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The Accreditation Process for IS Programs in Business Schools

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ABSTRACT

Accreditation is a seal of recognition sought by almost all institutions of higher education. Accreditation is offered at several levels, including university, college, school and program. American academicians are familiar with the Council for Higher Education Association and the "Regional Accreditation" associations. Faculty in colleges and schools of business worldwide recognize AACSB International and European Quality Improvement System (EQUIS), as accrediting bodies for business colleges and schools. Similarly, degree programs, for example, accounting, the engineering fields, and health care professions, have accreditation bodies. One such accreditation body, very familiar to engineers and computer a scientist, but new to business' academicians is ABET. ABET, through its Computing Accreditation Commission (CAC), now accredits programs in Information Systems. This paper looks at the philosophy of accrediting programs, specifically information systems programs, overviews the ABET accreditation criteria and process, considers the "costs and benefits" of accrediting information systems programs, and develops a diagram detailing the internal steps of the ABET accreditation process in a familiar systems analysis and design approach. These steps are then grouped into before, during, and after the accreditation onsite team visit. Potential impediments related to these steps are identified with resolution strategies are presented. The paper concludes by arguing that whether or not a program pursues IS accreditation, much of what is presented here and required of ABET is applicable to any well-run IS program dedicated to continuously delivering a quality curriculum to its students.

Keywords: Accreditation, Information Systems, Assessment, Programs, Computer Science, Business

1. INTRODUCTION

Accreditation exists to develop and promote academic standards. Accreditation provides assurance that graduates meet certain minimum standards (Mackenzie, 1964), qualifying them for professional practice and post-graduate education, and assures that some uniformity in educational is maintained (Stettler, 1965). ABET (formerly know as the Accreditation Board for Engineering and Technology) has been accrediting engineering programs for over 70 years, and with the integration of the Computer Science Accreditation Board (CSAB), ABET began accrediting computer science programs in 2001 and IS programs in 2002. ABET consists of over 30 "lead societies" each representing an academic/professional discipline such as American Institute of Aeronautics and Astronautics, American Society of Civil Engineers, Biomedical Engineering Society, Society of Automotive Engineers, Society of Automotive Engineers, and others. These societies are grouped into Commissions. The Commissions are listed below in Figure 1.

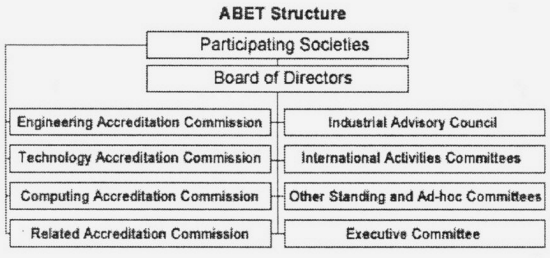

Figure 1: ABET Commission Structure.

Unlike the other Commissions, the Computing Accreditation Commission (CAC) consists of one lead society, CSAB. CSAB is a ten-member board with seats allotted based on the number of accredited programs under CAC jurisdiction. Currently the Association for Computing Machinery (ACM) and the Institute of Electrical and Electronics Engineers (IEEE) Computer Society each has four representatives, and two representatives are from the Association for Information Systems (AIS). CSAB is responsible for programs in Information Systems, Computer Science, and Software Engineering, and is a cooperating society for accreditation of Computer Engineering. The discipline of Information Technology will soon be added to CSAB. Program specific accreditation issues for each discipline, IS, IT, CS and SE, are detailed by representatives from the relevant academic communities. In the case of IS, AIS has primary authority for defining accreditation standards.

From the perspective of accreditation, a key distinction for IS is the requirement that IS programs have at least 15 hours of IS environment coverage. (For business school based IS programs the environment is currently understood to be business. This designation will be made explicit in forthcoming criteria, particularly as IS is distinguished from IT. Until then, see Yaverbaum et al (2004) for a position paper on IS "environment".) IS programs currently can elect, but will soon be required to have a business core: accounting, finance, organization management, marketing, and management strategy. These courses need not be taken from the business school. IS programs can be part of a public administration, health care administration, museum management or similar degree programs housed in schools ranging from computer science to liberal arts. Indeed, many IS programs are not housed in business schools (Gorgone, 2004). However, our focus here is on ABET accreditation for IS programs housed in business schools.

