PRESIDENT’S LETTER
Looking Forward to an Exciting Year
Gary L. Ragatz, Michigan State University

The Decision Sciences Institute has been my primary professional association throughout the twenty-plus years of my academic career and has been played a key role in my professional development. I’ve had the opportunity to be involved with the Institute in a variety of ways over the years, and I’m honored to serve you as president for the 2004-2005 year.

I first joined the Institute in 1980 as a doctoral student and have been attending annual meetings since 1982. The annual meeting is one of the Institute’s most important “products,” with valuable offerings for members with a variety of interests, at all stages of their careers. As a student, I participated in the first DSI Doctoral Student Consortium in 1983. The Consortium was a great resource that helped me launch my academic career, and it was also a chance to start building professional relationships that have lasted for many years. The Consortium continues to support doctoral candidates making the transition from student to faculty member.

For both students and established faculty who are actively engaged in research, the DSI annual meeting is a great venue to present and receive feedback on our research, to learn about colleagues’ research activities, and often to discover new or emerging research issues. For members interested in improving their teaching, courses, or curricula, the conference is also a great place to share experiences and ideas about teaching methods and pedagogical issues. I’ve never attended an annual meeting and not come away with at least a few new ideas for research topics or teaching approaches.

This year’s conference in Boston is shaping up to be one of our best ever. Ken Kendall and his program committee have been working on the conference for well over a year now, and it looks like their efforts will pay off handsomely in November. The response to the call for papers was very strong, with more submissions than we have seen for several years. Whether you’re presenting a paper or not, there will be plenty to make this meeting a valuable professional experience. Ken and his committee have put together a variety of professional development offer-
We welcome Professor Gary L. Ragatz, Michigan State University, as the Institute’s new president. His opening letter presents four goals developed by the Board for the coming year: “Enhance the value of membership in the Decision Sciences Institute; increase membership; enhance globalization of the Institute; and improve communication with the membership.”

Professor Holly Lewis, Pennsylvania State University, has stepped down as feature editor for the Production and Operations Management column. We greatly appreciate the time and effort that she had put in for Decision Line and wish her well in her future undertakings. If you have an interest in serving as feature editor of the P/OM column, please contact me as soon as possible.

Professor Lee Revere, University of Houston – Clear Lake, one of the finalists in the 2003 Instructional Innovation Award Competition, was invited to submit her article “Classroom Jeopardy: A Winning Approach for Improving Student Assessment, Performance, and Satisfaction” for Decision Line. She developed an innovative teaching method using an action-based team assignment to facilitate team learning with game playing. The game uses Microsoft PowerPoint and the Jeopardy® game format. One of the findings is that the team-based Jeopardy exam can “improve classroom assessment by promoting an interactive feedback loop among students and instructors.”

In the Research Issues Column, Professor Jack A.A. van der Veen, Universiteit Nyenrode, The Netherlands Business School, examines the methodological weaknesses underpinning of MBA rankings and why these rankings provide little value. The suggestion is that business schools should focus more on the core mission of educating students, and applicants should analyze how the MBA program can help them achieve their goals rather than making their decisions solely on the ranking of the school.

Professor Farhad Moeeni, Arkansas State University, observes that automated identification and data capture (AIDC) technologies such as bar code, radio frequency identification (RFID), real-time locating systems (RTLS), card technologies (magnetic and smart), voice data entry, and biometric identification are finding many applications especially in the retail industry. However, he finds a lack of focus on these technologies in academic programs. As

Correction: In the March 2004 issue of Decision Line, the biographical information for President-elect Thomas E. Callarman was listed incorrectly.

President-Elect
Thomas E. Callarman
is Associate Professor in the Supply Chain Management Department and Director of the Institute for Manufacturing Enterprise Systems at Arizona State University. He holds a Bachelor of Business Administration, Management Science from West Texas State University, an MBA from Arizona State University, and a PhD in management from Purdue University, Krannert Graduate School of Management. He is the author of chapters in Post-Tenure Faculty Reviews and Renewal: Experienced Voices and Value Network (AAHE, 2002) and ICT Symbiosis: Issues and Applications for Operational Excellence (Kluwer Academic, forthcoming). He has published articles in the Academy of Management Journal, Decision Sciences, European Journal of Operational Research, International Journal of Operations and Production Management, Journal of Purchasing and Materials Management, and Journal of Managerial Issues, among others. Dr. Callarman is also a member of the Academy of Management; APICS, The Educational Society for Resource Management; INFORMS; Production/Operations Management Society; and the Institute for Supply Management.
Classroom Jeopardy: A Winning Approach for Improving Student Assessment, Performance, and Satisfaction

by Lee Revere, University of Houston – Clear Lake

Classroom instruction has changed dramatically in the past decade with the increasing integration of technology and pedagogy. Instructors today continuously seek effective teaching strategies that capitalize on technology while utilizing both proven and innovative teaching strategies. Research has shown teamwork, game playing, and focused feedback are successful pedagogical approaches (Angelo & Cross, 1993; Thiagarajan & Parker, 1999; Lieberman & Wehlberg, 2001; Yumuk, 2002). Based on this research, an innovative team-based game-oriented exam was created with the goal of invoking student interest and involvement while improving student assessment, performance, and satisfaction. Research suggests that students who achieve a higher level of learning can effectively relate course material to other areas of their life (Lieberman, 2001). Higher learning can be achieved through action-based knowledge and team assignments. Action-based knowledge develops capable students who can internalize and then widely apply course constructs. It enables students to make meaningful connections between what is learned in the classroom and what is experienced outside of the classroom (Yumuk, 2002). Students who attain higher learning, with more meaningful connections in-and-out of the classroom, may be expected to feel more personal achievement and more course satisfaction than students who make no in-and-out connections.

Research Objective

The objective of this research was to develop an innovative teaching method that incorporated the historical successes of action-based team assignments for classroom instruction. An educational technique that facilitated classroom assessment and integrated team-based learning with game play was sought. Research has shown action-based knowledge results in capable students who can internalize and then widely apply course constructs. Pedagogical literature suggests team evaluations encourage peer mentoring, a process that results in new meaning and improved understanding for all participants. Mentoring creates a transaction process resulting in new meaning and improved understanding for all participations (Donoahue et al., 1996). Team evaluations not only motivate mentors, but also motivate peers to accept mentoring—they too make an effort to receive a higher evaluation. Synergistic team participation is likely to enhance course satisfaction for all students. Historical reports on effective classroom assessment recommend frequent and focused feedback. Despite the widely-known successes of these classroom techniques, there are few, if any, reported pedagogical approaches which effectively integrate these constructs.

About the Exam

The team-based game exam uses Microsoft PowerPoint and the Jeopardy© game show format. Self-selected student teams compete to answer a defined number of exam questions and all members of the team receive the same exam score. Exam questions are both short-answer and computational. To ensure complete team participation, each team member is required to correctly respond to one short-answer question before another member of the team may answer a second question. Computational questions are collectively determined by the entire team.

The team-based Jeopardy exam provides focused student feedback, improves student performance, and enhances course experience. The interactive testing ap-
proach allows the instructor to immediately review missed questions and clarify misunderstood concepts. The grading scheme provides the impetus for team studying and peer mentoring; teams benefit by ensuring that all members attain the same level of knowledge. The game play atmosphere replaces the typical test-taking anxiety with charged excitement. As teams began accumulating points, a feeling of individual and team accomplishment is apparent.

Format
The team-based Jeopardy game exam uses a format similar to the popular game show Jeopardy®. In Statistics, there are six content categories: 'Probably Descriptive' (descriptive statistics), 'For the Discrete only' (discrete distributions), 'Continue Please' (continuous distribution), 'Sample your confidence' (confidence intervals), 'What can we infer' (statistical inferences about one population), and 'Two is better than one' (statistical inferences about two populations). Each category has between 9 and 12 short answer and multiple-choice questions in addition to one computational question. Each question is worth one point and self-selected student teams, made up of four to six individuals, compete for a total of 15 points. Individual team members answer the short answer or multiple-choice questions with only one team receiving a point. Team members work collectively to answer the computational questions, and all of the teams may turn in an answer. Every team with the correct answer receives one point. There are a total of 120 points (including points obtained from computational questions) available for eight groups.

A category is randomly selected to begin the game and all questions within the category are asked and answered prior to moving to another category. As short-answer or multiple-choice questions appear, individual students knowing the answer raise their hands. The first student to raise their hand is the primary respondent while the second student is the stealing respondent. If the first student does not give the correct answer, the second student is allowed to answer. If the second student also misses the question, it is eliminated from competition, thus removing an eligible point. Missed questions or concepts are further explained by the instructor. To ensure complete group participation, each team member is required to answer one question correctly before another team member may answer a second question.

Effectiveness and Benefits
The team-based Jeopardy exam provides students with immediate, focused feedback. Incorrectly answered questions are reviewed by the instructor, and student assessment is on-going throughout the exam as students realize their mistakes and tally their points. Thus, at a minimum, the team-based Jeopardy exam successfully meets the goals of propitious classroom assessment.

