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U.S. Executives' Views on International Agribusiness Education in the United States: An IAMA Membership Survey

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Abstract

Industry members of the International Agribusiness Management Association were surveyed regarding agribusiness education. Respondents agreed that an ability to communicate and work with others are the most important skills for new graduates to possess. Skills and experiences related to international business were considered less important. Most respondents indicated that they do or are willing to assist the academic community with curricular design or implementation. Viewpoints of firms more actively involved in the academic curriculum concerning student qualifications and design of an international study program differed from those of other firms that also employ new graduates, but were not so engaged.

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Introduction

The expectation is that higher education will provide students knowledge, skills, and experiences which will help them gain employment and become successful in their chosen career. Because design of the curriculum in large part takes place in-house, faculty and administrators have a responsibility to know what credentials are sought by employers and be responsive thereto. This document explores corporate preferences for agribusiness education, the nature and level of support they provide to higher education, and their input about curricular design for international programs.

Literature Review

There is general agreement within the literature that it is the responsibility of the academic community to prepare students for the marketplace (e.g., Harrison and Kennedy; Nehrt). This is particularly true with regards to international education as, for a vast majority of students, most or all of their exposure to this area will come from within the academic environment (Tillery, Cudd, and Rutledge). The responsibility to prepare students for a career in agribusiness does not, however, imply that curriculum development and implementation should be accomplished by academics in isolation. Agribusiness firms should be involved (Farm Foundation). Industry is uniquely qualified to define the tasks, behaviors, and performance indicators associated with on-the-job competence and to help translate these for inclusion in academic curricula (Lundstrom, White, and Schuster). Furthermore, their input may be obtained without direct cost and can lead to new funding sources for programs.¹ The latter becomes increasingly important when educational innovations require non-public financing (Bor, Bryden, and Fuller). Finally, engaged firms may be more likely to offer internships and other practical training in the student's field of study. Harrison and Kennedy specifically recommend that academic departments develop a strategic core of agribusiness firms that are most compatible with their programs to serve as the nucleus of an internship program. If firms are motivated and their relationship is properly nurtured, agribusiness partners can, and should, be called upon to help direct curricula at colleges and universities (Litzenberg and Schneider).

A number of studies have elicited industry input about the relative value of curricular components and resulting competencies in the workplace. A pivotal effort in agribusiness was the AGRIMASS survey conducted by Litzenberg and Schneider in the mid-1980s. Agribusiness entry-, middle-, and upper-level managers were asked to assign an importance rating to the personal qualities, work, and general experiences of agribusiness graduates. Firms were also asked to indicate the level of proficiency required in the general areas of technical and communication skills, business and economics, and computer, quantitative, and management information systems. Although the population of respondent firms

was quite diverse, they expressed general agreement about what attributes were most important: interpersonal characteristics and communication skills. The general category of business and economic skills followed in assigned importance, with the more general skills within this category (e.g., identification of goals and objectives, coordination) receiving higher rankings than more specific skills (e.g., corporate finance). There was more variation between firms in level of importance assigned to, or proficiency expected in, other categories. The general category of work experience received the lowest ranking, although the specific experience within this category of extracurricular activities was ranked relatively high. A low ranking was assigned to skills and experiences in the international area.

In the mid-1990s, Lundstrom, White, and Schuster asked members of the American Marketing Association with expressed interest in international marketing about the importance of various skills and knowledge areas for graduate students in international business. They were also asked to provide input on curricular design. Rated most important for graduates were general marketing and interpersonal skills, followed by tools that facilitate international marketing including an understanding of international business and culture, language fluency, and analytical and quantitative skills. A secondary focus identified was developing the overall manager in an international setting (e.g., from an in-country internship).

In the late-1990s, Wolf and Schaffner asked California agricultural exporters to rate the desirability of specific skills, experiences, and areas of knowledge for potential employees and the importance of various topics in undergraduate courses. General characteristics such as strong communication skills, good ethics, and general business knowledge were most desired by firms. Specialized skills or experiences such as an internship experience in a foreign country were least desired. Firms identified those in functional agribusiness (e.g., marketing) as the most important course topics, followed by international topics. Course topics focusing on specific world regions were rated low.

The AGRIMASS survey of the mid-1980s was one of the earliest large-scale efforts to evaluate the desirability of various credentials desirable to agribusiness firms. And, while the findings of subsequent studies (including those discussed here) generally concur, their relevance to contemporary programs preparing students for careers in agribusiness, particularly those with international responsibilities, is limited. The AGRIMASS survey is outdated and others were intentionally designed to be narrow in scope. For example, Wolf and Schaffner limited their population to in-state agricultural exporters because their objective was the design of a particular curriculum at their home university. Lundstrom, White, and Schuster surveyed a (geographically) wider population of firms but focused on preparing graduate students. In the current study, the topic of consideration is agribusiness curricula at colleges and universities nationwide and the population surveyed includes U.S. based members of an international agribusiness organization. The objective was to

elicit preferences for components of undergraduate agribusiness education from a diverse set of firms tied by a common interest in international agribusiness.

Methods

A mail survey of U.S.-based members of the International Agribusiness Management Association (IAMA) was undertaken. This organization was selected because of the implied interest of its members in the international marketplace. A focus, but not the totality of the survey, was on the preparedness of agribusiness program graduates for positions with international responsibilities and firm participation in curricular internationalization. Members were asked about their hiring of new agribusiness graduates. They were asked to indicate the level of importance they attribute to a graduate's background, performance, and skills to their employability in entry-level positions.ⁱⁱ Aided factors included grade point average, activities, teamwork, communication and interaction skills, leadership experience, technical expertise related to the position, quantitative skills, international experience, foreign language skills, and farm background.