2. INSTITUTIONAL ACCREDITATION VERSUS PROGRAM ACCREDITATION

Four business school accreditation bodies are generally recognized: AACSB International (formerly known as the Association to Advance Collegiate Schools of Business), AACSB International, Association of Collegiate Business Schools and Programs (ACBSP), International Assembly for Collegiate Business Education (IACBE), and the European Quality Improvement System (EQUIS) run by the European Foundation for Management Development. Whereas the focus of these bodies is the business school level, ABET accredits education programs. ABET serves the public through the promotion and advancement of education in applied science, computing, engineering and technology by accrediting educational programs, by promoting quality and innovation in education, and by consulting and assisting in the development and advancement of education.

Perhaps the major difference between institutional accreditation and program accreditation is the granularity of interest. ABET's criteria focus in detail on courses and curriculum both in content and delivery within the discipline. This degree of specificity is greater than that considered for university, college or school accreditation. There are however similarities. Like most institutional accrediting bodies, ABET has criteria addressing faculty, students and organization resources, processes and assessment and continuous improvement. These similarities work to the advantage of programs considering ABET's IS accreditation who have competed an institutional accreditation cycle.

University, college, school and program accreditation are not substitutes. Taken as a whole, these accreditations complement each other. In the same way that the regional accreditation (e.g., SACS) and school/college accreditation (AACSB/EQUIS) complement each other, school/college accreditation and program accreditation complement each other. Although these different levels of accreditation are independent of each other from the accrediting body's perspective, collectively they reinforce each other by developing and advancing the critical dimensions of higher education. The complementary relationship among university, school/college, and program accreditation is shown in Figure 2.

The solid lines in Figure 2 represent direct relationships between accrediting agencies and university, school/college, and program respectively. The dotted lines represent complementary or indirect relationships both within and across institutional levels and administrative functions.

Given this introduction, we now turn to the specifics of ABET accreditation of IS programs. We begin with an overview of the accreditation criteria. Next, we discuss "costs and benefits" of accrediting information systems programs. We then suggest a framework detailing the internal steps needed to develop a successful ABET accreditation bid. This is followed by a process overview presented in a familiar systems analysis and design approach. Section 6 combines accreditation steps into those before, during, and after the on-site accreditation team visit. Potential impediments at each of these three stages are examined and strategies to overcome these impediments are suggested. We conclude by arguing that whether or not a program pursues IS accreditation, much of what is presented here and required of ABET is applicable to any well-run IS program striving for academic excellence.

3. ABET ACCREDITATION CRITERIA OVERVIEW

Lead by AIS, CSAB has developed accreditation criteria for information systems programs. The current 2004-2005 cycle accreditation categories specify eight criteria and their intent as shown in Table 1. Each category has several standards.

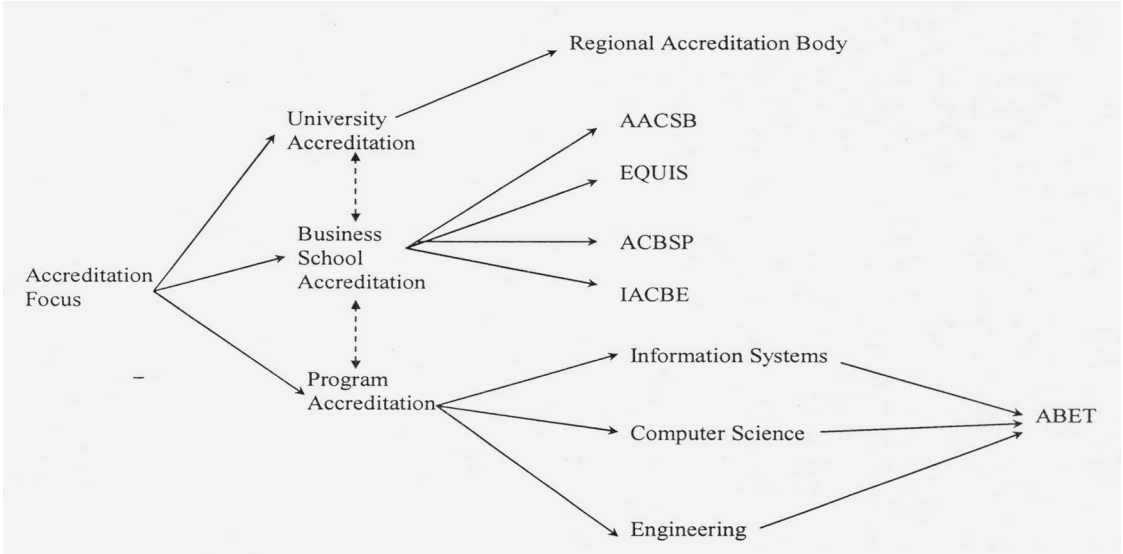

Figure 2: Relationship among Accreditation Levels and Agencies

The intent of the category can be met by meeting the standards. However, the intent of the criterion can also be satisfied in ways that do not comply with the standards. In other words, the standards are example ways of satisfying intent, alternatives based on the processes developed and applied in Objectives and Assessment are equally valid and may be superior. A complete list of the criteria, including standards, can be found at http://www.ABET.org.