The team-based Jeopardy exam also creates an action-based knowledge environment that encourages teamwork. For this research, two undergraduate statistics classes were used for analysis, with both classes taking the same individual exam one. The control class (non-Jeopardy) received an individual exam two while the experimental class (Jeopardy) received a team-based Jeopardy exam two. Paired t-tests comparing exam one and exam two scores within each class showed significant improvement in exam scores for both classes at the $p<0.05$ level (Table 1). (The non-Jeopardy class did not show significant improvement at the $p<0.001$ level.) However, it should be noted that the mean improvement was much greater for the Jeopardy class (2.13 out of 15) than the non-Jeopardy class (1.01 out of 15). This represents a 14.3 percent improvement for the Jeopardy students and a 6.7 percent improvement for the non-Jeopardy students. (The difference in mean improvement between classes is significant at $p<0.10$.) The non-Jeopardy class improved likely due to greater savvy about the course and exam-taking for the course, but the Jeopardy class improved well above that. The higher score in the Jeopardy class may be due to a higher level of learning residing within the team or residing with the team as a whole. Thus, the team-based Jeopardy exam had a positive impact on student performance. Additionally, analysis of variance showed interaction between exam one score and exam two format, suggesting a team-based game contributes positively to student performance and may be the result of peer mentoring (Table 2).

Conclusions
Pedagogy literature suggests that team-based activities which promote active student involvement can improve student course experience, learning, and assessment. Given this suggestion, a team-based Jeopardy exam that integrated the proven successes of teamwork and action learning was developed, and its impact on student course experience, learning, and assessment was evaluated. The results of this research provide initial insight into the success of this innovative game-based approach.

The findings of this research suggest a team-based Jeopardy exam can improve classroom assessment by promoting an interactive feedback loop among students and instructors. The team-based Jeopardy format increased student performance. Students in the Jeopardy class performed higher on the game exam than they did on the traditional exam. Furthermore, students within the Jeopardy showed greater exam improvements than students in the non-Jeopardy class, after controlling for prior student exam performance. Preparing for and taking the team-based Jeopardy exam appeared to increase self-reported exam preparedness and contribute to a positive exam experience. Students who reported that preparing for the team-based Jeopardy exam enhanced their understanding also reported the exam format enhanced their understanding. The more positive view of exam-taking reported by the Jeopardy class demonstrates the favorable nature of a game approach whereby students learn through active involvement. This is unlike the nature of a traditional exam that only requires students to demonstrate knowledge.
The results of this research certainly suggest a promising future for team-based game exams and provide encouragement for instructors developing innovative methods to actively engage students in higher learning. Although a few courses may not be suited to the team-based Jeopardy exam, (due to class size or subjective material), the exam can be delivered with any course content because it is the exam format that improves student assessment, performance, and satisfaction—not the content. Thus, instructors motivated to implement the team-based Jeopardy can invariably find ways successfully do so.

References


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Ten Reasons Why MBA Rankings Do Not Make Sense—And One Reason Why They Do

by Jack A.A. van der Veen, Universiteit Nyenrode, The Netherlands Business School

It seems like the various rankings of MBA programs attract more attention every year. Whereas rankings were considered as a rather interesting but harmless phenomenon some 10 years ago, nowadays they are taken very serious. The ranking positions are heavily used in MBA program advertising. Schools have formed “ranking committees” to make sure the best information can be delivered to the ranking organization. Dropping or climbing more than 10 positions generates headlines in all the major newspapers. Rankings are heavily discussed in the executive boards of participating business schools. Being so popular with readers, most serious business journals and magazines seem to feel the need to come up with their own MBA ranking.

As long as there have been rankings, there have been critical remarks about the methodology that rankings use (see, e.g., Schatz, 1993; Corley & Gioia, 2000; Dickson, 2001; and Zimmerman, 2001). Several of these comments and recommendations were picked up and corrected by the ranking organizations. (By a “ranking organization” the organization that is in charge of creating a ranking is meant such as the Financial Times, Business Week, The Economist, and The Wall Street Journal.) However, the critique has never faded away. This is due to the fact that the core methodology of determining rankings is not appropriate. The problem with rankings is not a superficial one but is deeply imbedded in the way rankings are constituted. Anyone who would really dig into the way rankings are made would come to the conclusion that they are in fact of very limited value. Not because the ranking organizations are making a mess of it, but simply because the methodology used cannot and, therefore, will not provide results that are really valuable.

Unfortunately, many of the users of rankings such as potential students and recruiters are not fully aware of the true value (rather, the lack thereof) of the MBA rankings. Therefore, the main goal of this paper is to summarize the weak points in the MBA ranking methodology. As such, the contribution of this article is not to shed new light on the ranking issue but to list many of the objections against MBA rankings in an organized fashion.

The remainder of this article is structured as follows. First, a brief description will be given of the core methodology of creating an MBA ranking. Next, eight fundamental flaws in the methodology and two resulting additional problems with rankings will be listed. This leads to the conclusion that MBA rankings have a very limited value. The paper continues with a discussion of issues such as “Why participate in MBA rankings at all?” and “What are good alternatives for MBA rankings?” Finally, some conclusions are drawn.

The Weighted Score Method

The whole idea underlying an MBA ranking is to find out what the best MBA is. The higher on the list, the better the MBA program is supposed to be. But when is one MBA program better than another MBA program? How do we measure the quality of an MBA program? The problem here is that “quality” is a word that we all easily and frequently use, but measuring quality is not a straightforward task at all. One thing that everybody does agree on is that quality has many dimensions. And surely there is not one MBA program that is superior on all quality dimensions. If you compare...
two MBA programs, usually one will do better on a couple of dimensions, while the other will perform better on other dimensions.

In general, if one must find the best alternative (i.e., best MBA) where each alternative can be measured on many factors (quality dimensions), one is facing what is known in the literature as a multiple-criteria decision-making problem—a topic that is covered in virtually all MBA programs. One of the more popular methods used to reach a decision for such a problem is the so-called weighted score method (see Slack et al., 2004). This is also the method adopted by all MBA rankings.

The approach of the weighted score method is fairly simple. First an extensive list of factors, or quality dimensions, is created. These are the criteria used to measure the quality of several MBA programs. To unify all the quality dimensions into a single one (“overall quality”), weights are assigned to each factor. If one quality dimension is considered more important than another, it gets a higher weight. The weights are scaled so that the sum of the weights equals one, that is, the weights used are percentages. The next thing is to determine a score for each MBA program on each factor. The scores are nothing else than the raw data. For instance, if a certain MBA program has 57 full-time faculty members, then the score for that MBA program on quality dimension “number of full-time faculty members” is 57. Once all the raw data are collected, the number crunching starts. First the scores on the various factors need to be reworked so that they are commensurable. Then for each MBA program the scores are multiplied with the weights assigned to the associated quality criterion. This leads to a weighted score for each MBA program. Finally, the MBA programs are ranked according to their weighted score.

Ten Reasons Why Rankings Are of Limited Value

The first eight points raised below are closely related to the elements of the weighted score method, that is, quality dimensions, weights, scores, and calculation scheme. (Please note that the various ranking organizations each have their own set of quality dimensions. Some of the issues raised do not apply to all rankings equally strong.) The final two points relate more to the overall usage of MBA rankings. Needless to say, the points are not listed by order of seriousness.

**Reason #1: Many quality dimensions do not make sense.** Many of the quality dimensions are really up to discussion. For instance, let us take the above-mentioned “number of full-time faculty.” The idea seems to be that if there is more faculty, then the student is better served. Obviously, this needs to be compared to the size of the MBA class. But even then, usually research and other programs at the business school also use up faculty time. So, “number of full-time faculty” is a poor proxy for “time spent with student” or “teacher availability.” And why should it be “full-time”? There are many reasons to have instructors at business schools that hold part-time jobs outside the school, in the “real” business world. Other examples of puzzling criteria are “number of women in the board” (no further explanation needed) and “Research output of the school.” Research output usually refers to papers in selected academic journals—those at the forefront of scientific development. Surely, such research can be of quite a benefit to the students if the instructor is able to translate the academic knowledge in understandable and workable ideas. But why does this knowledge need to originate from the business school in question? And let’s face it, an MBA program is targeted at managers (to be), not at academic researchers. Moreover, in many institutes the focus of faculty is on research so strongly that teaching an MBA class comes in second place. Therefore, scoring high on research output can, but certainly does not always, lead to a better MBA program.

**Reason #2: Missing factors.** In deciding which MBA suits candidates best, individuals look at factors such as “length of the program” and “cost of the program.” One could argue that cost is not a quality dimension. However, if one is really customer focused, defining quality as “value for money” would perhaps make more sense than simply leaving out the money factor like most rankings do. Similar remarks hold for the length of the program, simply because a shorter program would mean less opportunity cost.

**Reason #3: Predetermined weights.** Each ranking uses a single set of weights to create the ranking. But anyone who deals with customers knows that different people want different things. So, each customer should be allowed to enter the weights to his or her own liking. Some find “salary increase” highly important, others are more concerned with “number of nationalities.” When you start to think of it, the weights assigned by the ranking organization are highly arbitrary. The key problem is simply because these weights are assigned by the ranking organization, not by the customers. If one considers this from the point of view of business schools, the same thing applies. Each MBA program chooses its own factors to excel in and therefore should be able to assign the weights according to their own strategic positioning. Obviously, it goes without saying that a different set of weights would lead to a totally different ranking. So, if we agree that the weights are arbitrary, the conclusion should be that the rankings are also arbitrary, at least to a very large extent. And, more seriously, they do not provide the stakeholders with relevant information.

**Reason #4: Scores provided by recruiters are not trustworthy.** Basically, there are three parties that deliver data to the ranking organization, namely, company recruiters, MBA alumni, and MBA schools. Let us start with the recruiters. Can they really provide good information about the quality of MBA programs? The answer must be—absolutely not. They might have recruited a couple of graduates from two or three schools. They probably have a clear opinion about how these people perform in their organization. But is this telling us anything about the MBA program? Well, maybe yes, but only if the sample is large enough. And it hardly ever is. And most certainly they will not be able to compare more than three schools. So, how do these recruiters reach their conclusions? Usually by talking with colleagues at social events or seminars and not by a thorough value-free investigation. In fact, it can be claimed that the most important input for the recruiters’ opinion is the previous ranking. A perfect example of a self-fulfilling prophecy.

