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By Dr. Ron Meier and Dr. Dan Brown

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Ron Meier is a Professor in the Department of Technology at Illinois State University. Ron leads the project, quality, and risk management curriculum and research initiatives in the Master's of Technology program. Ron is the Vice-Chair of e-Based Initiatives for the Quality Management Division of the American Society of Quality.

Dan Brown is a Professor and Coordinator of Graduate Studies and Research, Department of Technology, Illinois State University. Dan mentors and advises graduate students and has taught courses in Project Management, Training and Development and Technology Teacher Education.

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Abstract

A two-part study was conducted to ascertain the perceptions of NAIT University and Industry Division members with regards to the competencies deemed important for job success as Industrial Technologists. Part-one examined each NAIT accredited baccalaureate program to ascertain patterns in existing management courses either required or taken as electives. Part-two involved a seventy item questionnaire mailed to 683 NAIT University and Industry Division members. This mailing resulted in 181 completed questionnaires or a 26.5% overall return rate. The Industry Division members returned 52 questionnaires and the University Division members returned 129 questionnaires. Of the 70 competencies included in the survey, 36 competencies were rated above the mean for importance to job success. Additionally, 15 competencies scored more than one standard deviation above the mean. These 15 competencies were deemed the essential competencies that would be recommended for inclusion in all baccalaureate level programs.

Background

As the National Association of Industrial Technology (NAIT) evolves into an increasingly diverse organization there is a need for clearer focus on common content as the basis for refinement of certification exams and program standards for accreditation. While even more apparent today, this need for a common core is not a new idea or discussion point (Minty, 2004; Sinn & Olson, 2001). Defining a common knowledge base provides the opportunity to justify the grouping of diverse programs as a profession, such as Industrial Technology. Additionally, a common core helps add creditability towards efforts to develop certification exams and accreditation standards that can cut across a wide variety of technical programs.

The Executive Board of NAIT, during their March 2003 meeting, recommended that the Accreditation Board work to clarify and solidify the common core of the Industrial Technology Baccalaureate Programs via industry and peer institutional research (NAIT, 2003). The past chair of the NAIT Executive Board (Walker, 2006) indicated that one of his major goals was to vigorously pursue the development of a common core that can be used to guide the future development of the profession. Professional organizations as defined by the U.S. Census Bureau (2002) may conduct research, sponsor quality and certification standards and exams, lobby public officials, publish newsletters, or periodicals, and hold professional development conferences for their membership. The Professional, Scientific, and Technical Services sector comprises establishments that specialize in performing professional, scientific, and technical activities for others. These activities require a high degree of expertise and training. NAIT has diligently pursued many of the preceding items, but has not yet pursued the development of a common managerial core.

Historically, NAIT programs have been heavily focused on manufactur-

ing and while manufacturing is still clearly Industrial Technology, graphic communications, construction, information systems/technology and other areas warrant equal attention under the Industrial Technology umbrella. The concept of a common managerial core for Industrial Technology relates to efforts to view Industrial Technology as a profession.

> *A profession is an occupation that seeks to regulate itself by (a) developing a consensus concerning what its practitioners must know and be able to do and (b) developing an accreditation and licensing system to ensure the transmission of that knowledge and skill (Wise, 2005, p. 318).*

The challenge is to develop a core that applies across all the technical specialties of Industrial Technology. The development and validation of a common core is the one critical need that NAIT must address prior to further progress.

A Review of Other Competency Studies

By 1990, it was widely recognized that science, mathematics, engineering, and technological (SMET) program graduates required broader training than they were receiving. According to Reich (1993) small and large organizations alike require broadly trained employees with cross functional competencies to compete in highly dynamic markets. Technologists are no longer limited to narrow, specialized roles. In today's high performance organizations they are being asked to assume greater responsibility for complex systems. Yet, traditional technological training has largely remained narrowly focused and very specialized.