In the language of ABET, the intent of a category is met or not met. If the intent of a category is not met, this is a deficiency with respect to that category. Programs with one or more deficiencies cannot be accredited. A weakness is always with respect to an entire category. A weakness may be caused by a number of concerns with respect to standards in a category, or by a problem with an alternate means of meeting the intent of a category. A weakness effects the time of the accreditation period, typically resulting in an interim report or visit. A standard is satisfied or not satisfied. A standard may be satisfied but the team may still express a concern about the manner in which it is satisfied or about whether the standard will continue to be satisfied for the duration of the accreditation period.

An ABET program evaluation will include statements about standards that impact category intent. The statements included in an evaluation are generally similarly to the following:

- Statements of fact affirm data. For example, the program has five full-time faculty members whose primary appointment and commitment is to the program.
- Statements of compliance assert conformity. For example, the program meets the intent of the Curriculum Category by fully satisfying all associated standards with no concerns; or, although the program does not satisfy Standard II-3, it demonstrates by alternate means that the intent of this category is met.
- Statements of concern indicate that a program currently satisfies intent, but the potential exists for the situation to change such that the criterion may not be satisfied. For example, all sections of the same course currently use the same book, but there is no mechanism (e.g., course coordinator) to ensure that this will continue in the future.
- Statements of weakness indicate that a program lacks the strength of compliance with a criterion to ensure that the quality of the program will not be compromised. Therefore, remedial action is required to strengthen compliance with the criterion prior to the next evaluation. This finding affects the time to the next visit. For example, the program meets the intent of the Faculty Category by satisfying all associated standards. However, there is a concern with respect to Standard III-3 that constitutes a weakness with respect to the Faculty Category.
- Statements of deficiency indicate that a criterion is not satisfied. Therefore, the program is not in compliance with the criteria. This results in a decision to not accredit the program. An example of a deficiency statement is: At the time of the visit, the intent of the Faculty Category was not met. Standard III-3 was not satisfied, and the institution did not demonstrate that the intent of this category was met by some alternate means. This is a deficiency with respect to the Faculty Category.
- Statements of observation are comments or suggestions which do not relate directly to the criteria being used for evaluation but are offered to assist the institution in its continuing efforts to improve its programs. For example, the program could benefit from more collaboration with practitioners perhaps through an advisory board.

Table 1. Criteria and Intent - ABET IS Accreditation

Category	Intent
Objectives and Assessments	The program has documented educational objectives that are consistent with the mission of the institution. The program has in place processes to regularly assess its progress against its objectives and uses the results of the assessments to identify program improvements and to modify the program's objectives.
Students	Students can complete the program in a reasonable amount of time. Students have ample opportunity to interact with their instructors and are offered timely guidance and advice about the program's requirements and their career alternatives. Students who graduate the program meet all program requirements.
Faculty	Faculty members are current and active in the discipline and have the necessary technical breadth and depth to support a modern information systems program.
Curriculum	The curriculum combines professional requirements with general education requirements and electives to prepare students for a professional career in the information systems field, for further study in information systems, and for functioning in modern society. The professional requirements include coverage of basic and advanced topics in information systems as well as an emphasis on an IS environment (soon to be exclusively business). Curricula are consistent with widely recognized models and standards (e.g., IS 02 available at http://www.AISnet.org).
Technology Infrastructure	Computer resources are available, accessible, and adequately supported to enable students to complete their course work and to support faculty teaching needs and scholarly activity.
Institutional Support and Financial Resources	The institution's support for the program and the financial resources available to the program are sufficient to provide an environment in which the program can achieve its objectives. Support and resources are sufficient to provide assurance that an accredited program will retain its strength throughout the period of accreditation.
Program Delivery	There are enough faculty members to cover the curriculum reasonably and to allow an appropriate mix of teaching and scholarly activity.
Institutional Facilities	Institutional facilities including the library, other electronic information retrieval systems, computer networks, classrooms, and offices are adequate to support the objectives of the program.

