beckett Plant

John and Kevin Beckett

Kevin questioned whether the company's culture needed to extend globally or if it was sufficient to accept the corporate culture primarily for domestic decisions. However, if R. W. Beckett assumed an international or more global mission, regardless of the countries involved, any venture into foreign operations added new complexity to their corporate culture. Furthermore, was it a deal-breaker if the R. W. Beckett corporate culture didn't fit the norms and practices of an international community or society? Kevin knew that to keep jobs in-house and to serve the best interests of relevant stakeholders, changes such as these, at the very least, had to be seriously considered.

SUCCESSION

The succession of Kevin to CEO in 2003 had gone smoothly. John had focused for years on the character development of all six of his children along with instilling an appreciation for the family business. He often thought that eventually one or more of his children might join or even lead the business. However, for John there were some critical aspects to succession. Chief among these was his desire to preserve a values-based corporate culture rooted in the Bible, for this was indeed foundational to every aspect of his business and his life. Principles such as honesty, integrity, service, and quality were just a few of the concepts practiced under the Beckett corporate culture.

When the time was right, John had handed the company over with no strings attached. He did not set any conditions but had expectations. John realized that Kevin would go through unforeseen challenges. He had high hopes but was also realistic.

As he became the third CEO in the company's history, Kevin was keenly aware of the uniqueness of the company's culture. But practically speaking he had to ask: How much of the culture was "John Beckett"? How much was "R. W. Beckett Corporation"? How much needed to be "Kevin Beckett"? What aspects would be new and different under his leadership? What would be continued from previous generations?

John had led the company for four decades. Times had changed, society had changed, and the business had changed. Now the company was contemplating doing business abroad and it had to grapple with vastly different cultures, religions, and values. Kevin knew it was a basic fact of business success that change must occur as conditions changed, but he needed discernment on the extent to which such changes applied to the corporate culture.

Issues were pressing in, including customer pricing expectations, and the organization needed to respond. Kevin was certain that his next steps would be carefully watched, not just by customers, but by employees, other family members, and the company's board of directors. This was an inflection point. Key decisions now would set the tone for whether the legacy of John Beckett would be honored or dismissed as dated and decreasingly relevant.

COMPANY HISTORY

R. W. Beckett Corporation was founded in 1937 by Reg Beckett just as the conversion from coal furnaces to oil heat was heating up—literally (Leggatt & Beckett, 1987). Cottage industries in basements and garages in the oil heat market had sprung up by the hundreds and almost as many failed for lack of quality products or sustainable cash flow. Reg's commitment to hard work, product excellence, and customer service helped his fledgling company survive those early years.

Reg gained experience in the oil heat industry working at other companies before he ventured out on his own. His first product, the "Model OB" oil burner, was of high quality and superior workmanship—of utmost importance where safety and reliability for the homeowner through the harsh cold of winter were at stake.

The advantages of cleaner burning and fully automatic oil heat over dirtier, more labor-intensive and less efficient coal became readily apparent in the 1920s and the industry prospered, especially after the end of World War II. The company built its first permanent facilities in 1952 in North Ridgeville, Ohio, some 25 miles west of Cleveland.

The introduction of natural gas as an alternative fuel source in the 1950s made a rapid and indelible impact on the oil heating market, causing the first downturn in demand in almost 30 years. Reg Beckett, discouraged by this looming competition, became distracted and let the company fall behind in product innovation. Sales slumped. Reg eventually realized that since he could not change the market, he would have to change. With fresh energy, he developed new, more efficient and smaller oil-burning products. The "Model S" oil burner was created, and slowly but steadily sales began to improve in the early 1960s.

John, who had studied economics and engineering at M.I.T., began his work career in the aerospace industry. In a surprise invitation, his father asked him to join the family business. John made the change in late 1963. After just one year of their working together, John's father suddenly died of a heart attack. At age 26, John was thrust into the leadership of R. W. Beckett Corp. Trying to guide the company under such stressful circumstances caused John to reach out for help in ways that were new to him.

> Perhaps for the first time in my life, I really seriously prayed. After a period of searching, the answer began to emerge in a clear way. I came out of that time with the strong conviction that I was to run the company and that I was to do everything I could to make it succeed.

John realized he needed to add capable people in leadership, especially to market more broadly the company's strong product offerings. He hired Bob Cook in marketing and Paul Deuble in sales. Both individuals were knowledgeable about the industry and began opening doors to new sales. But after only five months in leadership, John was awakened in the middle of the night to learn of a major fire engulfing the company's manufacturing plant. John led a small band of volunteer firefighters through the pitch black in an all-night battle. Fortunately, the fire was brought under control, and total destruction of the facility was averted.

These challenges — first his father's death, then the fire — had a huge impact on John. He said, "I had always been able to rally my own strength and abilities, but now my confidence was deeply shaken." As a result, he sought spiritual reality as he never had before. "For the first time in my life I let go, yielding to God as fully as I knew how." John's conversion then began to influence his approach to business. He became deeply convinced he could no longer live in two separate worlds but rather would need to integrate the two in every way possible (www.lifesgreatestquestion.com).

Through the late 1960s and into the early 1970s, the company experienced steady growth. The marketing-focused strategy was paying off. Yet challenges were never far from the company's doorstep. Beckett faced a union organization attempt (unsuccessful) in 1972, followed by major disruptions in the oil markets sparked by the Arab oil embargo of 1973.