Meier, Williams, & Humphreys (1997) summarized 415 mid-to-high level managers' responses to their perceptions of the importance and performance of 54 competencies deemed essential for the success of newly hired employees. The 415 respondents represented manufacturing (168), service organizations (72), financial services (65), retail trade (32), agriculture/forestry (31), construction (27), transportation and utilities (12), and mining (8). These 54 competencies were grouped into seven thematic areas. These competencies grouped in order of importance were; communications, quality, cultural values, team development, technology, contemporary business concepts, and problem solving. In general, the competency gaps identified in this report existed because of three curricular shortcomings. First, traditional technical accreditation standards were so prescriptive that students did not have the time and were not required to take a sufficient number of management and/or "soft-skills" classes. Second, individual faculty members used accreditation standards as a reason for not changing and updating their course materials. Third, faculty members did not know how to integrate managerial or "soft-skill' competencies into their course materials.

The Society of Manufacturing Engineers' (SME) *Manufacturing Education Plan: Phase 1 (1997) and Phase 3 (2001-2002) Reports* identified the following competency gaps in order of importance: business knowledge/skills, project management, written Communications, supply chain management, oral communications/listening, international perspective, quality, problem solving, and team work/collaboration skills. The SME study reported the responses of 392 respondents from manufacturing executive management.

Purpose of this Study

As part of the NAIT accreditation process each institution is allowed the flexibility to determine program structure and course requirements. This exploratory study attempted to identify competencies that could represent a common managerial core across all NAIT accredited programs. First, this study examined each NAIT accredited baccalaureate program to ascertain patterns in existing management courses either required or taken as electives. Second, this paper reports the results from a survey of NAIT University and Industry Division members regarding their perceptions of the importance of 70 competencies identified through a review and synthesis of the literature. Specifically, the following questions were discussed in this paper: (a) what are the competencies that could be required in a common core? And (b) how would a common managerial core impact the future of NAIT and Industrial Technology as a profession?

NAIT's Existing Accreditation Requirements

According to the National Association of Industrial Technology 2006 Accreditation Handbook the main purpose of accreditation is to: "…provide recognition of the attainment of certain professional goals and standards for Industrial Technology. The secondary purpose is to encourage others to strive toward these goals and standards…" (p. 1). All NAIT accredited four-year programs lead to a baccalaureate degree that prepares management-oriented technical professionals. The Industrial Technology curriculum integrates a liberal arts education with professional-level technical and management courses. All NAIT accredited programs prepare students for technical management positions where they can apply skills in industrial supervision, production control, supply chain/logistics, product research, project management, and/or technical sales. According to the National Association of Industrial Technology 2006 Accreditation Handbook typical program names include the following:

> "Manufacturing/Production Technology, Communications Technology, Computer Aided Design Technology, Electronics Technology, Computer Technology, Packaging Technology, Construction Technology, Computer Integrated Manufacturing Technology, Industrial Distribution Technology, and Aerospace Technology" (p. 2).

Table 1 depicts the baccalaureate degree content category requirements for NAIT accreditation in the categories of General Education, Mathematics, Physical Sciences, Management, Technical, and Electives (NAIT, 2006). The Management category comprises

12 to 24 semester hours with sample course titles described below. Specific managerial knowledge and skills to be included in these courses is not described.

Summary of Existing NAIT Program Management Courses

The 2007 NAIT Technology Program Directory was utilized to create a list of NAIT baccalaureate programs. This Directory yielded 116 Industrial Technology and Other Technology Management programs at the university level. Fifty-five of the 116 Industrial Technology and Other Technology Management programs at the university level were accredited by NAIT. There were 91 technical content areas identified by the 55 accredited university degree programs. This review yielded a variety of institution-specific managerial and professional course variations from both online and paper copy undergraduate course catalogs. In order to simplify reporting, the authors conducted an affinity analysis or grouping of all 55 institutional program-specific managerial and professional courses. The affinity analysis was conducted to: (a) establishing broader-based thematic managerial content areas or groups comprised from the individual competencies according to their commonly shared relationships, (b) understand the dependencies among the competencies, and (c) delineate the topical content and components comprising each managerial content area. This topical content serves as the foundational outline for the composition of pedagogy and materials addressing specific competencies.