**Reason #5: Scores provided by alumni are not trustworthy.** Of course the alumni are the best judges of the value and quality of an MBA program. After all they are the...
ones that really lived the program and saw its value on the labor market. But the MBAs cannot compare their program with others since, obviously, they only experienced the one program. The problem for the rankings is that many MBA alumni feel that the value of their degree depends on the ranking. After all, if your MBA program is of a high quality, you are more attractive to employers. So, when alumni fill out the questionnaire from the ranking organization, they have a huge incentive to make their MBA program look good. Undoubtedly, some alumni juggle with the dilemma between expressing their honest opinion and real facts on the one hand, and providing data that pushes their MBA higher up the list on the other hand. Forecasting what each alumnus will do with this dilemma is an impossible task, and therefore the ranking results sometime look more like an outcome of a random number game than anything else.

Reason #6: Scores provided by business schools are not trustworthy. Clearly, schools have many incentives to look good in the rankings. It has to be admitted that however clear the instructions given by the ranking organizations are, there is a fairly large gray area between giving accurate information and providing data that will help you move up in the ranking. Take, for instance, the list of faculty. The MBA director’s favorites in this respect are not the faculty that perform best in class, but the full-time, female, international faculty—members with a PhD. Whether these professors actually teach in the MBA is less of an issue. As mentioned earlier, many business schools now have committees whose sole purpose is to submit data to the ranking organizations so that the MBA ranking is as high as possible, without running too high a risk of being caught cheating should their entry be reviewed. Worse still is that some schools have a larger gray area than others do. Examples are known of private business schools that are remotely connected to a public university who use the selected research output of that university in their submission even though the researchers themselves never set a foot inside the business school.

Reason #7: Rankings are highly sensitive to individual scores. It is well known that there are a couple of top schools that do well whatever the measuring method is, and similarly there are schools that are in the second and third tier. However, differences between the schools within a group are usually very small. Since the rankings insist on creating a neat list (rather than categories), the sensitivity to individual data is extremely large. Growing the list of research publications by two articles or finding one unhappy alumnus among your group of respondents can easily move you 10 places up or down in the rankings. So, whether you are 63rd or 36th on the list can be due to quality, but also due to bad (or good) luck. In other words, the exact ranking is not to be taken very seriously.

Reason #8: Number crunching method obscures results. Surprisingly, the ranking organizations do not provide full insight on how exactly the raw data are transferred in commensurable scores. Not even the final weighted scores are provided. Everybody who has ever worked with the weighted score method knows that this transfer is not as straightforward as it seems and therefore leaves considerable freedom to the model-builder. Lack of transparency in this regard adds significantly to the arbitrary nature of the end-results. This is particularly bad in combination with the previous point as the calculation scheme can sometimes be more influential than the actual data, especially if the differences in the results are small. In other words, the ranking frequently says more about the (unknown) calculation scheme than about the quality of the MBA programs.

So much for the methodology. It should again be stressed that many of the points cannot be repaired, as they are fundamental to the approach used. As the flaws mentioned are so serious and cannot be easily remedied, the only conclusion should be that MBA rankings are of limited value.

The following two points are more general of nature and stem from the fact that MBA rankings have such a high influence.

Business schools are tempted to do well in the rankings rather than doing their real job. Of course all MBA programs want to belong to the top. Not fully taking into account the above mentioned points, some business schools are tempted to define “the top” as being high in the rankings. This can have serious side-effects. From a rankings point of view, candidates with a high pre-MBA salary are not very attractive and can be rejected from the program (even if they otherwise would be strong candidates), simply because their leap in salary after graduation is likely to score low in the ranking survey. Or, schools may not admit candidates from third-world countries who intend to go back to their home country because their post-graduation salaries would be relatively low; for the same reason, schools might pass on people who want to start their own company and thereby opt for relatively low starting salaries. Similarly, schools might set admission quota’s, limiting the admission of local students to maintain international diversity so that the schools look good in the rankings. The sad thing is that schools who follow this tempting but questionable strategy are often rewarded by getting the desired upswing in the ranking, as well as the associated prestige.

Rankings contribute to the bad image of MBA graduates. If we take the previous point one step further, it is no wonder that MBA graduates have a bad image among many people. Frequently heard complaints about graduates are that they are superficial, greedy, and tend to focus on numbers rather than people. To these critics, MBA stands for “Mediocre But Arrogant.” Indeed, if we look at the quality dimensions used in rankings, there is an enormous bias towards having successful careers, where success stands for a high position and a lot of money. As the U.S. schools are leading the pack, schools elsewhere feel at least some pressure to copy this approach by focusing on similar aspects. Due to the rankings, there seems little opportunity for differentiating towards education for a more meaningful career, where social responsibility, sustainable business, entrepreneurial spirit, and business ethics are more important than a company car, options, and bonuses. Such nonfinancial values do not appear in the rankings and therefore are not considered important.

Discussion
So, the conclusion is that MBA rankings do not add value to the stakeholders and do not help the participating schools in the right direction. Reading this, your likely reaction is: “Surely there must be some-
thing good about MBA rankings? It can not be all bad.” Well, yes and no. There actually is one thing good about rankings—they are very appealing and easy to read and understand (at least at a superficial level). If you go to your 80-year-old grandmother and tell her that you are admitted to one of the top 20 MBA programs in the world, she is likely to be very proud of you. At face value the rank of an MBA program is easy to understand and communicate. A ranking makes the very complex world of business schools and MBA programs deceptively easy to understand for a relative outsider. This is good as not everybody has the time to really conduct a detailed investigation into what is available in the MBA market. The fact that ranking organizations are not associated to the MBA programs makes them more-or-less independent observers, which contributes heavily to the perceived objectivity of a ranking. This is what makes rankings so popular. After studying a rankings list for five minutes, one feels fully updated on a matter that would otherwise take weeks to investigate. And this is exactly the reason why business schools participate in the MBA rankings. After all, they are invited by the ranking organizations and therefore free to enter or not. Rankings matter to the potential students, to their family and employers and to the recruiters. Right or wrong, customers value MBA rankings. And if you learn one thing at business school it is that if something is important to customers, it is of utmost importance to you. Moreover, the ranking is one of the few real quality aspects that are easy to communicate. But that is it. That is the only thing good about MBA rankings.

Arguing that MBA rankings are of limited value is one thing, but what are reasonable alternatives? One very attractive alternative is MBA accreditation. International independent bodies such as the Association of MBAs (AMBA) and the American Assembly of Collegiate Schools of Business (AACSB) have put together a set of widely shared quality criteria that MBA programs must satisfy in order to receive their accreditation (for a limited number of years). Only the better MBA programs are eligible for such an accreditation. The drawback of this method is that an accreditation is a binary variable, either you have it or you do not get it. Apart from MBA accreditations, other alternatives are not really available. This is remarkable because, at least from a theoretical perspective, alternative schemes of semi-rankings and a further differentiation of accreditations are not difficult to develop. Some ideas that immediately spring to mind are introducing a “Michelin-guide for MBAs” (assigning 0-3 stars to each MBA program) or using a technique called Data Envelopment Analysis (DEA) (see, e.g., Cooper et al., 1999). The ranking organizations and accreditation bodies should be challenged to work in this direction. This surely would benefit all parties involved.

Conclusions

In this article it has been argued that the methodology underpinning rankings has many fundamental flaws. From a more scientific point of view the only conclusion can be that rankings are of limited value. Yet, rankings are very popular with potential candidates, students, alumni, and recruiters. They do provide an easy-to-read access to the complex world of MBA programs. Rankings are superficially appealing, but they are also potential misleading, as hardly anybody is really interested in the underlying methodology. It also has been argued that, apart from the already well-established MBA accreditations, there are no alternatives available. So, where does that leave us? Here are some conclusions for the various stakeholders.

Ranking organizations. This paper is not to be read as a complaint against the rankings per se. The better-known rankings are thorough and well organized. In a way, one should be happy to have independent bodies going through the effort of collecting and organizing all the necessary data and making these available to the larger audience. Although further improvements are appreciated, these people are not to be blamed. It is not fair to expect that ranking organizations downgrade or even stop their commercial successful activity. That would be similar to relying on cigarette manufacturers to give extensive health warnings to their buyers.

Users (MBA candidates and recruiters). In selecting an MBA program or recruiting an MBA alumnus, the ranking of the MBA programs should only take a minor role. Candidates should learn to recognize that a quality MBA program is one that is going to help each individual to achieve his or her aims. Therefore, selecting an MBA program requires an analysis of such personal aims as well as a detailed study of goals, contents, structure, and atmosphere of various MBA programs. Recruiters should feel encouraged to have a more open mind towards individual MBA graduates and not put too much emphasis on the ranking of the school they attended.

Business Schools. Somehow business schools are caught in the “ranking game.” Stepping out is not really an option, as one would disappear from the list and lose recognition. In a way, schools cannot live with ranking and cannot live without them. So schools are perpetuating the rankings game. However, despite all the critical remarks made in this paper, there is absolutely no need to step out. It is not the rankings that are to be stopped, but the way they are seen by the larger audience. Rankings should be seen for what they are, an interesting exercise that is not to be taken very seriously. Giving “health-warnings” is not the task of the ranking organizations nor of the users. It is the job of the business schools to educate their candidates and recruiters. First, they should stop using rankings as such a dominant marketing tool. Instead, schools should help individuals learn how to recognize and judge the quality of their MBA program. And they should make it very clear what the aims of their MBA program are. Business schools have the difficult task to actively conform to the rankings requirements and at the same time downplay the ranking results (even if they turn out to be favorable) and stay true to their own values. In short, schools should do more of what is said in their core mission: they are there to educate people.