In the late 1970s, just as a major facility expansion was completed and with the prospect of strong sales growth, a pivotal event happened thousands of miles away: the Shah of Iran was overthrown. This precipitated further oil supply problems—fuel prices skyrocketed, and burner sales for the entire industry plummeted. As a result, a major consolidation of companies in the oil heating business began, with many burner manufacturers going out of business.

John took a different tack than most of his competitors; he stepped up the promotion of oil heating, convinced the oil crisis would be relatively short-term. Beckett continued to improve product quality and capture market share, even though the overall market was dwindling. John's long-term strategic outlook proved successful, and Beckett became the undisputed market leader among just a handful of surviving companies.

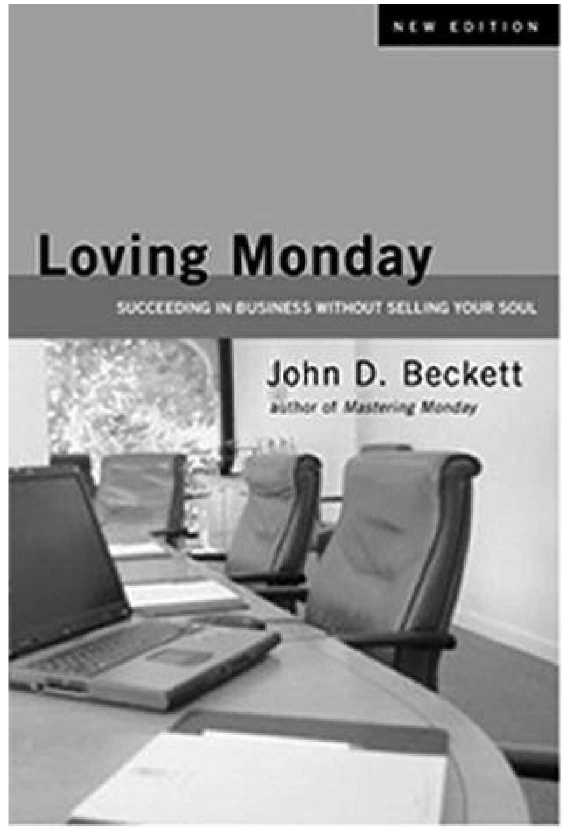
Through this challenging time, John leaned heavily on his growing faith. He concluded that "God was bigger than the Middle East crisis, and that we should take each day one at a time, with our trust in him."

From the early 1980s, and with the industry consolidated, Beckett benefited from continued expansion and growth. Their focus was on operational efficiency, product quality, and customer service. They brought enhanced product technology and innovation into the oil heat industry. The company had also diversified their product lines and ventured into related industries. Morrison, a son-in-law, and Jonathan, Kevin's younger brother, joined the company during this period, bringing solid experience from other businesses.

CORPORATE CULTURE

In his best-selling book, *Loving Monday* (1998), John Beckett described how he integrated a biblically based philosophy into the workplace. John was convinced there should be integrity and ethical practices in every phase of the operation and when dealing with all stakeholders. He expected nothing less than excellent products and encouraged every employee to treat others — inside and outside the company — with dignity and respect.

The lifelong principles John believed in were first taught to him by his father. John fine-tuned these basic values through his many years in business, bolstering them with a biblical perspective as he grew in his Christian faith. He concluded that using the Bible in business and business success could complement each other. In his book, he documented how a person can succeed in business "without selling his soul."



Loving Monday by John Beckett

Featured at the beginning of the book was the story of how ABC's *World News Tonight with Peter Jennings* did a feature story on Beckett Corporation. The story focused on ways the company related faith to their business practices. Jennings noted that the leaders of Beckett Corporation "are using the Bible as a guide to business." There was ample evidence in the nationally televised story of a servant leadership management style where others were put first, both by John and other members of top management. Employee loyalty and devotion to the highest standards of excellence were the norm in company operations. John commented in the television interview, "My main mission in life is to know the will of God and to do it."

John always felt called to business. As he explained in his book, being called to minister through business can be just as high a calling as a call to the "ministry." As long as a person was in harmony — and not in conflict — with God's will, any calling — be it the church, entertainment, business — was equal in the eyes of God. John's call into business gave him the opportunity to create an operation and corporate culture that was consistent with the teachings of the Bible.

From studying the Bible, John saw a strong emphasis on both absolutes and character. Moral boundaries were unambiguous. Character qualities of integrity, humility, and justice were dominant themes in the Scriptures. He realized that vital aspects of one's faith can be transported to the workplace, and the Bible can serve as a dependable and unfailing guide in making that connection. The corporate value statement for R. W. Beckett best illustrated its corporate culture:

> R. W. Beckett is built on a platform of three core values: integrity, excellence, and profound respect for the individual. Beckett works to nurture relationships daily: with employees by creating a work environment that fosters growth and well being; with customers by providing a product that is well-made and priced as a cost-value; and with suppliers and others with whom we conduct business, by treating them with respect and fairness. We strive to serve others, helping meet human needs in the community and beyond.
>
> The character of a company is determined by those in leadership — their values, their competence, their commitment, their ability to work well together, and the example they set. We aspire to the finest possible management at all levels, seeking long-term relationships, internal and external, based on respect and trust.
>
> Our company endeavors to apply a biblically based philosophy throughout every phase of its operations. We've created a corporate atmosphere that is not in opposition to family life, but rather, supports and encourages it through maternity leave and other family centered programs.
>
> Finally, we aspire to be THE company our industry turns to for excellent equipment and technical support.