Affinity Analysis

Affinity analysis is a method for organizing large amounts of data such as ideas or opinions into logical groups according to some natural affinity. Affinity analysis is also called the K-J Method after its Japanese originator Jiro Kawakita. Affinity analysis is done in small groups in which a large number of ideas are first generated and then sorted by group members into categories to form topical content groupings. Subsequent reiterations of affinity analysis can be used to further flesh-out each of the previously established groups to form a tree-diagram depicting (a) the hierarchical relationships of each category and (b) the content comprising each of the managerial content areas (Bergman & Klefsjö, 1994). The affinity analysis resulted in 13 broadly defined managerial content areas being identified. The 13 content areas were: accounting, business law, economics, general management and leadership, human resources management, industrial supervision, international business, marketing, operations management, project management, quality and statistics, safety, and supply chain management.

The results of the affinity analysis yielded surprising diversity in the types of management courses required in NAIT accredited programs. As depicted in Table 2 the most common management course was Quality/Statistics. The Quality/Statistics content area was found in 60% or 33 of the 55 Industrial Technology programs. Only four course content areas were required in more than 44% of the Industrial Technology majors. These were Quality/ Statistics (33/55 or 60%), Safety (26/55 or 47%), Economics (24/55 or 44%), and General Management/ Leadership (24/55 or 44%). The inconsistencies reflected support the assertion that NAIT needs to identify a common managerial core among accredited baccalaureate programs.

Methodology

A widely accepted multi-step scale development procedure was employed to begin to define the domain of the subject matter since no theoretically supported measures assessing the managerial competencies common to all NAIT programs were available (Churchill 1979; Nunnally 1978). Step one examined the literature base across a broad body of work related to identification of competencies for managers. This included examination of literature from manufacturing and industrial management (Barber, 2000; Earshen, 1995; Ferguson, 1991), general management (Abraham, Karns, Shaw, & Mena, 2001; Ferketich, 1998; Kaufman, 1994; Maes, Weldy, & Icenogle, 1997; Martell, & Carroll, 1994), safety (Blair, 1997), health related managerial occupations (Cross & Meyer, 2000; Erckenbrack, 2002; Joint Medical Executive Skills Program), project management (Golob, 2002), retail management (Keech, 1998), and sports administration (Kuo, 1998). This synthesis resulted in the identification of 100+ managerial competencies. These 100+ managerial competencies were then

Table 1. Baccalaureate degree program foundation requirements.

Content Categories	Semester Hours
General Education - Humanities, English, History, Economics, Sociology, Psychology, Speech, etc.	18-36
Mathematics - Algebra, Trigonometry, Analytical Geometry, Calculus, Statistics, Computer Science, etc.	6-18
Physical Sciences - Physics, Chemistry, etc.	6-18
Management - Total Quality Management, Quality Control, Production Planning and Control, Industrial Supervision, Industrial Finance and Accounting, Industrial Safety Management, Facilities Layout and Materials Handling, Industrial Ergonomics and Time Study, Industrial Communications, Business Law, Marketing, Leadership, Project Management, International Business, and Teaming, etc.	12-24
Technical - Computer Integrated Manufacturing, Computer Aided Design, Electronics, Materials Testing, Computer Technology, Packaging, Construction, Manufacturing Processes, etc.	24-36
Electives	6-18

analyzed for content and competencies that occurred in the literature multiple times. When conducting a content analysis on any such literature base, the literature is first coded or decomposed into manageable groupings or categories by examining key words, word sense, phrase, sentence, or theme--and then examined utilizing both conceptual analysis and relational analysis. The items extracted for the synthesis of literature occurred from as few as 3 to as many as 13 times within the cited literature. The content analysis resulted in a final pool of 70 competencies.