Acknowledgment

This paper was considerably improved through the valuable and constructive feedback I received from many colleagues within Universiteit Nyenrode.

References


See MBA RANKINGS, page 13
At the time of this writing, Charles Moyer was dean emeritus of the Babcock School of Business at Wake Forest University and had not been appointed yet as dean of the College of Business and Public Administration at the University of Louisville. By all indications, his ‘staying power’ in the dean’s office may exceed that in the faculty ranks! In this essay Dean Moyer offers insightful suggestions for effective ‘deaning.’

Lessons Learned from the Dean’s Suite

by R. Charles Moyer, Dean, College of Business and Public Administration, The University of Louisville

Academic administration is a tough job. As a faculty member for 25 years before I became a dean, I never believed that I worked for any of the deans that headed up schools in which I taught. Yes, the dean set my salary and had some influence on my teaching schedule, but that was about it. I always stood ready to criticize the decisions made in the dean’s office—and I was pretty good at that. I knew that I had a lot more staying power than any of those deans. As proof of that concept, I have worked under 15 different deans at 5 different schools. The dean is not a CEO, although some deans never figure that out. Rather the dean is more like the managing partner of a professional partnership. Decisions are more by consensus than by top-down dictates.

I have a strong belief that most organizations benefit from the vitality of new leadership on a cycle of every six to ten years. In my case, seven years just felt right for me and our School. Hence, I returned to the faculty effective August 1, 2003. After seven years, there have been a number of lessons learned that may be helpful to aspiring academic administrators.

The Beginning

One late afternoon about seven years ago I was enjoying my status as a tenured, chaired, full professor. As I packed up to return home for the evening, the phone rang. In a moment of weakness, I answered it. It was the provost. He said, “Charlie, would you like to stop at my house for a glass of wine on the way home from school?” I replied, “Dave, you have never invited me to your house before, much less for a glass of wine. What happened? Did Gary quit?”

Thus began my tenure as dean at the Babcock School. After three weeks of discussing, considering, and contemplating, I agreed to become the interim dean of the School. The last thing Dave said to me was, “We don’t want you to just occupy a caretaker role this year, but it would be inappropriate to head off in a new strategic direction.”

As I walked into the dean’s office, I found the budget (with a very short deadline) staring me in the face. As a finance professor, I quickly realized the import of the brackets around the bottom line figure on the budget draft that Gary left me. Not only did I inherit the dean’s office, I also inherited a $500,000 budget deficit. It became quickly obvious to me that something other than a short-term budget fix was in order. In today’s very difficult budget times, especially at public universities, the budget challenges I faced will look very small indeed.

From the time I arrived at Wake Forest until the day I assumed the dean’s role, there was one constant activity at the School. We were always engaged in a strategic planning process, but we never really had a plan. Focus was lacking at the School. We are surrounded by Duke, UNC-Chapel Hill, Vanderbilt, Emory, Virginia, and a host of other fine schools—all, at that time, with superior reputations and rankings. We had not identified what it was that we could sell to great prospective students to make them want to choose us over our neighboring competitors.
I immediately commenced a series of retreats, meetings, and brainstorming sessions with our constituents. Our goal was to actually complete a strategic plan that would chart our future for the next three to five years. The faculty, our Board of Visitors, and our Alumni Council adopted and enthusiastically endorsed the new strategic plan in record time, less than three months. The university administration also became engaged because the plan had a bottom line cost of approximately $1.2 million dollars per year. I was convinced, as I took this plan to the president and the provost, that this was my one-way ticket back to the good life of professordom. To my surprise, they too became excited and pledged the needed resources. Seven years later, our School enjoys record rankings by each of the major B-school ranking services, dramatically improved class profiles, markedly higher faculty research output, markedly lower faculty teaching loads, substantially more competitive faculty and staff salaries, reaccreditation by the AACSB, and a new accreditation from EQUIS.

Lessons Learned

Now that I have returned to the faculty and have some time to reflect on the experience of the past seven years, I thought that it might be both useful and fun to put to paper some lessons learned along the way that may be helpful to aspiring deans and other academic administrators, including department chairs. This is not an extended treatise on leadership, administration, or managerial styles. That has been done many times over by folks more qualified and perceptive than I. But I have developed some concepts from the lighter side that you may not find elsewhere and that may be helpful in the organizations you lead.

Remember the Circus Theory of Management. Don’t mess around with side shows until the main attraction is right. I have learned that deans are showered with endless stream of “great ideas” and “opportunities.” With a strong strategic focus, you can avoid getting distracted from the core business. Every opportunity that you pursue should fit clearly into the framework of the strategic plan of the school. Occasionally, a new opportunity will come along that may stimulate some new strategic thinking and directions, but these opportunities come rarely and they do require serious discussion and framing before commitments are made.

Don’t get backed into the Chinese Wall Model of School Management by the faculty. Many faculty would prefer that a Chinese wall be built around the school. The faculty live inside the wall and the dean lives outside the wall. In this view of school management, the dean is charged by the faculty to carry large money bags around the countryside with a goal of filling them up. Then he/she should return to the wall, throw the money over the wall and say something like, “Spend it wisely.” The faculty will yell back over the wall, “We will. Go get more.” The dean’s job does not stop with fund raising. Resource management is at least as important as resource acquisition. Donors will expect you to be a prudent resource manager, not just a resource collector. The quickest road to failure in fund raising is failure in the management of the funds you already have.

Swallow the nasty medicine quickly. If you have a nasty medicine to drink, it is less painful to drink all at once than to sip it and drag out the misery. The same thing goes for faculty and staff members. After counseling, encouraging, supporting, and nurturing a faculty or staff member with no apparent success, it is time to act. Don’t look for another place to hide them in the organization. Poor performance in one area generally implies poor performance elsewhere. And the pain will continue. Act decisively, cut bait, and get on with building a great organization.

Match bags of tricks. It is easier to counsel out a faculty member who is not likely to get tenure than to wait until year six. Counseling out gives you and the affected faculty member the opportunity to work together to find a more suitable position. Every academic institution has a “bag of tricks” that they value and every faculty member comes equipped with a “bag of personal tricks.” The secret to success in academe is finding the institution that highly values your bag of tricks. When put it this way, a faculty member really does not have to consider their lack of success at your school as a failure experience, but rather a mismatch between bags of tricks. Help them find a better match, and you will make a friend for life.

Build a team of “Reelers-in” rather than “Pushers-out.” A “reeler-in” is someone with strong initiative, an entrepreneurial mindset, and a passion for accomplishment. These folks sometimes must be pulled back in, as they outrun resources. But these are the folks that make an organization hum. Pushers-out must continually be monitored and pushed to make progress. You will never build a great organization of pushers-out. Your organization should set a high premium on encouraging entrepreneurial activities within the school, both by staff and faculty members. Be prepared to reward successes from these ventures. Also be prepared to recognize that only a small percentage of new ventures are successful—so failure should not lead to punishment. Rather, failure of a new academic venture provides an opportunity for important lessons to be learned. Remember, too, that failures should not be sustained. There is a tendency only to cancel programs in academe under dire financial circumstances. Success of the organization will be enhanced by getting rid of the dogs early and focusing resources on the successes.

Remember the “Six-month, one-month rule” of faculty committees. If you give a faculty committee or task force six months to produce a report, in most cases very little will happen for five months. Then there will be a flurry of activity during the last month, often followed by a request for more time. If you want to get something done with faculty committees, give them short-time horizons and stick to them.

Dream bigger dreams than your organization has ever considered. Get the faculty to convert these dreams to action plans that they buy into, and that ultimately can be used as a basis for performance evaluation. Donors fund excellence, not the status quo. As time passes, and successes build, your dreams should get bigger too. Your dreams of five years ago should be your successes of today.

Watch out for signs of the uniform mediocrity syndrome in your university. Some universities seek mediocrity at a very high level, while others accept much lower levels. What I mean by this is that most university leaders have a difficult time managing the politics of an organization where one unit becomes substantially better, and better resourced, than other units on the campus. The temptation to take from the have, and give to the have-nots is very powerful. As a business school dean,
it is important to draw the line in the sand very early in the process regarding the amount of taking that will be tolerated. When that line is crossed, it is time to seek a new career, because you will know that further pursuits of excellence will not be supported. I have been fortunate to work with a university president who understands the importance of autonomy, support, and entrepreneurial activity by individual school deans. If you find yourself in an organization with the uniform mediocrity affliction, it is time to consider alternative career choices.

**Have fun in your organization.** The underlying tenor of your organization should be to have fun. Faculty should enjoy what they do. Staff should enjoy their jobs. You should enjoy yours. Don’t take yourself or your organization too seriously. Great things happen when people are having fun.