While Kevin was clear in what the corporate culture should be for R.W. Beckett, he questioned how the specifics would or would not apply in everyday situations. He realized corporate culture was not fully expressed by mere words, however carefully crafted, but were etched over time into an organization's very fabric by people, history, products, services, practices, and even problems.

In fact, he realized there was no guarantee that sustaining the existing corporate culture was a given. This point was driven home by the fall of Enron, which occurred shortly before Kevin became CEO. He had reviewed the Enron Statement of Values (2000) in their annual report and was amazed at how similar their values were to those of Beckett. Both companies focused on the importance of integrity, excellence, and respect as key aspects of corporate culture. The Enron Statement of Values highlighted four areas: communication, respect, integrity, and excellence.

> Communication: We have an obligation to communicate. Here, we take time to talk with one another … and to listen. We believe that information is meant to move and that information moves people.
>
> Respect: We treat others as we would like to be treated ourselves. We do not tolerate abusive or disrespectful treatment.
>
> Integrity: We work with customers and prospects openly, honestly, and sincerely. When we say we will do something, we will do it; when we say we cannot or will not do something, then we won't do it.
>
> Excellence: We are satisfied with nothing less than the very best in everything we do. We will continue to raise the bar for everyone. The great fun here will be for all of us to discover just how good we can really be.

R. W. BECKETT CORPORATION TODAY

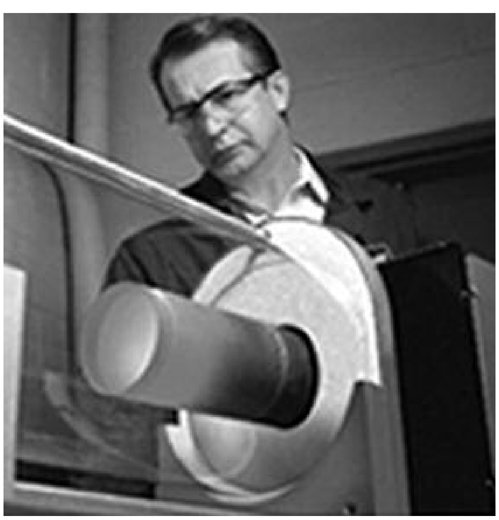
The issue Kevin kept coming back to was how, and to what extent, the company should build and/or retain its distinctive corporate culture as it dealt with critical issues. Within the next five to 10 years, the company expected to make decisions regarding:

- Growth in employment — With an ever-widening mix of personal backgrounds and expectations in new hires, how deliberately and proactively should the company pursue "diversity"?
- Development of people — What was the best way to embed cultural norms as a sustained aspect of that development?
- New business acquisitions and mergers — How would they handle acquisitions and mergers with the reality that merging cultures from different organizations can often become an insurmountable Achilles' heel to successful integration?
- International expansion — How would they work through wide, deep, and long-standing cultural differences?
- Hiring senior leadership — How would they ensure that senior leadership would have full "buy-in" to sustain cultural continuity?

Kevin also recognized that profound cultural changes were taking place in society, affecting employment and business relationships. The historic moral foundation of society enjoyed by our nation was eroding in many ways, and there was increased government regulation supporting many of those changes. There was also a general recognition and acceptance of other forms of religious faith along with government regulations preventing religious discrimination. Even basics such as the work ethic and professionalism seemed to be changing. Would the existing corporate culture remain harmonious with these cultural changes, or would Beckett have to adjust to prevailing culture to remain operationally effective and relevant?

Every entrepreneur understands that companies must change to remain viable. R. W. Beckett had a history of changing when conditions warranted in response to, or even in anticipation of, events. The company remained dynamic and would increasingly need to be adaptable in the future. But the question remained: Do reactive and/or proactive changes apply to the area of corporate culture?

Assembly Process



Low Emissions Technology

OUTSOURCING MANUFACTURING FUNCTIONS

As noted earlier, Kevin had recognized the increased pressures on product margins to remain competitive. The oil heating business was a mature industry with other substitute products, such as natural gas, impacting demand levels. The industry was also subject to the political uncertainties of the supply and demand of foreign oil.

Beckett was the market leader with an established history of quality products and unquestioned integrity. The company took great pride in the workmanship of its products and was very sensitive to the needs of its employees. Employees, in turn, were generally satisfied working at Beckett even at often routine, repetitive jobs. They appreciated the efforts of top management and were highly loyal to the company, choosing to remain non-union, even though many manufacturers in the surrounding area were unionized.

Kevin was limited in his ability to raise prices so product margin improvements had to come through cost reductions, productivity improvements, or increases in volume. The company was constantly working to eliminate waste in terms of the product development process, manufacturing, and assembly. However, eventually incremental improvements reach a point of diminishing returns. Kevin wrestled with the realization that in order to secure domestic jobs, he had to consider outsourcing some jobs to foreign countries.