Step two of the methodology culminated in a 70-item instrument to survey NAIT Industry and University Division members. Respondents were asked to rate each competency on a six-point summated rating scale (1 = Unnecessary; 6 = Essential) with respect to the degree to which of the knowledge and skills were essential to success on the job.

A mailing list of current University and Industry Division members (as of September 2006) was obtained from the NAIT office. A seventy item questionnaire was mailed to all 705 NAIT University and Industry Division members in late September of 2006. Twenty two were returned as undeliverable leaving a population of 683. The Industry Division had 265 members and the University Division had 440 members with complete contact information. This mailing resulted in 181 completed questionnaires or a 26.5% overall return rate. The Industry Division members returned 52 questionnaires and the University Division members returned 129 questionnaires.

Rigor and Validity

Establishing survey validity usually requires evidence from several sources. The internal validity or rigor with which this study was conducted (e.g., the study's design, the attention taken to conduct measurements, and decisions with reference to what was and wasn't measured) is offered through the extensive review of literature that was conducted. As reported previously in the methodology section of this paper, 14 studies were reviewed that cut across nine areas of study. These 14 studies were utilized to identify competency statements that were included on the final survey.

To achieve survey validity from an external perspective it is important to have a high response rate. In order to have survey results that genuinely reflect the organization, it is necessary to have a statistically valid sampling from the NAIT membership. The higher the response rate the more valid the results. According to Bennekom (2003) a 26.5% (181/683) response rate yields a statistical accuracy of 95% plus or minus 10%. Ninety-five percent was chosen by convention. If the accuracy is ± 10% and the survey instrument utilizes questions with a measurement scale that ranges from 1 to 6, then there are 5 intervals on the scale. Plus or minus 10% on the scale is one full interval point (20% of 5). Therefore, the authors are 95% certain that the average (population mean) would lie within a band of one point on the scale with the average score from a survey question (the sample mean) in the middle. Put a different way, if that survey question had a mean score of 4.5, and the authors conducted a census, 95% of the scores would lie in a band from 4.0 to 5.0.

Survey Findings

Table 3 depicts the summary (combined ratings of NAIT faculty and industry members) of job success means for each of the seventy survey items. The mean rating for all 70 competencies when considering job success was 4.74 with a standard deviation of 0.43. As denoted with an "*" in Table 3, 36 competencies were rated above the mean for their relative importance to job success. Note that all items had mean score ratings above the mid-point (3.5) of the scale. Competency items with ratings below the mean rating were viewed as only somewhat important and will not be discussed further in this paper.

This exploratory study was envisioned as a first attempt to identify those competencies with broad agreement across diverse technical programs. Competency items with job success mean ratings between the mean rating and one standard deviation above the mean rating were viewed as being important competencies to include in the management core discussion. Job success competency items with mean ratings equal to or more than one standard deviation above the mean (denoted with "**") were viewed as the essential competen-

Table 2. Management content areas by university and program

Management Content Areas	Specific Management Content by University (N = 55)	Specific Management Content by Program (N= 91)
Accounting	19 (34.5%)	29 (31.2%)
Business Law	16 (29.1%)	23 (25.3%)
International Business	2 (3.6%)	4 (4.4%)
General Management & Leadership	24 (43.6%)	46 (50.5%)
Operations Management	11 (20%)	14 (15.4%)
Industrial Supervision	8 (14.5%)	13 (14.3%)
Marketing	5 (9.1%)	7 (7.7%)
Economics	24 (43.6%)	40 (44%)
Human Resource Management	8 (14.5%)	11 (12.1%)
Supply Chain Management	8 (14.5%)	9 (9.9%)
Project Management	12 (21.8%)	17 (18.7%)
Safety	26 (47.3%)	42 (46.2%)
Quality or Statistics	33 (60%)	50 (54.9%)

cies to include in a managerial core. One standard deviation above the mean was selected as a reference point due to the fact that those were the competencies with the most agreement. In other words, the mean is 50% and one standard deviation above and below the mean is 68% (34% above and 34% below).