To be sure, these thoughts don’t provide a complete blueprint for success in academic administration. Other things are, perhaps, even more important—such as recruiting the right staff and faculty members, supporting faculty research agendas, supporting and encouraging the teaching mission of the faculty, attracting the best and brightest students, challenging everyone (faculty, staff and students) for excellence, and securing the resources to pull it all off. But these ideas do have considerable merit as you work to build a great organization. ■

**Feature Editor Krishna S. Dhir invites papers, essays or notes for the Deans’ Perspective feature column from administrators and faculty members. It is hoped that this column will become a thriving forum for dialog among our readers on issues pertaining to academic leadership. It offers an opportunity to administrators and faculty members alike to speak their minds on any and all aspects of the various leadership issues confronting them. Articles may be of any length up to a maximum of about 2500 words.**

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**DSI Online Membership Directory Is Available to All Institute Members**

To access the DSI online membership directory, point your browser to:

http://decisionsciences.org/directory/auth.asp

Log in using your email address and membership number as password. If you do not remember your membership number, you can have the system send your password to you from the authentication page. If you have not registered an email address, contact us at dsi@gsu.edu with your membership number and email address, and we will update your profile for you. Once you are logged in, you can also update your own profile. ■

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**MBA RANKINGS, from page 10**


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**Decision Sciences Institute Budget Summary FY 2004-2005**

July 1, 2004-June 30, 2005

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Quality Decision Making, Input Technologies, and IT Education
by Farhad Moeeni, Arkansas State University

You have perhaps experienced scanning your own grocery items, or bagging and paying without needing a store clerk. A number of grocery store chains have installed self-serve checkout technologies and some people like me are frequent users. It took about 30 years to transform the point-of-sale operations from manual keying of item’s price by the cashier to where the customer could automatically scan the bar code and pay simply by sliding a card through a card reader. Implementing the automated data entry technologies will continue to spread globally and it appears that the retail will lead the effort ahead of other sectors such as manufacturing, and healthcare.

Developments in Input Technologies
Input technologies are a class of information technology (IT) that is commonly referred to as automated identification and data capture (AIDC). The AIDC family includes bar code, radio frequency identification (RFID), real-time locating systems (RTLS), card technologies (magnetic and smart), voice data entry, biometric identification, and several others (Exhibit 1). Accuracy and efficiency are the primary motive for implementing these technologies, but ergonomics and security also play a role. According to practitioners, a good typist on the average makes one error per 300 characters typed. Bar code scanning, on the other hand, may produce one error per three million labels scanned—10,000 times quality improvement. This is a simple example as why more industries are adopting automated input technologies. Some of the technologies with business applications are briefly explained in Exhibit 1.

Business Applications of AIDC
Generally speaking, bar code and RFID are predominantly used for monitoring and processing items. On the other hand, biometric and card technologies are used for processing people. RTLS has been used for monitoring items, and in certain applications to monitor people. A summary of the business applications of these technologies are presented in Table 1.

Two members of the family, that is, bar code and RFID, will continue to dominate supply chain applications. One should note that bar code is currently the most robust and effective input technology for most applications. A number of important developments have stimulated the market for both technologies.

Bar Code
With respect to bar code, a standard referred to as the Global Trade Item Number (GTIN) will consolidate the U.S. and European standards into one globally unique identification system for the consumer-level products of the same type. In other words, products of the same type carrying GTIN label would be uniquely identified in the world. This is the extension of the famous U.P.C. code and facilitates streamlining the global supply chain transactions. Companies need to also upgrade their database design by 2005 in order to become GTIN compatible.

In another ongoing development, the healthcare industry is being pressured by internal as well as external forces such as the U.S. Food and Drug Administration (FDA) to implement bar code at the unit-of-use packs or unit-dose packages. This allows a system for bar code scanning of every dose to check for right physician, right nurse, right medication, right patient, right dose, and right time at the point-of-care, whether it is the patient’s bed in a hospital or at a pharmacy. This effort is expected to eliminate many of the needless 44,000 to 98,000 annual deaths and a large
number of unaccounted injuries that occur because of medical errors.

Recent technological improvement includes the development of symbologies with higher density. The effort includes the development of 2-D symbologies (such as PDF 417, Data Matrix) with large storage capacity and Reduced Space Symbology (RSS) that can encode data in a smaller area using a linear bar code scheme. Some applications consider the composition of linear and 2-D symbologies into one symbol. Lack of real estate for affixing the label on small products such as electronic components or pharmaceutical products are driving these efforts.

**RFID**

A number of developments are making the applications of RFID more attractive. One relates to the continual decline in the main ingredient of tags—cost of integrated circuits, which is a major cost component in any supply chain implementation. The other corresponds to the development of new protocols and standards that allows interoperability of hardware and software.

The most interesting and promising event in this area is the recent development of the Electronic Product Code (EPC) network by Massachusetts Institute of Technology (MIT) and several leading retailers and manufacturers. The EPC network concept has inspired the current surge for implementing RFID. A number of large retailers, government agencies, and suppliers are in the process of implementing RFID and the EPC standards within their supply network.

The EPC network specifies low-powered wireless networks based on RFID technologies for linking objects and things, similar to an ordinary network that links computers. The data acquired through tags and readers will be transmitted from one place to another through the local-area and wide-area networks and the Internet. Ultimately, the EPC network allows an item to be identified uniquely in the world. In other words, in the full-blown version of the standard, a 96-bit identification format will be used that allows every identical bottle of shampoo be numbered uniquely. This will allow an item to be traced globally in real time and virtually be visible to business applications unless its tag is destroyed or

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**Bar Code.** Bar code systems encompass a number of components. Symbologies that encode data using visual arrangement of lines or dots, printing devices to publish encoded data onto a substrate such as paper or metal, scanning technologies to capture the visual image, decode, validate, digitize, and transmit them to a host computer or a mobile device. There are more than 200 symbologies (e.g., the famous U.P.C.) of which only a handful are in common use. Most of these symbologies are linear, that is, encode data in bars and spaces, and have limited data capacity per unit area. A new class of symbologies referred to as two-dimensional code is emerging in many applications and offer substantially higher data density per unit of area they occupy. These symbologies are either using dots instead of bars or using multiple rows of short bars to encode data. The scanning device uses either the visible light or infrared frequencies in the EM spectrum.

**RFID.** RFID is an old technology (radio) but with new interesting applications. Like bar code, RFID technology is used for identifying items. RFID has two major components: tags or transponders with memory chip that stores data, and a read-write device that interrogates the tags in order to read the data off the tag and/or to write back new data on the tag. RFID tags are implanted or attached to things for proper identification. Both the tag and reader have antenna and the communication between them occurs through radio signals. Therefore, line of sight, which is a major requirement for bar code scanning, is not necessary.

**RTLS.** Real-time locating systems are based on the RFID technology. The system uses active (battery powered) tags or transponders to boost the communication range. Transponders are attached to high-value inventory items for monitoring. Several antennas are also installed in strategic positions in the warehouse to receive signals from the tags. The system monitors the position of items in real time and continually updates the database with current tag locations. RTLS shares the same principle used by GPS but GPS is typically used for outdoor tracking of vehicles. RTLS is more cost effective and more accurate for monitoring thousands of small items in an enclosed area. In addition, Navstar satellites signal may not easily penetrate the construction materials of many warehouses.

**Biometric.** Biometric refers to a class of technologies for identifying people based on physiological and behavioral characteristics. Various systems are designed to digitally encode features such as finger print, hand geometry, voice, facial features, hand-writing, iris, and several other characteristics. Usually, the digitized characteristics are initially stored in databases. During the identification process, the scanned characteristics are digitized and compared with those stored in the database for authentication.

**Card.** Commonly used card technologies include magnetic stripe and smart card. Magnetic stripe technology encodes data in the tiny magnetic particles embedded in a resin (e.g., dark brown stripe on a credit card) with the polarity of the particles determining 0-bits and 1-bits. A reader detects polarity changes and decodes and transmits data to the host computer.

Smart cards are credit-size cards but with embedded microchip. There are two types of smart cards, one with only a memory chip and the other with a microprocessor on board in addition to memory. Smart cards have much higher data capacity and the one with microprocessor can be programmed to run applications and perform security check. One version of the card has gold contact plates for data transmission to the reader. Another version of the card is contact-less and data can be transmitted to the reader when the card comes to a close proximity of the reader.

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**Exhibit 1: Important members of the AIDC family and their descriptions.**
The EPC network may act as the nervous system of the global supply chain by linking the physical world to the business decision-making process. Whereas bar code was an adaptive technology, RFID is said to be a disruptive technology. In other words, bar code technology immensely improved the quality and speed of data entry, but RFID may revolutionize the nature of supply chain information systems. Nevertheless, much hype has been generated regarding this technology and its potential.

Despite great promises associated with RFID, there are many other issues that need to be addressed through research. One issue is the amount of data that will be generated by the network. Processing enormous sums of data and transmitting them in real time from one location to another will greatly increase the traffic on the Internet. It is not clear that to what extent the traffic generated by the network will adversely affect the current Internet or the future generations of the Internet when (and if) the full blown version of the EPC network is implemented.

Furthermore, transforming these data into intelligence for aiding the decision-making process may require the use of a new generation of mathematical, optimization, and artificial intelligence techniques. Other issues relate to the consumer acceptance, privacy concerns, and customer protection—especially if the RFID technology is implemented at the consumer-level goods.

### AIDC Education in Academia

The lack of academic focus on these technologies has prompted a number of professional organizations to co-sponsor a program initiated by Ohio University in Athens, Ohio. The Association for Automatic Identification and Mobility (http://www.aimglobal.org/) and the Uniform Code Council (http://www.uc-council.org/) are sponsoring the 18th annual meeting of the Automatic Identification and Data Capture Technical Institute to facilitate AIDC education for college professors. The goal has been to increase awareness and to spread out the know-how of the AIDC technologies to other schools, curricula, and programs. The sponsorship clearly indicates that there is a need out there in the real world for AIDC education and that academia is not paying attention.