4. ECONOMICS OF ACCREDITATION

Seeking accreditation is a resource intensive activity. A key potential concern is the economic benefit to students, program, faculty and institution. In this regard, there have been a number of studies on the economic benefit of institutional accreditation but there are few studies on the benefits of program accreditation. Our contention is that although program accreditation would necessarily have a narrower scope than institutional accreditation, the nature of the costs and benefits would be similar. For example, one study demonstrated that accreditation impacts reputation and offers benefits, but it also incurs costs and reduces flexibility (Andrew and Boyee, 2003).

4.1 Accreditation Costs. ABET Accreditation of information systems programs is new and as such the costs and benefits are not as well understood as those associated with other more established accreditations. However, tables 2 and 3 list some potential tangible and intangible costs respectively. Examples of tangible costs shown in Table 2 include the application fee, visit expenses, hiring new faculty, increases in faculty development spending, facility upgrades, library holdings, and redirecting human resources.

Table 3 lists three potential intangible costs. Examples of intangible costs include changes in processes and practices, development of new or modified curricula, and redirecting human resources.

It needs to be understood, and is part of the accreditation review, that many of these costs are on-going expenses and not due entirely to the accreditation initiative. Many of these costs should be incurred regardless of the accreditation visit; they are part of the process of maintaining the currency of the IS program. Both tables 2 and 3 recognize "Redirecting Human Resources" as costs because tangible costs may include release time whereas intangible costs involve reallocation of administrator and faculty time. Programs change and resource requirements change over time, constantly evolving and requiring modifications, enhancements and resources. Maintaining this continuous change process is a resource and time intensive requirement. Committing to a continuous process improvement, including documentation of process actions is essential to satisfy the intent of the Objectives and Assessments category.

4.2 Accreditation Benefits

Table 4 present some near and long-term benefits of IS accreditation. Benefits can be difficult to determine and further difficult to quantify; however any valid analysis requires their consideration and when possible their quantification.

Examples of near-term benefits include program assessment information as it relates to the quality of the curriculum, feedback on the preparedness of faculty designated to deliver the program, marketing of the program, recognition of the program's achievement, and information on improvements and recommendations that may enhance the quality of the program. It is important to note that the breath and depth of these benefits will vary by program.

Table 2: Tangible costs of accrediting programs

Tangible costs	Range
Application Fee	$5000
Visit expenses	$0 - $1000 (although not required, typically you will host a lunch)
Hiring new faculty	$0 or more - one or more faculty positions
Faculty Development Spending	You should expect to be able to at least demonstrate some expenditures for each fulltime faculty per year on development which includes attending academic meetings
Facility upgrades	$0 or more - depending on the size of the program. If it is clear the facilities are hindering delivery, then you should expect to incur costs in order to comply. Examples include hardware and software upgrades or licenses, and classroom upgrades.
Library Holdings	$0 or more depending on existing collection
Redirecting Human resources	Typically, one should expect to devote at least 50% of one faculty/staff member's duties for preparation of the self-study. This is especially true if this is a new accreditation application. Although all faculty members involved in the program will devote effort, there must be a lead faculty member in charge. There are costs associated with changing the duties of this faculty member, the cost of a course release.

Table: 3 Intangible costs of accrediting programs

Intangible Costs	Range
Changes in practice and process	The records required to present to a visitation team include evidence of student work, and course materials. Most programs have records of course descriptions and syllabi but do not centrally keep tests, quizzes, textbooks, and examples of student work. These materials will need to be collected and thus require new practices and processes. There must be clear documentation of processes used for continuous improvements. Examples include faculty committees used to define review and modify curriculum. Methods of assessing the program. Also, documents which establish responsibility for these activities and reporting requirements should exist or be developed
New or modified Curricula	It is conceivable that a program under review may be well advised to add a new course or modify existing courses. Resources necessary for this activity can be expensive and time consuming.
Redirecting Human resources	Department Chairperson and faculty will have to take time from their research and other service to devote to the ABET accreditation effort. Doing so will result in lower productivity in research and service for these individuals during the ABET accreditation effort.

Long-term benefits (Table 5) center on continuous improvement processes and program recognition (Category I). Examples benefits include increased resources and increased recognition of the program, the program may expect to be more attractive to new students and the community, and the program's status at all levels of the institution may be enhanced. The benefits of accreditation are not in the stamp of approval but in establishing the program procedures and discipline needed to achieve accreditation. These procedures in the long run will help the program establish measurable goals (benefits), assess progress toward achieving these goals, and take actions that result in measurable changes that feedback into program changes. Hence, the benefits of accreditation more long term in nature, and by establishing procedures and discipline to assess the program, the program will develop and implement ways and means to detect the existence or absence of outcomes that truly benefit the program. In other words, what is measured will be "achieved" and what you "achieve" needs to be "locally" justified through the processes employed through the program's Objectives and Assessment. This continuous improvement cycle is the long-term "benefit" of accreditation.