Therefore, when a competency rating exceeds one standard deviation above the mean that competency is one of the 16% of the competencies that exceeded the criteria used to identify essential competencies (50% + ½(68%) = 84%). Thus, all job success competencies with a mean value greater than 5.17 were deemed essential competencies.

Discussion

Common Managerial Core

A quick review of the latest NAIT Technology Program Directory reveals traditional Industrial Technology program titles but also many less traditional program descriptors such as: Construction Management, Graphic Communications/Multimedia, Information Technology, Telecommunications, Network Systems, Safety & Environmental Management, Aviation/Aeronautics Management, Electronics, Automotive, Distribution, Facilities Management and HRD/Training. If NAIT acknowledges through accreditation that programs representing such diverse technical disciplines produce Industrial Technologists, some might suggest that Industrial Technology is not a profession in the sense that law, medicine, and accounting are defined as professions. However, the parallels observed in an examination of attempts to establish teaching as a profession by the National Council for Accreditation of Teacher Education (NCATE) would lead to a different conclusion. Teaching, like Industrial Technology, represents an incredible array of specializations.

Recognizing this diversity, NCATE has helped teacher education identify a comprehensive list of competencies which define the things all teachers should know or be able to do regardless of content specialization. Once the core competencies which all accredited

Table 3. Mean ratings for all 70 competencies with respect to their importance in contributing to job success. (N = 181)

		6 = Essential 1 = Unnecessary
Survey Item Number	Competency	Job Success (Summary)
45	Problem solving **	5.59
3	Interpersonal communications **	5.57
2	Written communications **	5.56
33	Computer literacy **	5.54
13	Communicating effectively **	5.51
47	Team work **	5.51
6	Listening **	5.50
5	Oral communications **	5.47
34	Time management **	5.37
32	Decision making **	5.34
35	Critical thinking **	5.34
44	Problem identification **	5.24
22	Leadership **	5.23
23	Motivating self & others **	5.19
15	Quality management (tools & techniques) **	5.18
57	Project management *	5.09
4	Public speaking & presentation *	5.09
16	Knowledge of operational management processes *	5.06
46	Innovation and creativity *	5.05
30	Fostering a productive work environment *	5.04
14	Customer focus *	5.03
50	Cooperation among co-workers *	5.00
31	Setting and managing expectations *	4.96
29	Feedback & recognition (giving & receiving) *	4.94
37	Results (goal) oriented *	4.93
53	Utilizing information systems *	4.92
48	Customer satisfaction over task completion *	4.91
17	Data analysis (statistics & qualitative) *	4.90
38	Analytical *	4.90
43	Planning and organization *	4.87
51	Interpersonal relationships *	4.87
52	Technology trends & their applications *	4.86
49	Customer relations management *	4.77
8	Information management *	4.76
62	Cost benefit analysis *	4.76
1	Diplomacy & negotiation *	4.74

continued on next page

programs must develop in their students are defined, each content area must also define its own competencies grounded in the teachers' content areas of expertise. Visiting accreditation teams look for evidence that both core competencies are acquired and that specialization standards are met as well (Wise, 2005).

NAIT accreditation guidelines seem to suggest a common core of management content with 12-24 credit hours of required management-oriented coursework. However, given the diversity in management course requirements as reported in Table 2 this does not appear to adequately identify a common core. Further, defining core content by course title is inadequate because there can be great variation in the competencies addressed even among courses with similar titles or names.