Once processes are sent to geographically diverse locations, the issue of maintaining intellectual property and quality standards becomes more challenging. Product quality and reliability are essential, and Kevin was aware that the potential for compromise existed.

Kevin also would be dealing with potential employee-relations issues. How might the current workforce respond to certain jobs being performed outside the Untied States? Would Beckett now be considered just like every other manufacturing company — that when costs had to be reduced the simple solution was to search for less expensive foreign labor? What would happen to the morale of loyal company employees? Again, how was the decision process influenced by the consideration of corporate culture?

CASE CONCLUSION

Kevin felt mounting pressure to do the right thing — both by customers, employees, suppliers, and the community. He also sensed a special responsibility as the third generation of Becketts in the business, especially as he read the findings of Ernesto Poza (2003), that over 85% of family businesses don't survive to the third generation.[2]

Was business failure a result of too rigid a corporate culture, or in spite of corporate culture, or the failure to define and defend corporate culture? Was the fall of Enron due to a breach in corporate culture or something completely unrelated? Could an Enron situation even occur at Beckett? Was the corporate culture outdated? Can or should practices first established by his grandfather be passed on to the son and grandsons? Kevin felt the business was on solid footing, but what about five to 10 years from now?

How would outsourcing to China impact the corporate culture of R. W. Beckett Corporation? Were concerns regarding corporate culture important enough to influence the decision? Kevin pondered his new responsibilities and decisions.

SUGGESTED TEACHING APPROACHES AND QUESTIONS

This case lends itself to an open-ended or directed discussion format in a classroom setting. Some or all of the suggested questions listed below can be used depending on the issues being addressed. The suggested questions also do not represent an all inclusive list, as many others can be added at the discretion of the instructor. A comprehensive set of teaching notes with suggested answers is available from the author. Additional information is also available at the R.W. Beckett Corporation Web site (2007).

1. What is corporate culture? What are the inputs and outputs with regard to corporate culture?
2. Sometimes U.S. companies (and missionaries) are criticized for "Westernizing" developing countries (with our misguided priorities, e.g., materialism). How might this statement apply to R. W. Beckett Corporation?
3. What "standard practices" in a foreign country might be unacceptable for a values-based company? What should Kevin do if some of those practices impact R. W. Becket Corporation?
4. Do you agree with the statement "every organization has a culture — it is just a question of whether leadership is deliberate about shaping it?
5. Kevin would be facing decisions regarding new senior leadership, establishing facilities in other locations (including globally), acquisitions, societal changes, and new changes in the work force. How, if at all, might the company corporate culture be impacted by any of these areas?
6. Kevin had to make a pretty immediate decision on outsourcing some of the production activities to China. Considering all of the implications of this decision, including the company corporate culture, what should Kevin do?
7. The corporate value statement for R. W. Beckett Corporation is built on a platform of three core values: integrity, excellence, and profound respect for the individual. The statement of values for Enron Corporation highlighted four areas: communication, respect, integrity, and excellence. The value statements for the two companies are almost exactly alike. How do you think Kevin would differentiate between the reported values of Beckett Corporation and Enron Corporation?
8. Within the next five to 10 years, Kevin will be dealing with decisions regarding growth, personnel development, acquisitions, international expansion, and leadership. What role should the company corporate culture play in any of these decision areas?
9. A large percentage of family businesses do not survive the third generation. What role might corporate culture, or the lack thereof, have on the success of a family business?

ENDNOTES

[1] R. W. Beckett Corporation of Elyria, Ohio, is one of the leading privately owned companies in the world in the production of oil burners for residential and commercial heating systems. Affiliates supply air-moving and gas combustion components for heating, cooking, and related application heat products, supplying critical parts from blower motors to fuel economizer components.

[2] Ernesto J. Poza is an internationally recognized, top-rated speaker and consultant to family-owned businesses. He is professor for the Practice of Family Business at Case Western Reserve University. His work has been featured by CNN, NBC, NPR, *Business Week, Family Business Magazine, Inc., Industry Week, El Norte, El Pais, Expansión, Excelsior, Forbes,* and *Fortune.* He is a founding member and fellow of the Family Firm Institute, serves on the editorial review board of *Family Business Review,* and is the 1996 recipient of the prestigious Richard Beckhard Award for contributions to the practice of family business advising. He is the author of *Family Business* (Thomson, 2004) and *Empresas Familiares* (Thomson, 2005).

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Salary Study of College Presidents and Faculty: Are Salaries for Institutions in the Council of Christian Colleges and Universities Different from Other Private Institutions?

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ABSTRACT: *This study examines the salaries of college presidents and faculty at private colleges and universities in the United States. This study identifies factors influencing the salary of college presidents and faculty and identifies differences between salaries at member institutions of the Council of Christian Colleges and Universities (CCCU) and non-CCCU schools. Data was gathered from numerous sources (e.g. U.S. News & World Report, Marquis Who's Who, the Integrated Postsecondary Education Data System, and The Chronicle of Higher Education) in order to compare benchmark salary figures for college presidents and faculty while controlling for size, academic reputation and other institutional variables.*

INTRODUCTION

The CCCU is an international higher education association of private, intentionally Christian colleges and universities (Council for Christian Colleges and Universities, 2006). A feel for the uniqueness of CCCU schools is captured in the following statement taken from the CCCU Web site:

> The U.S. Department of Education reports that there are more than 4,000 degree-granting institutions of higher education in the United States alone. About 1,600 of those are private, non-profit campuses and about 900 of these colleges and universities describe themselves as "religiously affiliated." However, only 102 are intentionally Christ-centered institutions that have qualified for membership in the CCCU (Council for Christian Colleges and Universities, 2006).