The preceding attempts to identify some costs and benefits of ABET accreditation. It provides a beginning upon which to start deliberating on whether or not to invest in ABET accreditation. The decision is dependent upon the circumstances of the particular program, and, in the end, faculty must decide whether it is worth the effort to seek ABET accredited. Without faculty support, the accreditation application will not be successful.

5. PROCESS FRAMEWORK FOR ACCREDITING IS PROGRAMS

Figure 3 provides a detailed, step-by-step, summary of the activities involved in pursing ABET accreditation.

Specifically, the steps depicted in Figure 3 are:

0. Attend CAC annual summit. Presentations at the summit are invaluable providing insights beyond the

Table 4: Near term benefits of accrediting programs

Near term benefits	Explanation
Program assessment by a nationally recognized independent body with expertise in the discipline, which often results in program improvement.	As a part of the accreditation process, the program will receive an external review, which provides specific feedback on the program. In many ways this is an assessment activity conducted by an external group whose bias is limited to the standards used for accreditation.
Faculty development may be enhanced as areas of improvement are identified by the external review	It is always difficult to evaluate faculty quality. An outside group is unencumbered of the personal relationships often existing among an institutions faculty which can obscure objective evaluation
Marketing – Announcing the attainment of accreditation to the community at large	ABET Accreditation is an accomplishment which should be announced to the program's constituents. This will impact the perceived quality of the program among external constituencies, especially in the IS/CS professional community and within the university community, especially if there is a computer science program and a school or college of engineering.
Areas where program improvements can be made	A program should expect the identification of areas where it might consider improvements. Implementing these recommendations is likely to lead to improvements that often have a cascading effect leading to much broader improvements

Table 5. Long-term Benefits of accrediting programs

Long Term Benefits	Explanation
Program ranking	Many factors lead to improved program ranking. An institution should expect that accreditation will have a positive impact on ranking. ABET accreditation of information systems programs is a new initiative and those having such an accreditation are in a small, highly visible group.
Attractiveness to new students	Increasingly, students investigate programs and universities prior to applying. Distinctive evidence of quality may prove to be decisive in determining their final choices.
Program standing	Accredited programs within an institution tend to be perceived as being of higher quality than those same programs, which are not accredited. A program, which is considered to be of higher value to the university, should expect the requisite benefits of that position. Also, universities, schools and colleges are loath to lose accreditation,

formal documents. Some of these presentations from past summits are available online, http://www.abet.org/info_prgs_cac.html.

1. Brief administration (Dean, President, Provost) about the efforts of accreditation and get their support for dollars and human resources
2. Faculty support is critical both in the department and among key faculty in the school. Begin gathering course display materials (Course displays are central and essential information for the ABET visitation team.
3. Do an internal review of your program (such as a student feedback, alumni feedback, and directors of other programs whose courses are part of the IS curriculum)Do an informal external evaluation of your program, perhaps by hiring someone familiar with the ABET process and criteria
4. Address the gap(s) of the two evaluations (internal and external). Put resources in place (such as technology and other support infrastructure) and overcome the problems as identified in the gap analysis, including those that are addressed in ABET intent and standards document.
5. Apply for the ABET accreditation by sending the application form.
6. Assuming ABET agrees to consider your program, prepare self-study report. The link, http://www.abet.org/info_prgs_cac.html, has both questionnaire and strategy documents as well as other resources invaluable when writing the self-study report.
7. Some faculty may need to be hired, re-trained, or developed to meet ABET standards and intent.
   Set the stage for the visiting team from ABET which includes assisting in developing their itinerary and the logistical needs of their visit (e.g. information on hotels, flights, transportation, etc.), scheduling appointments, ensuring availability of interviewees, and completion of course displays.
8. A smooth visit is important. Have workspace like a small conference room containing review materials (course display cases) available equipped with a phone, network connection and computer.

9. ABET Visit where typically a three person team visits the institution
10. When the team leaves they provide an informal briefing, which reflects their findings.
11. The informal briefing is later followed by a draft report inviting comment. The response to the draft report should address issues of fact and interim actions.
12. Await decision. The team incorporates the institute's response into their draft and submits a final report to CAC. The institution can provide information to the ABET director regarding their accreditation bid up to the time CAC meets. CAC meets and their decision is communicated in early fall.