NAIT's Certification Examination was developed to assure the professional competency of Industrial Technologists. One presumes that to accomplish its purpose across the broad array of technical content areas that Industrial Technology represents this examination would: (a) consist of an examination of only common core knowledge and skills; or (b) test common core knowledge and skills supplemented by additional tests that examine knowledge of the essential technical competencies of each recognized specialization. The NAIT Certification Exam Study Guide suggests a common content core when it identifies (a) production, planning & control, (b) quality, (c) safety, and (d) management as the four content areas that comprise the examination (NAIT, 2005). Looking at the list of NAIT accredited programs, management seems to cut across all technical specialties, as perhaps does Quality and Safety depending on how they are framed. However, production, planning & control do not appear to cut across all technical specialties. This seems to suggest that it may be time to initiate discussion across the entire NAIT membership toward a goal of achieving broader consensus on what actually is the appropriate common core for a program that prepares Industrial Technologists.

Table 3. Mean ratings for all 70 competencies with respect to their importance in contributing to job success. (N = 181) (continued)

		6 = Essential 1 = Unnecessary
Survey Item Number	Competency	Importance to Job Success
28	Delegation	4.70
70	Production scheduling	4.70
19	Business process improvement	4.67
36	Stress management	4.66
20	Production control	4.62
7	Networking	4.61
27	Empowering others	4.58
69	Supply chain management	4.51
39	Crisis management	4.47
24	Planning, delivering & evaluating training	4.46
9	Meetings management	4.46
56	Fiscal management	4.44
21	Benchmarking	4.43
25	Managing organizational development strategies	4.40
40	Awareness of office politics	4.38
12	Non-verbal communications	4.34
55	Risk management	4.45
42	Organizational knowledge	4.44
41	Organizational design	4.34
64	Cost accounting & budgets	4.39
59	Procurement management (purchasing & contracts)	4.32
67	Inventory management	4.32
58	Finance	4.31
65	Forecasting	4.30
11	Interviewing	4.29
54	Business law regulatory compliance	4.29
61	Business process design & management	4.29
63	Accounting concepts	4.18
18	Product design	4.13
26	Empathy	4.13
68	E-commerce	4.09
60	Marketing	3.95
66	Auditing & audit requirements	3.81
10	Public and media relations	3.56

Note. Mean = 4.74; σ = 0.43

Degree Program Curricular Issues

University faculty members are always faced with challenges when designing program curricula. They must identify what students need to know and do now and in the future. They must consider the expectations of accrediting bodies. They must balance learning expectations against time constraints and fiscal realities, and finally, they must examine the degree to which competencies match the expectations of employers.

Analysis of the data focused on overall member perceptions but also highlighted some interesting differences in the perceived importance of some competencies. The difference in sample size between University and Industry respondent groups made group comparisons problematic. However, results can suggest importance even when significance is not established. The rationale for examining ratings greater than one-half standard deviation above the mean was the fact that 67% of the Industry Division respondent scores would have varied by more than one-half of a point on the six-point summated rating scale. From the researchers' perspective this suggested importance and highlighted a need for further discussion. Table 4 lists four items NAIT University Division respondents rated greater than one-half standard deviation higher than did Industry Division members.

Table 5 lists ten competencies which NAIT Industry Division members rated greater than one-half standard deviation above University Division member mean responses. It is interesting to note that the differences suggest not adding or deleting competencies but rather examination of the degree of emphasis placed on specific competencies within the degree program.

If job success competencies with ratings greater than or equal to one standard deviation above the mean were considered to be the *must have* competencies, the management core would consist of 15 competencies. It was noted that of the 34 job success competencies rated below the mean, many NAIT accredited programs offered courses in the competencies deemed least important by the respondents to this survey. Examples included: production scheduling, supply chain management, inventory management, accounting, marketing, finance, benchmarking, production control, business process improvement, and product design. The question that arises is not should these topics be taught but rather should they be required knowledge for all Industrial Technologists. More importantly are the competencies deemed most important being developed somewhere in the curriculum?