Christian presidents and faculty often consider their service to CCCU institutions as a calling (Delbecq, 2004; Palmer, 2000). It is this author's belief that sometimes this calling comes under question when personal finances get tight. A faculty member may wonder if God wants them to seek employment in the non-academic world. Perhaps a Christian faculty member wonders what they could or should be earning if they were employed at a secular institution. This paper seeks to provide benchmark salary figures for college presidents and faculty for CCCU and non-CCCU schools. This paper seeks to identify and quantify any financial sacrifice that is incurred when serving as the president or a faculty member at a CCCU school.

LITERATURE REVIEW

The compensation of corporate, government, and non-profit leaders has been a popular research topic. Research into the level of corporate CEO compensation and the link between pay and performance has been studied by Gomez-Meijia, Tosi, & Hinkin (1987), Murphy (1999), and Hall & Liebman (1998). Government and nonprofit executive compensation has been studied by Ehrenberg, Chaykowski, & Enrenberg (1988), Preston (1989), and Hallock (2002).

College and university president salaries have been studied by Pfeffer & Ross (1988); Ehrenberg, Cheslock, & Epifantseva (2001); Sorokina (2003); and Baliles (2006). Baliles (2006) notes that the "compensation of most college and university presidents is far less than that of the chief executives of comparable for-profit enterprises. As nonprofit, mission-centered institutions, colleges and universities are more likely to regard the presidency as a calling, and many of the values that motivate presidents of these institutions cannot be quantified in terms of compensation" (p. 20). Baliles' point notes the difference between the for-profit and the nonprofit world. This paper will examine the difference between religious affiliation and non-religious affiliation within the nonprofit world of private colleges and universities.

Pfeffer & Ross (1988) use annual survey data from the College and University Personnel Association to explain about 50% of the variation in college president salaries. They find that salary is positively related to institution type, size, and resources. Also, they find that female presidents and inside hires earn significantly less, other factors held constant.

Ehrenberg, Cheslock, & Epifantseva (2001) use information on personal and university characteristics to explain about 65% of the variation in college president salaries. They find that salary is positively related to seniority in their current position, years at a prior presidency, professor average salary, endowment per student, enrollment, freshman test scores and if the university is in the research/doctoral Carnegie classification. University presidents who are members of the clergy receive 19% less than other presidents, other factors held constant. This finding is related to the current study which will seek to identify the factors that determine the salary and compensation of Christian university presidents.

Sorokina (2003) studies the level and change in liberal arts college president's salaries. Using both personal and university characteristics, she is able to explain about 55% of the variation in the level of liberal arts college presidents' salaries. She finds that salary is positively related to the *U.S. News & World Report* tier ranking, being a female, job tenure, and being listed in Marquis' Who's Who.

Both Sorokina (2003) and Ehrenberg, Cheslock, & Epifantseva (2001) attempt to explain changes in president salaries. In both cases they find weak evidence that presidents are rewarded for their performance. The adjusted R^2 values for their models range from 0.04 to 0.13. This study will not attempt to explain changes in salary but rather the level of presidential and faculty salary with a specific look at whether presidents and faculty in the CCCU earn more, less, or the same as their colleagues outside of the CCCU.

In terms of faculty salaries, Fairweather (2005) found that individual faculty member salary is positively related to publications and teaching in a graduate program and negatively related to teaching additional courses. This would imply that faculty salaries at teaching-oriented schools would be lower than research-oriented schools. Also, this would imply that faculty salaries at schools with graduate programs would be higher. This study will not attempt to identify the factors that affect individual faculty member salary's. This study will attempt to explain average faculty salaries based on institutional characteristics including the institution type (e.g. master's, bachelor's).

MODEL AND DATA

This study uses a framework and data similar to Ehrenberg, Cheslock, & Epifantseva (2001) and Sorokina (2003). The goal of this paper is to estimate president and faculty salaries while controlling for institutional and, in the case of president salaries, personal characteristics in order to determine if there is a difference in salaries between CCCU and non-CCCU schools. Thus, the model to be analyzed can be expressed with the following formula:

$$
\begin{aligned}
\text{Salary} = \alpha &+ \beta_1(\text{institution size}) \\
&+ \beta_2(\text{institution revenue}) \\
&+ \beta_3(\text{institution wealth}) \\
&+ \beta_4(\text{institution type}) \\
&+ \beta_5(\text{institution quality}) \\
&+ \beta_6(\text{religious affiliation}) \\
&+ \beta_7(\text{personal characteristics}) \\
&+ \beta_8(\text{CCCU}) + \varepsilon
\end{aligned}
$$

The overall compensation for college presidents is a complex mix of salary, benefits, deferred compensation, bonuses, and housing (Atwell and Wellman, 2000). IRS regulations require nonprofit colleges and universities to provide the pay and benefits of their presidents on IRS Form 990. The data on Form 990 is the most standardized form of compensation available for private nonprofit organizations (Atwell and Wellman, 2000). *The Chronicle of Higher Education* (2006) compiles and reports data from Form 990 annually for private colleges and universities.