The timeline for these steps is given in Table 6. As can be seen, ABET accreditation is a many step process taking almost 3 years to complete. The pre-application period, steps 0 through 6, will for many programs require a calendar year. Once the application is submitted in January, the process takes 18 months until the institution is notified by ABET of its accreditation decision.

Table 6: Timeline for Accreditation Process

Timeline for the Accreditation Process	
October (2 yrs before application)	Attend CAC Annual Summit
January – December (1-yr before application)	Secure specific resources, begin collecting course materials for course displays, develop application, and rough-draft self-study
January (year of application)	Submit Application
July	Submit Self-Study Report
September – November	Timeframe for campus visit
March	Draft report from Visitation team
April	Institution's Response
August	CAC recommendation

6. POTENTIAL IMPEDIMENTS BEFORE, DURING AND AFTER ABET ACCREDITATION VISIT AND STRATEGIES TO OVERCOME IMPEDIMENTS

The steps and processes discussed previously can be visualized as an approach to acquiring ABET accreditation using the philosophy of systems analysis and design. The steps in the preceding section can be divided into three stages: 1) Assessment of the internal support and readiness, 2) From ABET application until visitation, and 3) During and after visitation until the CAC Accreditation Meeting.

Sections 6.1 through 6.3 address issues that may occur during these stages and suggest possible remedies and strategies for dealing with these issues

6.1 Assessment of Internal Support and Readiness Steps 0 through 5 of figure 3 reflect the activities of needed to assess the internal support and readiness of a program to consider applying for ABET accreditation. This stage is discussed by Lidtke et. al. (2002), but they do not consider the potential impediments or strategies to overcome inevitable roadblocks. The steps in this stage might follow the rapid prototyping approach of systems analysis and design, where at the end of each accreditation step one visualizes the in-process product, tests it to see that it meets specifications and if it does, moves on to the next step, and if not, goes back to redo the step. This is especially true for steps 3, 4 and 5: internal and external review, and gap analysis. At all times the person(s) responsible for spearheading the accreditation should be in touch with the rest of the stakeholders such as dean, department chair, leadership and faculty, students, alumni, other faculty and administration to make sure that the in-process product is moving in the right direction and that when deficiencies are uncovered they are addressed.

Potential Impediments. Some potential impediments that the program may experience during the assessment of internal support and readiness include: insufficient support from University, School, Department, and colleagues; unfavorable internal or external reviews; and failure to eliminated gaps between existing activities and required intents.

Strategies to overcome these impediments include, garnering of support within the institution. One strategy is to invite administrators/faculty from programs that have been ABET accredited to visit your institution. If your reviews are unfavorable, identify ways to address the issues. Do not disguise the problems raised in these reviews. ABET will most likely discover these problems. The strategy here is to fix what is broken.

What to avoid and what to accentuate. By all means avoid any compromise on the curriculum where there is a clear conflict between current practice and the accreditation criteria. Highlight the importance and advantage of accreditation of your program to administration and faculty, and take the internal and external evaluation outcomes seriously. At this point you have the information and knowledge you need to make a decision as to whether or not to apply for ABET accreditation.

6.2 From ABET Application until Visitation Once a decision is reached to apply for ABET accreditation a number of pre-visitation activities need to be completed. These are summarized in steps 6 through 10 in figure 3, and include: submitting the ABET application, preparing the self-study, preparing faculty for the visit, setting the stage for the actual visit, and gathering the support needed for the team during the visit. Here again the notions of systems analysis and design can be applied to ensure that the in-process product is meeting its desired goal and objective, which is ensuring that all necessary resources are in place and all measures have been taken to see that each aspect of the accreditation criteria is successfully addressed. Steps 7 and 8, preparing the self-study and preparing the faculty for the visit are especially crucial and can follow a number of iterations so that everything is in order for the site visit, steps 9 and 10.

Potential impediments. Potential impediments that may arise during this stage include technology and other support infrastructure resources not in place to support the program, difficulty in hiring necessary faculty, training/retraining and developing faculty, and lack of resources to provide adequate support to have a smooth visit. Examples of issues occurring during this stage are: securing a dedicated meeting room for the team; gathering and organizing the materials needed by the team, especially the course displays; and scheduling the university players such as registrar, librarian, dean, chairs, faculty, and students for interviews.