Regardless of these efforts, the numbers of institutions of higher learning that offer AIDC education are still limited. Table 2 shows a number of schools with AIDC focus. Some information has been provided by colleagues at Ohio University, and the rest has been extracted with difficulty using a search engine on the Internet. Indeed, there may be a few more schools that should be included. The fact that a variety of keywords search only produced a handful of schools indicates that the coverage of the subject may not be widespread among universities. Another observation is that schools of engineering and computer science were traditionally more likely to focus on the technologies. We are not aware of any business school, other than the one mentioned in the table, to have focused or developed curriculum in this field.

<table>
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<th>Technology</th>
<th>Business Application</th>
<th>Capability</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bar Code</td>
<td>POS, materials, logistics and distribution management, supply chain transactions</td>
<td>Read only, line of sight needed</td>
<td>Least cost and very robust AIDC; new applications using 2-D and RSS, well developed standards.</td>
</tr>
<tr>
<td>RFID</td>
<td>Everything that bar code can do plus it can be combined with various sensors (temperature, pressure, etc.) for unorthodox and innovative applications</td>
<td>Read only, WORM, or RW, line of sight not needed</td>
<td>EPC network has created a new wave of supply chain implementation; standards being evolved and perfected.</td>
</tr>
<tr>
<td>RTLS</td>
<td>Tracking and locating people and items in real time</td>
<td>Usually RW, line of sight not needed</td>
<td>Can dramatically change inventory management in certain applications, proprietary standards.</td>
</tr>
<tr>
<td>Biometric</td>
<td>Access control, Authentication</td>
<td>Capture physiological/behavioral features</td>
<td>Technology is being perfected; high rate of false rejection; can be integrated with other technologies such as smart card.</td>
</tr>
<tr>
<td>Magnetic Card</td>
<td>Debit/credit card, ID, time/attendance, access control</td>
<td>Can be RW</td>
<td>Low cost, wide-spread infrastructure, especially in the U.S., less popular in Europe; well-established standards.</td>
</tr>
<tr>
<td>Memory Card</td>
<td>Stored value, transportation tickets, long distance telephone, debit/credit card</td>
<td>RW</td>
<td>Technology of choice when large database must travel with the individual.</td>
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<tr>
<td>Microprocessor Card</td>
<td>Secured ID, secured access control, recording patient histories, scramble pay television signal, credit/debit, multifunction</td>
<td>RW and Process</td>
<td>Technology of choice when large database must travel with people, very popular in Europe, slowly becoming available in the U.S.</td>
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</table>

*Table 1: Business applications of selected AIDC technologies.*
Given the rate of growth in the applications of AIDC technologies, it is wise for academia in general and business schools in particular to revamp the curricula. The need for the education of AIDC technologies may be rationalized from two perspectives. From a philosophical perspective, one may reason that students’ understanding of computer systems has been incomplete because the traditional computer-related courses have not addressed input technologies. This shortcoming can in part be attributed to all of us as educators who ignored the automated input technologies by unintentionally assuming that inputs are always through keyboards.

From a pragmatic point of view, AIDC technologies, especially RFID, would offer new opportunities for research and development. From this perspective, business schools have dropped the ball by not paying attention to AIDC education and research, thus falling behind the real world. I’m not sure how many business schools or MIS programs teach the subject. Should we be surprised that there is no related research tracks in any MIS conference? Academia should make sure that the new generation of graduates is capable of managing this not-so-new breed of information technology.

What mentioned above inspired us to initiate an AIDC course as a part of the MIS program at Arkansas State University. The course has been offered for the last four years, and we learned more every semester. The good news is that a vast quantity of information about the subject is available on the Internet. On the other hand, what has impeded the delivery process has been the insufficiency of funds to acquire hardware, software, and lab spaces. However, the support for this initiative is growing as faculty and administration become aware of the role of AIDC technologies in an integrated supply network.

Gaining Additional Insights

Plans are underway to convene an AIDC panel as a part of the “Emerging Information Technology” track at the 2004 DSI annual meeting in Boston (November 20-23). The purpose is to continue this dialogue among the DSI members and business educators in an interactive mode. The current plan is to invite a panel of experts from academia and industry to lead the discussion. The panel will examine the most important technologies with business/ supply-chain applications, discuss issues associated with curricula development, address some research issues and opportunities, and inform the participants of available learning and faculty development opportunities.

But there is some immediate opportunity for those who are interested to learn about these technologies right away. The AIDC Technical Institute (mentioned above) is open to professors in all disciplines. Academic participants receive free room and limited travel reimbursement. There is no tuition. Subject matter covers all AIDC technologies, including bar coding, radio frequency identification, biometrics, and smart card. A significant portion of the institute is devoted to hands-on lab time with state-of-the-art AIDC technology. For additional information and to apply on-line visit http://webit.ent.ohiou.edu/it/autoid/.

Summary

The purpose of this article was to initiate a dialogue among IT educators as to the importance (or lack) of AIDC education within the business curricula. Interestingly, the theme of the 2004 DSI Conference in Boston is “Facilitating Quality Decision Making.” A famous and inspiring phrase

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<td>MIS / College of Business</td>
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</table>

Table 2: Schools with AIDC program, lead person(s) within the program, and the technology emphasis.
IN THIS GUEST ARTICLE Susan Pariseau compares three new editions of texts that are suitable for an introductory course in Business Statistics.

The Business of Teaching Statistics

by Susan E. Pariseau, Merrimack College

A few years ago, while redesigning a statistics course, the author had the opportunity to conduct several focus groups in order to determine what was important to student and faculty “customers.” The following requirements, which may be related to the use of a specific textbook, were most often mentioned by these “customers”: (1) foundation for subsequent courses, (2) development of computer skills, (3) emphasis on analysis and understanding, and (4) use of real-world applications. These requirements are considered in the review of three texts that are suitable for teaching introductory statistics in a two-semester course sequence. The three texts reviewed are *Statistics for Business and Economics* (9th edition) by David R. Anderson, Dennis J. Sweeney, and Thomas A. Williams; *Basic Business Statistics: Concepts and Applications* (9th edition) by Mark L. Berenson, David M. Levine, and Timothy C. Krehbiel; and *Statistical Techniques in Business and Economics* (12th edition) by Douglas A. Lind, William G. Marchal, and Samuel A. Wathen.

All three texts are well established in the field and all have been in print for many years. Each of the authors has recently completed a new edition with either a 2004 or 2005 copyright. As one can see in the table below, the material coverage by chapter is similar and each of the books provides a comprehensive coverage of statistics and its application to the fields of business and economics. Thus, any of these texts would allow a professor to provide a foundation for upper-level courses.

Each of the three texts has an accompanying Instructor’s CD-ROM that contains the instructor’s manual, test bank and PowerPoint presentations.

Susan E. Pariseau
is a professor of operations and quality management at Merrimack College in the Francis E. Girard School of Business and International Commerce. She received her BS and MBA from the University of Rhode Island and PhD from the University of Massachusetts - Amherst. She has served the Decision Sciences Institute as vice president and is a past president of NEDSI. Her current research interests include lean manufacturing, Six Sigma®, ISO 9000, and curriculum design.
susan.pariseau@merrimack.edu
Exercises, and team projects are included in the text. Report-writing exercises, Internet examples using datasets found on the student companion Web site. The Web cases provide an area of business. These examples relate to the current chapter. Topical applications, cases will enable statistical concepts by changing data and watching the effect of the change. In the ninth edition, some topics have been added (index numbers, Six Sigma®, computing descriptive statistics from frequency distributions, counting rules, Wilcoxon signed rank test, and the Friedman test); others have been moved to the accompanying CD-ROM.

The PowerPoint slides are excellent and each slide is projected without any animation. The student CD-ROM includes Visual Explorations software that allows students to explore statistical concepts by changing data and watching the effect of the change. In the ninth edition, some topics have been added (index numbers, Six Sigma®, computing descriptive statistics from frequency distributions, counting rules, Wilcoxon signed rank test, and the Friedman test); others have been moved to the accompanying CD-ROM.

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Basic Business Statistics
Mark L. Berenson, David M. Levine, Timothy C. Krehbiel

Each chapter begins with a Using Statistics example demonstrating how the material presented in the chapter may be used in one of the functional areas of business. These examples relate to the Springfield Herald case that appears at the end of 14/18 chapters, or to one of the new Web cases that is found on the companion Web site. The Web cases provide an opportunity for the students to examine a variety of materials, determine their relevance, and use the appropriate materials to analyze whether the conclusions presented in the case are justified and supported by the data. The instructional tips and solutions provided for instructors are thorough.

Learning the Basics and Applying the Concepts problems are included for each section. Each chapter concludes with a summary, key terms, and chapter review problems using datasets found on the student CD-ROM in Excel, MINITAB, and SPSS format. Report-writing exercises, Internet exercises, and team projects are included in these review problems. The text contains a large number of problems including use of data from Wall Street Journal, USA Today, and Consumer Reports.

There is a strong emphasis on the integration of software in the introductory course(s). Exhibits produced using Microsoft Excel, Excel with the PHStat2 add-in (found on the student CD-ROM), MINITAB, and SPSS are found throughout the text. At the end of most chapters, there is an appendix on using software that includes examples and complete directions for using Excel, PHStat, MINITAB, and SPSS.

The PowerPoint slides are excellent and each slide is projected without any animation. The student CD-ROM includes Visual Explorations software that allows students to explore statistical concepts by changing data and watching the effect of the change. In the ninth edition, some topics have been added (index numbers, Six Sigma®, computing descriptive statistics from frequency distributions, counting rules, Wilcoxon signed rank test, and the Friedman test); others have been moved to the accompanying CD-ROM.