The president salary data used in this study are for the 2004-2005 academic year, which is the most recent fiscal year available.

The Carnegie Foundation for the Advancement of Teaching (2006) classifies universities into Doctoral/Research Universities-Extensive and Intensive, Master's Colleges and Universities I and II, Baccalaureate Colleges-Liberal Arts. All CCCU schools in the *Chronicle's* data set are classified (by the 2000 Carnegie Classification) as either a Master's College/University or a Baccalaureate College. Thus, the 568 Master's College/University or Baccalaureate College classified schools on the *Chronicle's* data set and their reported president salaries form the basis for this paper's data set.

Fifty-nine of the 568 schools were removed from the data set for one or more of the following reasons: (1) the salary report includes deferred compensation as a part of their president's salary, (2) the salary reported is for only part of the year, (3) the reported president salary is $0. It is worth noting that many religiously affiliated, particularly Catholic, college presidents do not receive a salary. As a result of these removals, the data set is reduced to 509 institutions.

Data for the average of all faculty salary, average professor salary, and average assistant professor salary is available for thousands of colleges and universities from the Integrated Postsecondary Education Data System, IPEDS (2006). The data used for faculty salaries is also for the 2004-2005 academic year.

Pfeffer and Ross (1988) note that one "of the most consistent findings in the extensive literature on executive compensation is the relationship between size and renumeration" (p. 80, citing Gomez Gomez-Meijia, Tosi, & Hinkin 1987). IPEDS data was collected for full-time equivalent (FTE) students to proxy for institution size. Additionally, IPEDS data was collected for tuition and fees to proxy for institution revenue and endowment per student to proxy for institution wealth. IPEDS did not have complete data on faculty salaries, FTE, tuition and fees, and endowment per student for 44 of the 509 schools. This reduced the data set to 465 schools.

The *U.S. News & World Report* 2004 edition of America's Best Colleges was used to gather data on institution type and quality (Sklaroff, 2003). The 2004 edition came out in the fall of 2003 which would be the most up-to-date information available for determining salaries for the 2004-2005 academic year. Dummy variables were created to signify the type of institution: liberal arts bachelor's, comprehensive bachelor's, and university master's (e.g. liberal arts bachelor's = 1 if liberal arts bachelor's and 0 otherwise). The *U.S. News & World Report* rankings have "become the 'Gold Standard' of the ranking business" (Ehrenberg, 2002, P. 146). The rankings are a weighted average of multiple factors including peer assessment, retention, student selectivity, graduation rates, and other measures. Dummy variables for the *U.S. News & World Report* classification for tiers 1, 2, 3 and 4 were created to proxy for institutional quality (e.g. tier 1 =1 if tier 1 and 0 otherwise). *U.S. News & World Report* did not have complete data on institution type and tier for 21 of the 465 schools. Thus, this paper's final data set is made up of 444 schools.

Burke (2004) and Sklaroff (2003) were used to determine whether or not an institution had a religious affiliation. Two sources were used in order to double check the accuracy of whether or not a school had a religious affiliation. The religious affiliation dummy variable is 1 if the school has a religious affiliation and 0 otherwise.

Two variables were created to measure the president's personal characteristics. A gender dummy variable takes on a value of 1 if the president is a female and 0 if the president is a male. Whether or not a president has been listed in Marquis' Who's Who (2006) is a proxy for human capital and the dummy variable takes on a value of 1 if the president is listed and 0 if they are not.

Finally, in order to compare CCCU with non-CCCU schools, the CCCU school dummy variable takes on a value of 1 if the school is a CCCU member institution and 0 otherwise. All other factors that affect president and faculty salaries are assumed to be randomly distributed with a mean of 0. Thus, the estimate of e is 0

UNIVARIATE ANALYSIS

Table 1 reports the mean and standard deviations for both the dependent and independent variables of this study broken down by CCCU and non-CCCU schools. Also reported is the t-statistic and 2-tailed p-value for a comparison of the means between CCCU and non-CCCU schools. A nonparametric test equivalent to the t-test was conducted for each of the variable comparisons. The statistical significance of the nonparametric test results is identical to the t-statistic test results. The nonparametric tests are not reported in this paper.

As can be seen in Table 1, the average president salary at a CCCU school is $169,528 which is significantly less than the average salary of $223,604 for non-CCCU school presidents. In fact, at the univariate level, all faculty salary ($48,809 vs. $55,586), professor salary ($57,916 vs. $70,021), and assistant professor salary ($42,414 vs.