Strategies to overcome impediments include, Partnering with industry to obtain funding to upgrade computer labs, hardware/software and training. The later can be accomplished by asking local industry if faculty can "sit-in" on their in-house IS training. Another approach to faculty development is to have senior faculty mentor junior faculty, and to encourage other pairings and initiatives that bring faculty together to enhance their academic skills (teaching, research). The contact person must have his or her duties modified so that he or she can devote a substantial amount of time to the effort of preparing for the visitation team.

What to avoid and what to accentuate. Fix the issues raised in the internal and external review related to curriculum and other criterion for accreditation. Locate and centralize all information required for both the self-study report and the visit. Keep all parties informed of the progress at regular intervals so as to avoid disenfranchisement of the stakeholders (faculty, administrators, staff, students and constituents)

6.3 During and After Visitation Until CAC Accreditation Meeting The previous section address issues prior to the actual team visit. This section focuses on steps 11 through 14 in figure 3, which address the visit and post-visit activities. An ABET visitation team conducts an on-campus visit of the program reviewing the eight criteria. The visit is normally completed in two and one-half days, typically from early Sunday afternoon through Tuesday late afternoon. Once complete, an exit briefing is provided to the administration of the IS program, typically the department chair and dean of the school/college. In addition, an executive briefing is given to the provost and the president of the University. The exit briefing summarizes the criteria and the team's findings.

As stated earlier, the team can find for each criterion that the intent of the criterion is met, that there is a weakness caused by a number of concerns, a standard is satisfied but the team feels concerned about the manner in which it is satisfied or about whether the standard will continue to be satisfied; or there is a deficiency because the intent is not met either because standards are not met or the alternative means of meeting the standard fails to meet the intent. Once the accreditation team leaves campus, the program has 14 days to correct any errors of fact or to provide any materials relevant to the team's findings.

The exit briefing is communicated to the institution more formally by the team through a "Draft Report", received in the spring of the academic year in which the visit took place. These Draft Reports are submitted by the Team Chair and reviewed for proper justification, consistency and content at two levels. Once the institution receives the Draft Report, it may report any relevant actions completed or underway since the visit. The draft report and the program's response are used by the visitation team to formulate a final report to the Computing Accreditation Commission, (CAC) of ABET for final action. Typically the team chair presents the case to the Commission. CAC then renders a recommendation to ABET on accreditation. Their recommendation will be one of possible outcomes shown in table 7.

From the visit until CAC renders a decision, there are a number of potential obstacles. As in the previous sections, we offer these as potential impediments and suggest strategies for their remedy or avoidance.

Potential Impediments. During the visit the team may request information or data that cannot be found, there is conflicting or inconsistent information discovered by the team, there are unanticipated issues reported during the exit interview, or the program is unable or unwilling to address issues raised in the exit interview and/or draft report.

Strategies to overcome impediments. Inconsistencies discovered by the team should be resolved as soon as possible. Unanticipated issues should be well understood and a determination should be made as to the necessary actions. Actions should be well defined and efforts to implement should begin as soon as possible. If an institution is unable or unwilling to address issues raised by a team, then the institution needs to defend this position. Typically, an issue raised that is based on an error of fact can be defended in the response to the draft report. For example, if enrollment data has changed significantly which potentially could impact a finding made by the team, then the response to the draft report could report this new information.

What to avoid and what to accentuate. Avoid challenging the team's findings accept in clear issues of inconsistencies in findings of fact. For example, they might claim you have 15 faculty and you clearly have 16. Avoid having to search for information during the visit, make information easily accessible and available for the visiting team. It is important to present an atmosphere of cooperation and professionalism. This is especially true during the visit when team members are meeting faculty, students, staff and constituents.

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Table: 7 CAC/ABET Outcomes (http://www.abet.org)