Statistical Techniques in Business and Economics
Douglas A. Lind, William G. Marchal, Samuel A. Wathen

Each chapter begins with an Introduction that links the concepts learned in previous chapters to the material in the current chapter. Topical applications and historical comments are found within each chapter in the Statistics in Action segments. Exercises are included after each section and at the end of the chapter. The end-of-chapter exercises include Web exercises and exercises that utilize one of the four large datasets found on the student CD-ROM in Excel, MINITAB, and SPSS format. Self-Review exercises, designed to allow students to monitor their own learning, are interspersed throughout each chapter. The solutions are found at the end of each chapter. Also included at the end of each chapter are a Chapter Outline and a Pronunciation Key.

Section Reviews cover material from multiple chapters. Each review includes a brief overview, glossary, questions, problems, and several small cases. Key formulas for all chapters are included at the end of the text on a perforated sheet that can easily be removed from the book.

Software Commands, providing directions for using Microsoft Excel, Excel with the MegaStat add-in, and MINITAB, may be found at the end of the chapters. The student CD-ROM includes several basic ScreenCam Tutorials for each of these packages. Also included on the student CD-ROM are PowerPoint presentations, quizzes, data files in Excel and MINITAB format, MegaStat, and Visual Statistics, a set of software programs that provide an interactive, experimental way in which to explore statistics. The PowerPoint slides are heavily animated.

The twelfth edition has been revised in order to provide more emphasis on interpretation. In some cases, calculation examples have been replaced with ones that emphasize interpretation. The ANOVA section, for example, uses a more conceptual approach.

Comparisons
In considering the customer requirements specified earlier, all three textbooks provide the conceptual foundation necessary for success in subsequent courses. All three texts include cases, although the cases found in the Anderson and Berenson texts are both more numerous and more challenging than those found in the Lind text. Only the Berenson text appears to have cases (the Web cases) that require students to sift through material to determine which items are relevant to the case analysis. If our customers desire a focus on analysis and understanding through the use of realistic applications, cases will enable statistics faculty to better provide this coverage.

Students prefer to use real data, and both the Anderson and Berenson texts employ extensive real data in examples and exercises. With respect to the development of computer skills, all three texts provide directions for use of Microsoft Excel and MINITAB software. Only the Berenson text provides coverage of SPSS.
An examination of the chapters on linear regression analysis illustrates the different approaches to software integration used in the three texts. The Lind text uses an approach that emphasizes calculation. Brief directions for using software are provided at the end of the regression chapter, and some screen shots are provided within the chapter to provide students with some familiarity with regression and correlation software output. The Anderson text begins the chapter by providing directions for performing regression analysis without the use of a computer. Computer solutions are introduced just prior to the discussion of residual analysis, and the appendices provide directions for interpreting the output. In contrast, the Berenson text provides software output within the chapter in lieu of presenting calculations. This approach emphasizes interpretation over calculation. The final section in the chapter provides directions for calculations, and the appendices provide directions for software use. Thus, in selecting a text for use in introductory statistics courses, you must first determine your approach to software integration in statistical analysis.

There are three areas where the texts differ conceptually: (1) decision rules in hypothesis testing, (2) use of standard normal or t-distribution in interval estimation, and (3) tests for the difference between the means of two populations with unknown population standard deviations.

The three texts provide different decision rules for hypothesis testing. The Anderson text states: “Reject $H_0$ if p-value < $\alpha$” (p. 346). The Berenson text states, “If the p-value is greater than or equal to $\alpha$, the null hypothesis is not rejected. If the p-value is less than $\alpha$, the null hypothesis is rejected (p. 303).” The Lind text states “If the p-value is smaller than the significance level, $H_0$ is rejected. If it is larger than the significance level, $H_0$ is not rejected (p. 328).” The establishment of a common set of decision rules would be helpful.

In interval estimation and hypothesis testing, differentiation of the use of the standard normal distribution or the t-distribution is made according to whether $\sigma$ is known or unknown, respectively, in both the Anderson and Berenson texts. This differentiation is consistent with computer-based approaches. The Lind text uses $Z$ if $\sigma$ is known or $n$ is at least 30. When $\sigma$ is not known and $n$ is small (less than 30), the t-distribution is used in the estimation procedure.

Finally, in testing for the difference between two means with unknown population standard deviations, only the Berenson text describes both the pooled-variance t-test for variances that can be assumed equal and the separate variance t-test when the variances cannot be assumed equal. The Anderson text uses the latter test in all cases and the Lind text never mentions the latter test. If variances are, in fact, approximately equal, the pooled-variance t-test is more appropriate.

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Table 1: Material coverage by text.

Disclosure: The author has used earlier editions of the Berenson, Levine and Krehbiel text due to its instructor support materials, lack of errors, numerous problems using real data, team projects and cases.

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Placement Services Coordinator Vacancy Announced

The Decision Sciences Institute is seeking a new Placement Services Coordinator for a three-year term beginning after the 2005 Annual Meeting in November.

The Institute operates a placement services Web site (www.decisionsciences.org/placement), which includes a database that provides listings of academic positions and applicants. The coordinator is responsible for the content and smooth operation of this site. This includes working with DSI staff to refine the design and layout of the site, updating instructions for its use, and responding to questions from users. Although the coordinator is not directly concerned with the technical aspects of the Web site or the database, it would be helpful for him or her to have some knowledge of databases and Web-based information systems.

In addition to overseeing the Web site, the Placement Services Coordinator also plays a critical role in planning and running placement activities at annual meetings. Therefore, the coordinator’s presence at November annual meetings is absolutely essential.

Questions about the position may be directed to the current coordinator, Gerard Campbell of Fairfield University, at (203) 254-4000, x-3118 or gcampbell@mail.fairfield.edu. All interested parties should submit the following to Carol Latta at the Decision Sciences Institute, College of Business, Georgia State University, 35 Broad Street, Atlanta, GA 30303, by no later than April 1, 2005:

1. Curriculum vita
2. Statement of activities and service provided to the institute
3. Statement of interest and availability to serve a three-year term
4. Statement of qualifications and experience related to the position
5. Description of institutional commitment for the support of the coordinator’s job functions for a three-year period.

Monica Adya, an assistant professor in the Department of Management at Marquette University, is maintaining a Web site that many DSI members may find helpful. At the http://forecastingprinciples.com site, a special interest group, Rule-based Forecasting, has been created for those interested in learning how forecasting can be improved by integrating managers’ judgments with statistical methods. Drawing upon a half century of forecasting knowledge and empirical research, this approach produces forecasts tailored to the forecasting situation. Research in this area has gained increased momentum since 1990. Rule-based forecasting can be found at: http://forecastingprinciples.com/RBF/index.html.

monica.adya@marquette.edu

George Benson, dean of the University of Georgia’s Terry College of Business, has been named to the Board of Overseers for the Malcolm Baldrige National Quality Award by U.S. Secretary of Commerce Donald Evans. The Board advises the director of the National Institute of Standards and Technology (NIST) and the U.S. Secretary of Commerce on the conduct of the Baldrige Award program and on how well it is serving the national interest. Benson’s term as an overseer began in May 2004 and ends on February 28, 2007. His association with the Baldrige Award began in 1997, when Secretary of Commerce Mickey Kantor appointed Benson to a three-year term as one of nine national Baldrige Award judges. George Benson has served as dean of the Terry College since July 1998 and holds the Simon S. Selig Jr. Chair for Economic Growth. He previously served from 1993 to 1998 as dean of the Rutgers Business School (Newark and New Brunswick) at Rutgers University. Benson currently serves on the boards of directors of Nutrition 21 Inc. (Purchase, N.Y.) and University Ventures Inc. (Newark, N.J.). George was named a Fellow of DSI in 2000.

gbenson@terry.uga.edu

Larry Ritzman officially retired from Boston College as of June 30th. Larry is now a professor emeritus from Boston College and The Ohio State University. A past president of DSI (1993-94), Larry was named a Fellow of the Institute in 1987 and received the Distinguished Service Award in 1996.

ritzman@bc.edu

George Summers, who served as the Institute’s second president, passed away on June 6, 2004, owing to complications from leukemia. George was named a Fellow of the Institute in 1977. Please send your remembrances of George for publication in the next Decision Line (email Carol Latta at clatta@gsu.edu). Personal messages can also be sent to Susan Summers (George’s daughter) at 9162 Lost Trail Drive, Tucson, AZ 85715.

Carol Latta, Feature Editor Executive Director, Decision Sciences Institute clatta@gsu.edu

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Carol Latta, Feature Editor Executive Director, Decision Sciences Institute clatta@gsu.edu
mentioned in any programming course is “Garbage in, garbage out.” An elegant way of saying that is, “Accurate data collection and supplying them to computers and networks in a timely manner is a necessary condition for producing usable information in order to make quality decisions.” This is one of the major aspirations of AIDC technologies: “accurate identification and data collection.”

Literacy and skills in AIDC technologies, as in other areas of IT, are valuable. Fortunately, IT talents are developable. In my opinion, we as IT educators should emphasize the AIDC education in the curricula—especially if we agree with the above-mentioned famous phrase.

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Institute Meetings
The 35th Annual Meeting of the Institute will be held November 20-23, 2004, at the Boston Marriott Copley Place Hotel in Boston, Massachusetts. The submission deadlines were: Refereed papers, April 8, 2004; abstracts and proposals, May 1, 2004. Contact: Kenneth E. Kendall, Program Chair, Rutgers University, School of Business-Camden, 227 Penn Street, Camden, NJ 08102, 856-225-6586, dsi2004@crab.rutgers.edu.