Table 1: CCCU and Non-CCCU Mean Comparisons

	CCCU (N = 47)		Non-CCCU (N = 397)			2-tailed
Variable	**Mean**	**Std. Dev.**	**Mean**	**Std. Dev.**	**t-stat.**	**p-value**
FTE	2,136	865	2,215	1,695	0.52	0.61
Tuition and Fees	$15,555	$3,596	$19,496	$5,645	6.61	0.00**
Endowment per FTE	$11,859	$15,342	$50,623	$93,390	7.46	0.00**
Liberal Arts Bach.	0.11	0.31	0.35	0.48	4.74	0.00**
Comprehensive Bach.	0.21	0.41	0.17	0.38	-0.66	0.51
University Master's	0.68	0.47	0.48	0.50	-2.80	0.01**
U.S. News Tier 1	0.28	0.45	0.38	0.48	1.40	0.17
U.S. News Tier 2	0.26	0.44	0.29	0.46	0.53	0.60
U.S. News Tier 3	0.30	0.46	0.19	0.40	-1.48	0.15
U.S. News Tier 4	0.17	0.38	0.14	0.35	-0.59	0.56
Religious Affiliation	1.00	0.00	0.63	0.48	-15.26	0.00**
President Gender	0.04	0.20	0.25	0.43	5.55	0.00**
President Who's Who	0.49	0.51	0.66	0.47	2.27	0.03*
President Salary	$169,528	$47,235	$223,604	$80,451	6.77	0.00**
All Faculty Salary	$48,809	$7,288	$55,586	$11,358	5.62	0.00**
Professor Salary	$57,916	$8,592	$70,021	$16,330	8.08	0.00**
Asst. Prof. Salary	$42,414	$5,154	$46,658	$7,227	5.08	0.00**

** statistically significant at the 5% level.*
*** statistically significant at the 1% level.*

$46,658) are all significantly lower for CCCU member institutions compared to non-CCCU institutions.

Caution should be used when comparing the mean values. There are also significant differences between CCCU and non-CCCU schools in terms of tuition and fees ($15,555 vs. $19,496), endowment per FTE ($11,859 vs. $50,623), university type (liberal arts bachelor's and university master's), and religious affiliation. In terms of religious affiliation, all CCCU schools also have a religious affiliation; whereas, only 63% on the non-CCCU schools are religiously affiliated.

Additionally, there are significant differences in the personal characteristics between CCCU and non-CCCU presidents. Only 4% of CCCU school presidents are female compared to 25% of the non-CCCU school presidents. Corrigan (2002) found that the number of female college presidents nationwide is on the rise reporting an increase from about 9.5% in 1986 to 21% in 2001. This increase does not show up in the CCCU sample for this study. Another significant personal characteristic difference between the samples is that 49% of CCCU school presidents are listed in Marquis' Who's Who compared to 66% of the non-CCCU school presidents.

Thus, there are significant differences in president and faculty salaries between CCCU and non-CCCU schools. However, multivariate analysis must be conducted in order to determine if these differences can be explained by the variation in institutional and personal characteristics.

MULTIVARIATE ANALYSIS

The model used to conduct the multivariate analysis is expressed with the following formula:

$$\text{Salary} = \alpha + \beta_1(\text{FTE}) + \beta_2(\text{tuition and fees})$$
$$\beta_3(\text{endowment per FTE})$$
$$\beta_{4a}(\text{liberal arts bachelors})$$
$$\beta_{4b}(\text{comprehensive bachelors})$$
$$\beta_{5a}(\text{tier 1}) + \beta_{5b}(\text{tier 3}) + \beta_{5c}(\text{tier 4})$$
$$\beta_6(\text{religious affiliation})$$
$$\beta_{7a}(\text{president gender})$$
$$\beta_{7b}(\text{president who's who})$$
$$\beta_8(\text{CCCU}) + \varepsilon$$

The dummy variables for liberal arts bachelor's and comprehensive bachelor's are interpreted relative to the university masters classification. The dummy variables for tier 1, tier 3, and tier 4 are interpreted relative to the tier 2 classification. The dummy variables for president gender and president who's who are used only when estimating president salary.

Table 2 reports the results of regressions using president salary, all faculty salary, professor salary, and assistant professor salary as the dependent variables. In terms of president salary, an institution's size (FTE), revenue (tuition and fees), and wealth (endowment per student) all positively affect the salary. Female presidents earn significantly less than their male counterparts (an estimated $15,421 less). This finding is consistent with Pfeffer & Ross (1988) who found that female presidents earned significantly less than their male counterparts. However, Sorokina (2003) found that female presidents at liberal arts schools earned significantly more than males. Presidents who are listed in Marquis Who's Who earn significantly more (an estimated $16,912 more) when controlling for other factors. Serving as the president at a religiously affiliated school does negatively impact salary. Presidents at a religiously affiliated school earn an estimated $25,505 less than presidents at schools with no religious affiliation. Additionally, the president at a CCCU school earns another $22,301 less. Thus, after controlling for institutional and personal characteristics, a CCCU school president would earn $22,301 less than other religiously affiliated non-CCCU schools and a combined $47,806 less than a president at a non-religiously affiliated school.

In terms of faculty salaries, an institution's size (FTE), revenue (tuition and fees), and wealth (endowment per student) all positively affect salaries. Faculty at comprehensive bachelor's universities earn significantly less than faculty at master's level universities. Faculty at religiously affiliated schools earn significantly less than faculty at non-religiously affiliated schools ($4,139 less for all faculty, $5,938 less for professors, and $2,809 less for assistant professors). Unlike the results for president salary, after controlling for institutional characteristics, faculty at CCCU schools do not earn a significantly different amount compared to non-CCCU school faculty. CCCU faculty earn less due to their religious affiliation compared to non-religiously affiliated schools but do not earn less than other non-CCCU religiously affiliated school faculty. The CCCU professor salary is estimated to be 2,210 less than non-CCCU professors; however, the p-value for this estimate is 0.102 which is not considered to be statistically significant.