Possible Accreditation Outcomes	
NGR (Next General Review)	This action indicates that the program is in full compliance with the applicable criteria. This action is taken only after a comprehensive general review and has a typical duration of six years.
IR (Interim Report)	This action indicates that compliance with applicable criteria should be strengthened to ensure that the quality of the program will not be compromised prior to the next review. The nature of the weaknesses is such that an on-site visit will not be required to evaluate the remedial actions taken by the institution. A report focusing on the remedial actions taken by the institution will be required. This action has a typical duration of two years.
IV (Interim Visit)	This action indicates that compliance with applicable criteria should be strengthened to ensure that the quality of the program will not be compromised prior to the next review. The nature of the weaknesses is such that an on-site visit will be required to evaluate the remedial actions taken by the institution. This action has a typical duration of two years.
RE (Report Extended)	This action indicates that satisfactory remedial action has been taken by the institution with respect to weaknesses identified in the prior IR action. This action is taken only after an IR evaluation. This action extends accreditation to the next general review and, thus, has a typical duration of either two or four years.
VE (Visit Extended)	This action indicates that satisfactory remedial action has been taken by the institution with respect to weaknesses identified in the prior IV action. This action is taken only after an IV evaluation. This action extends accreditation to the next general review and, thus, has a typical duration of either two or four years.
SC (Show Cause)	This action indicates that a program has deficiencies such that the program is not in full compliance with the applicable criteria. An on-site visit will be required to evaluate the actions taken by the institution to remove the deficiencies. This action has a typical duration of one year.
SE (Show Cause Extended)	This action indicates that satisfactory remedial action has been taken by the institution with respect to deficiencies identified in the prior SC action. This action is taken only after an interim SC evaluation. This action typically extends accreditation to the next general review and, thus, has duration from one to five years.
NA (Not to Accredit)	This action indicates that a program has deficiencies such that the program is in continued non-compliance with the applicable criteria. This action is usually taken only after a SC evaluation or the evaluation of a new, unaccredited program. Accreditation is generally not extended as a result of this action.
T (Terminate)	This action is generally taken in response to a request by an institution that accreditation of a program be terminated. The duration of this action is generally one year. Annual reports submitted by the institution may be the basis of extension of accreditation for a total period not exceeding three years.

has changed significantly which potentially could impact a finding made by the team, then the response to the draft report could report this new information.

What to avoid and what to accentuate. Avoid challenging the team's findings accept in clear issues of inconsistencies in findings of fact. For example, they might claim you have 15 faculty and you clearly have 16. Avoid having to search for information during the visit, make information easily accessible and available for the visiting team. It is important to present an atmosphere of cooperation and professionalism. This is especially true during the visit when team members are meeting faculty, students, staff and constituents.

7. CONCLUSION

Through its Computing Accreditation Commission, ABET now accredits programs in Information Systems. This paper provided an overview of the accreditation criteria, considered the "costs and benefits" of accrediting information systems programs, developed a framework detailing the internal steps needed to present a successful accreditation application, and presented a process overview in a familiar systems analysis and design approach identifying potential impediments at each stage of the accreditation process and strategies to overcome these impediments.

The time and effort needed to secure ABET accreditation is considerable. However, the activities and efforts described for IS accreditation are not unfamiliar to those who have participated in other accreditation processes. Moreover, reviewing a program along criteria such as those used by ABET is needed to maintain the current of any IS program. Additionally, all accreditation groups, whether institutional or program in focus, have an expectation of continuous

process improvement. Following a curriculum model like the IS 02 model can help ensure that required topics are covered, but continuous improvement processes are needed to ensure that the program responds in a timely manner to local and global IS needs. In other words, whether the decision is to seek ABET IS accreditation or not, programs should consider the material reviewed here as one yardstick of program success and make decisions as to the materials applicability to their program. Whether the decision is to pursue IS accreditation or not, we hope the material presented in this paper helps improving IS education.

REFERENCES

Andrews, Bret K., & Bovee, Steven, L. "Specialized accreditation of business schools: A comparison of alternative costs, benefits, and motivation," Journal of Education for Business, Vol. 78, No. 4, pp. 197-204

European Quality Improvement System, 2005, http://www.efmd.be/equis/

Gorgone, John, personal communication to one of the authors, 2004.

History of ABET and 2004 and 2005 Curricula and Criteria retrieved from http://www.abet.org

Lidke, Doris, Gorgone, John, Feinstein, David, & Yaverbaum, Gayle. "Preparing for information systems accreditation," Special Interest Group on Computer Science Education, February-March 2002, pp.169-170.

McKenzie, O. "Accreditation of accounting curricula," The Accounting Review, Vol. 39, No.2, pp. 363-370

Stettler, H.F. "Accreditation of collegiate accounting programs," The accounting Review, Vol. 40, No.4, pp. 723-730

Yaverbaum, G., Feinstein, D., Gorgone, J., Heikki, H., Kasper, G., Valacich, J., Zant, R."Information Systems Environment," Working Paper Series, Penn State Harrisburg School of Business Administration, December 2004.

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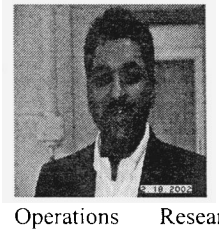

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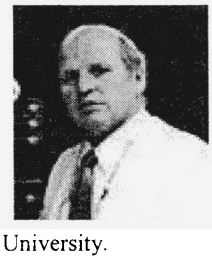

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