The 2005 International Meeting of the Decision Sciences Institute will be held in July 3-6, 2005, at the IESE Business School, University of Navarra, in Barcelona, Spain. Submission deadline is February 1, 2005. Contact Marc Sachon, IESE Business School, University of Navarra, Barcelona, Spain, dsi2005@iese.edu.

The Asia Pacific Region will hold its 2004 Annual Meeting on July 1-4, 2004, in Seoul, Korea. Submission deadline was May 1, 2004. Contact: Tae H. Kim, Program Chair, Yonsei University, 134 Sinchon-dong, Seodaemun-gu, Seoul 120-749, KOREA, 82-2-2123-2515, fax: 82-2-2123-2515, thkim@yonsei.ac.kr; Somboonwan Satyarakwit, General Co-chair, Dhurakijpundit University, sboonwan@dpu.ac.th; Sang Hyung Ahn, General Co-chair, Seoul National University, shahn@snu.ac.kr. See the APDSI Web site at http://www.calpoly.edu/~eli/apdsi/

The Mexico Region will hold its 2004 Annual Meeting on October 11, 2004, at The University of the Americas in Cholula, Puebla, Mexico. Submission deadline was June 30, 2004. Contact Program Chair Felipe Burgos, The University of the Americas, Cholula, Puebla, Mexico, dsi@mail.udlap.mx.

The Midwest Region will hold its 2005 Annual Meeting on April 14-16, 2005, at the Radisson Hotel in Toledo, Ohio. Submission deadline is January 21, 2005. Contact Program Co-Chairs Janet L. Hartley, Department of Management, Bowling Green State University, Bowling Green, OH 43403, (419) 372-8645, fax: (419) 372-6057, jhartle@bgsu.edu; Mark Vonderembse, Department of Information, Operations and Technology Management, University of Toledo, 4044 Stranahan Hall, Toledo, OH 43606, (419) 530-2319, fax: (419) 530-2365, mark.vonderembse@utoledo.edu.


The Southeast Region held its 2005 (35th) Annual Meeting on February 23-25, 2005, at the Raleigh Marriott Crabtree Valley in Raleigh, North Carolina. Submission deadline for regular papers and abstracts is September 20, 2004; the deadline for student papers is November 1, 2004. Contact Samia M. Siha, Program Chair, Kennesaw State University, 1000 Chastain Road, Building 17, Kennesaw, GA 30144, (770) 423-6709, fax: (770) 423-6606, siha@coles2.kennesaw.edu. See the Southeast Homepage at http://www.sedsi.org.

The Southwest Region will hold its 2005 Annual Meeting on March 1-5, 2005, at the Hyatt Regency, Dallas, Texas. Submission deadline is September 15, 2004. Contact Chang-tseh Hsieh, SWDSI Program Chair, University of Southern Mississippi, Box 5178, Southern Station, Hattiesburg, MS 39406, (601) 266-4641, fax: (601) 266-4642, hsiech@cba.usm.edu. See the Southwest Homepage at http://www.swdsi.org.

The Western Region will hold its 2005 Annual Meeting on March 22-26, 2005, at The Sutton Place Hotel in Vancouver, B.C., Canada. Submission deadline is October 1, 2004. Contact Program Chair Bruce C. Raymond, Montana State University-Bozeman, College of Business, 412 Reid Hall, Bozeman, MT 59717-0004, (406) 994-4333, fax: (406) 994-6206, braymond@montana.edu, http://www.wdsiinet.org.

Call for Papers
Fourth International Conference on Electronic Business (ICEB2004) will be held December 5-9, 2004, hosted by Tsinghua University, Beijing, China. Conference Chair is Jian Chen, Tsinghua University. Submission deadline for papers or extended abstracts is August 15, 2004. See http://www.rccm.tsinghua.edu.cn/ICEB2004/.

International Journal of Flexible Manufacturing Systems seeks papers for a special issue on mass customization. Guest editors are Ashok Kumar (kumara@gvsu.edu) and Vinip Gupta (gpvtavi@gvsu.edu), Department of Management, Grand Valley State University; and S. Subba Rao (srao5@unet.utoledo.edu), College of Business, University of Toledo. Submission deadline is January 15, 2005.
ings, special sessions, and events that will augment the value of the regular conference sessions. I want to encourage all of you to attend the 2004 DSI Annual Meeting and take advantage of all it has to offer.

Goals for the Year Ahead

The Institute’s 2004-2005 Board of Directors, including continuing members and those elected to office in January, met for the first time this April. I’d like to extend my welcome and congratulations to the newly elected officers: Tom Callarman of Arizona State (President-Elect), Cliff Ragsdale of Virginia Tech (Treasurer), Mark Davis of Bentley College, Arnaud DeMeyer of INSEAD, Jan Hartley of Bowling Green State, Janelle Heineke of Boston University, Tim Smunt of Wake Forest, and Charlie Watts of John Carroll University (Vice Presidents). We have a dedicated group of people on the Board, and I’m looking forward to working with them this year. I’m confident they will serve the Institute’s interests well.

One of the key discussions at the April Board meeting each year is focused around establishing the Institute’s objectives for the coming year. Based upon input from a number of committees, particularly the Development Committee for Excellence in the Decision Sciences, the Board set four goals for the coming year.

**Goal 1: Enhance the value of membership in the Decision Sciences Institute.** The Institute, as with any professional society, exists primarily to serve its members. In the long term, if we don’t offer high-value products and services to the membership, the Institute won’t thrive. In recognition of this fact, the Board identified enhancement of membership value as its top priority. To this end, we will be exploring new services that might be offered to members, new services that might be offered to the regional organizations, and enhancements to the annual meeting.

Many of the new services being considered for members and regional organizations will be technology-based, such as a common Institute-owned Conference Information System, an on-line Proceedings archive, and an on-line funding opportunities database. As for the annual meeting, we will be looking for ways to enhance both the content of the program as well as the amenities that go along with the program. As noted above, the annual meeting is one of the Institute’s most important products, and we need to make sure that it continues to deliver a high-quality professional development experience.

**Goal 2: Increase membership.** Bigger is not always better, and growth in membership is not an end in itself. Increasing membership, however, gives the Institute more resources, and the fact is that many of the products and services we offer are subject to economies of scale—we can afford to offer more and better services if we’re bigger.

The Board recognizes that this goal is inextricably linked to Goal 1. The best way to increase membership is to make sure that we offer products and services that encourage existing members to renew their membership and encourage non-members to sign on.

But it’s also important that we make sure we have the right processes in place to get the word out to members and potential members, and try to find ways to nudge those who might consider joining the Institute to “take the plunge.” We will continue developing our marketing systems to improve retention and also attract new members. We will also explore ways of working with the regional organizations to attract new members to the Institute.

**Goal 3: Enhance globalization of the Institute.** Business and business education are increasingly global. DSI, though U.S. based, is an international organization with an important segment of our membership either residing outside the U.S. or with roots outside the U.S. We must continue to expand the Institute’s global presence and its global orientation in order to meet the changing needs and interests of the profession.

We have one established regional organization outside the U.S.—the Asia-Pacific Region—and the Board recently approved the formation of a Mexico Region. We will continue to develop such regional organizations, as appropriate. We will also work to extend the Institute’s global presence through our international conferences. Our last international meeting was held last summer in Shanghai. Interest in that meeting was high, with over 250 submissions received, though attendance was limited due to the SARS outbreak. Our next international meeting will be held in Barcelona next summer. We will begin work this year on identifying a venue for our 2007 international meeting.

We can also grow our global visibility through our publications. We will work with Blackwell Publishing to raise the visibility of Decision Sciences and Decision Sciences Journal of Innovative Education in Europe and Asia.

Finally, we will explore opportunities for collaboration with other international or internationally oriented organizations. Such collaborations may help us leverage our resources and provide us with access to additional resources to assist in our globalization efforts.

**Goal 4: Improve communication with the membership.** Like many organizations, the Institute is sometimes less effective than it would like to be in letting its constituents know what is going on in the organization. Some of the services the Institute offers are time sensitive, and timely communication is critical in helping members take advantage of what the organization offers. We will be working on several initiatives to improve communication with the membership and also within and across the regional organizations.

These are challenging goals, but ones that we must achieve if the Institute is to thrive. The goals have been translated into charges for the Institute’s various committees and coordinators, who will either take specific action or make actionable recommendations to the Board. I’m confident that with all the talented and dedicated people we have in committee and coordinator roles, we’ll meet the challenge and make important progress in the year ahead.

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**BOARD OBJECTIVES, from page 35**

**Technology in the Classroom Mini-Conference Coordinator**

Chair: Tom L. Roberts

1. Prepare a report briefly summarizing your experiences with the 2004 Technology in the Classroom Mini-Conference. Highlight your recommendations for any changes you would like to see for future programs. Send this report to Ken Kendall, Program Chair, by December 10, 2004.

2. Prepare a report for the 2005 Technology in the Classroom Mini-Conference Coordinator, briefly summarizing your experiences with the 2004 Technology in the Classroom Mini-Conference. Highlight your advice to next year’s coordinator, lessons learned, specific implementation, guidelines, etc. Send this report to the Home Office by December 13, 2004.

**Treasurer**

Chair: Cliff T. Ragsdale

1. Provide a brief note regarding any explanations necessary preceding the audit report published in Decision Line.

2. Make other suggestions to the Board, Home Office or future officers.