There is no existing research that would explain why being a president at a CCCU school significantly affects salary, but faculty at CCCU schools are not compensated significantly differently than non-CCCU faculty. There are differences in the significance of the independent variables used to explain president salary and faculty salary. Faculty salary is significantly affected by school type (e.g. comprehensive bachelor's) and institutional quality (e.g. *U.S. News* tier) whereas president salary is not affected by these variables. Professor salary is $4,467 lower for faculty at comprehensive bachelor's schools relative to university master's schools. Professor salary is $3,607 lower for faculty at *U.S. News* tier 4 schools relative to tier 2 schools and $2,329 higher for *U.S. News* tier 1 schools relative to tier 2 schools. It could be that there is not as much room to adjust faculty salaries at CCCU schools. All faculty salary is roughly one-fourth the size president salary and professor salary is roughly one-third the size of president salary. It could be that CCCU presidents make a conscious effort to lead by example when accepting a salary lower than what they could earn at a non-CCCU school. Additionally, it could be that the presidents have other explanatory variables (e.g. personal attachment to the school) that affect their willingness to accept a lower salary that are not measured by the model in this manuscript.

Table 2: Multivariate Regression Analysis

Independent Variables	President Salary	All Fac. Salary	Prof. Salary	Asst. Prof. Salary
	Dependent Variable:			
Constant	112,058.02	37,450.93	41,390.00	35,573.34
	(0.00)**	(0.00)**	(0.00)**	(0.00)**
FTE	17.05	1.60	2.95	1.45
	(0.00)**	(0.00)**	(0.00)**	(0.00)**
Tuition and Fees	3.53	0.84	1.23	0.51
	(0.00)**	(0.00)**	(0.00)**	(0.00)**
Endowment per FTE	0.20	0.04	0.05	0.02
	(0.00)**	(0.00)**	(0.00)**	(0.00)**
Liberal Arts Bach.	-5,412.64	61.55	16.39	-1,137.77
	(0.53)	(0.95)	(0.99)	(0.10)
Comprehensive Bach.	-6,654.93	-3,421.32	-4,467.18	-1,799.04
	(0.42)	(0.00)**	(0.00)**	(0.01)**
U.S. News Tier 1	12,090.37	1,445.02	2,329.13	232.71
	(0.11)	(0.07)	(0.03)*	(0.70)
U.S. News Tier 3	4,565.17	-2,444.33	-1,435.20	-1,294.28
	(0.59)	(0.01)**	(0.23)	(0.05)
U.S. News Tier 4	7,320.72	-3,173.31	-3,606.97	-1,435.78
	(0.46)	(0.01)**	(0.01)**	(0.07)
Religious Affiliation	-25,505.30	-4,139.08	-5,938.29	-2,808.55
	(0.00)**	(0.00)**	(0.00)**	(0.00)**
President Gender	-15,420.56	---	---	---
	(0.02)*			
President Who's Who	16,911.66	---	---	---
	(0.02)*			
CCCU	-22,300.61	185.86	-2,209.98	-432.32
	(0.01)**	(0.85)	(0.10)	(0.56)
R-Squared	0.47	0.71	0.74	0.59

** statistically significant at the 5% level.*
*** statistically significant at the 1% level.*

CONCLUSION

Faculty at CCCU schools do not earn significantly less than faculty at other religiously affiliated schools. After controlling for institutional characteristics, faculty at religiously affiliated schools earn about $4,100 (8%) less than faculty at non-religiously affiliated schools. Professors at religiously affiliated schools earn about $5,900 (9%) less and assistant professors earn about $2,800 (6%) less compared to professors and assistant professors at non-religiously affiliated schools. This finding may cause some faculty to seek employment in secular institutions. However, you could make a case that faculty serve at religiously affiliated schools by choice. Perhaps faculty consider their service to a religiously affiliated school as a part of their giving back a portion of their gifts and abilities. Perhaps faculty at religiously affiliated institutions see compensation as a lower order motivator in the choice of where to spend their professional lives. Faculty may view their sacrificed earnings as a worthwhile investment for the opportunity to teach in an environment where they can share their whole selves without restrictions on their religious values and beliefs.

CCCU presidents earn significantly less than their non-CCCU counterparts. After controlling for institutional and personal characteristics, CCCU presidents earn about $25,500 (12%) less due to serving at a religiously affiliated school and another $22,300 (10%) less due to serving at a CCCU school. Overall, a CCCU president earns an estimated $47,800 (22%) less than a president serving at a non-religiously affiliated school. This finding is frustrating. Why are the leaders of CCCU institutions working for less than their market value? Why does the market value CCCU president salaries at a discount? Or, could it be that the CCCU schools have it right? CCCU presidents are leading their institutions by example in accepting a salary that is lower than the market rate. The fact that leaders of CCCU schools willingly work for less than they could earn elsewhere speaks to their level of commitment to institutional mission and their sense of calling. Think of the type of world we could create if everyone felt as committed to their work to the point of personal sacrifice. Perhaps CCCU presidents can teach corporate CEO's a lesson in the importance of showing personal sacrifice as a means of communicating their commitment to their organization.

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