Recommendations and Conclusions

According to the NAIT website (http://www.nait.org/) "The National Association of Industrial Technology is recognized as the premier professional association responsible for: The promotion of industrial technology in business, industry, education, and government …" This suggests marketing Industrial Technology as a profession. However, without a common set of knowledge and skills, how can Industrial Technology be marketed as a profession? This study has reinforced the authors' belief

Table 4. Items University Division members rated greater than one-half standard deviation above Industry Division member responses. (University Division N = 129, Industry Division N = 52)

Survey Item Number	Competency	Job Success (mean difference)
3	Interpersonal communications	.24
35	Critical thinking	.48
38	Analytical	.23
47	Team work	.27

Note. Mean = 4.74; σ = 0.43

Table 5. Items Industry Division members rated greater than one-half standard deviation above University Division member responses.

Survey Item Number	Competency	Job Success (mean difference)
12	Non-verbal communications	.45
16	Knowledge of operational management processes & procedures	.27
19	Business process improvement	.40
24	Planning, delivering & evaluating training & development	.42
49	Customer relations management	.38
59	Procurement management (purchasing & contracts)	.49
62	Cost benefit analysis	.39
64	Cost accounting & budgets	.27
65	Forecasting	.31
66	Auditing & audit requirements	.50

Note. Mean = 4.74; σ = 0.43

that there is a need: (a) for a thoughtful discussion about what are, or should be, the common knowledge and skills that are shared by all Industrial Technologists regardless of technical specialty, and (b) to encourage preliminary discussion with regards to the need for a common set of competencies across all Industrial Technology programs. It is the authors' recommendation that a more thorough and definitive study to address a common managerial core be completed and followed by a series of consensus building activities designed to establish broad support for the managerial competencies that might be adopted as the managerial core.

If the NAIT membership agrees to a common managerial core this further raises questions about the certification process. For example, the Certification Exam currently has two content areas, Quality and Safety, that comprise a large percentage of the exam. Forty-five percent (41/91) of the NAIT accredited programs to do not offer a Quality class. Fifty-four percent (49/91) of the NAIT accredited programs do not offer a Safety class. The future direction of accreditation and certification needs to be driven from a common set of competencies as defined by: (a) business and technical professionals including past graduates who are currently employed in business and industry, and (b) the NAIT University Division faculty membership. Once this list of competencies has been identified, then the Accreditation and Certification Boards can more effectively determine the programmatic standards that need to be upheld. This would be a proactive approach to setting the future direction of NAIT by focusing on our strengths and commonalities as the basis for identifying Industrial Technology as a valuable profession.

Implications

This leads to an additional discussion topic. Should NAIT's marketing efforts have a focus on branding? Branding is not advertising or logos. Branding is about managing and promoting the reputation or promise of what customers receive when they use services or buy products (Harris, 2007). One perspective on the benefit of NAIT membership should relate to the concept of branding Industrial Technologists. Consider the value added in reputation when a program chooses to become NAIT accredited or the student's expectation of program quality and employment prospects when he or she elects to enroll in a NAIT accredited program. Successful branding is not about being unique but about being recognized as consistently better (Agee, 2007). We often think of for-profit enterprises when we consider the value of brands but it has been suggested that the images, values, and benefits associated with a nonprofit organization's brand (i.e. NAIT membership, accreditation, and certification) may be even more important to the long-term success of that organization (Fogel, 2007).

The focus or guiding theme of the 2005 NAIT conference was "Converging Technologies: Linking Boundaries." If one examines the literature on innovation and technical convergence three underlying characteristics appear. First, core skills and capabilities are extremely difficult for competitors to imitate. Second, true core competencies are related to the benefits a customer receives when utilizing a product or service. Third, core competencies allow an organization to access a wide variety of very disparate market opportunities. Based upon these three characteristics the question that needs to be addressed is *what competencies do graduates of NAIT accredited programs possess upon graduation?*

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