The importance members place on *contextual considerations* when evaluating student credentials for entry-level positions including at least 25 percent internationally related duties was also elicited. These included foreign language competency, courses in international business and intercultural communication, foreign internship or study experience, and a degree in international agribusiness. Professionals were asked to identify the components, length, and location of an international study opportunity for students who will later work for them so as to maximize the student's value to their firm, and about how their business does, or is willing to, support international experiences for undergraduate students.

The questionnaire was sent in March 2001 to agribusiness members of IAMA with U.S. addresses, excluding academic members. An email reminder message followed. Additional survey mailings were sent by email to self-identified members who had not, but wished to, respond. The form was limited to three pages to aid response rate. Of the 241 inquiries mailed and not returned undeliverable, 49 were returned. The resulting response rate of 20.3 percent was relatively high for a cold mailing to a business address when compared to other published work (e.g., see Wolf and Schaffner; Lundstrom, White, and Schuster).

Results

Sample Characteristics

Firm type among respondents was diverse, including those producing and/or marketing agricultural inputs (e.g., chemicals, genetics, and equipment), agricultural commodities, and food, and those specializing in Internet applications,

investment, trade, purchasing, food distribution, and consulting. Respondents held a variety of positions, most in senior management.

The average firm represented had 4,563 employees although the number ranged from none to 60,000. Forty-four percent of firms had fewer than 100 employees. Sixty-five percent of firms had employees working outside the United States (an average of 38 percent of their employees). The mean of annual reported sales among all firms was \$3,616 million. Forty-three percent had sales of less than \$100 million. For the subset of firms with foreign sales (comprising 85 percent of firms), an average of 36 percent of revenues originated from outside of the United States. Eighty-nine percent of respondent firms had foreign accounts. On average, 38 percent of their customer accounts were foreign.

The average firm reported they would hire 12 new agribusiness graduates in 2001 (ranging from 0 to 250). Nearly one-fifth of all college graduate-level positions at the average firm require an employee to be bilingual, although the percentage ranged from 0 to 100. Members were asked to indicate what foreign language or languages are most important by priority. Of the 45 members indicating at least one language other than English, Spanish was mentioned by most (41 members) with all but one indicating it as the first priority. [Other language priorities were mentioned as first priority by only one or two firms.] French was noted by 11 members (24.4 percent) and Chinese or related languages (e.g., Mandarin and Cantonese) by 7 members (15.6 percent). Other languages mentioned included Russian or related languages (e.g., Latvian), Japanese, German, Portuguese, Italian, and Creole.

Agribusiness Valuation of Graduate Credentials

Attributes of Entry-level Applicants

Level of importance assigned to various credentials when new agribusiness graduates are considered for interviews was elicited using an eight-place Likert scale. Oral and written communication skills were considered to be very important, as were those indicating an ability to work with others, including people skills, evidence of teamwork skills, and leadership experience (Table 1). The average level of importance assigned to each was high, and a strong majority of respondents considered them important.ⁱⁱⁱ These results in general concur with others reported in the literature (e.g., see Lundstrom, White, and Schuster; Litzenberg and Schneider). Considered moderately important were curricular and co-curricular activities and proof of performance measures including quantitative skills, technical expertise related to the position, and grade point average. Considered less important were factors related to skills and experience associated with the international marketplace including foreign language competency, international in-

Table 1: Member Valuation of Entry-level Applicants

Criteria	Mean ^a (standard deviation)	Percentage rating as ^b		
		Not Important (1 to 3)	Neutral (4 or 5)	Important (6 to 8)
General entry-level positions				
People skills ^c	7.29 (0.94)	2.0	2.0	95.9
Written and oral communication skills	7.27 (1.03)	2.1	0	97.9
Evidence of teamwork skills	6.98 (1.07)	2.0	4.0	93.9
Leadership experience	6.61 (1.15)	2.0	10.2	87.7
Quantitative skills	6.37 (1.10)	2.1	16.7	81.2
Technical expertise related to position	6.00 (1.80)	10.2	18.3	72.4
Curricular and co-curricular activities	5.96 (1.53)	8.1	22.4	69.3
Grade point average	5.88 (1.27)	6.1	18.4	75.5
Foreign language skills	4.81 (1.80)	23.4	38.3	38.3
International in-country experience	4.72 (2.00)	25.5	44.7	29.8
Personal farm background	4.29 (1.92)	33.3	37.5	29.2
For Positions with International Responsibilities				
Competency in foreign language	5.44 (2.01)	16.7	22.9	60.4
Intercultural communication courses	5.33 (1.75)	14.6	33.3	52.1
International business courses	5.27 (1.62)	14.6	27.1	58.3
Foreign internship	5.13 (1.68)	16.7	37.5	45.8
Foreign study	5.08 (1.65)	16.7	37.5	45.8
Degree in international agribusiness	4.73 (1.69)	20.8	43.8	35.4

a. Responses indicate level of importance on a scale from 1 = not important to 8 = very important.

b. Responses may not add to 100 percent due to rounding. A rating of 'important' includes responses of 6 to 8 on the 8-point Likert scale. 'Neutral' categorizes responses of 4 and 5 and 'not important' includes responses of 1 to 3.

c. Differences between means were tested using a two-tailed paired-sample t-test using a 0.05 level of significance. Under general entry-level positions, the level of importance assigned to people skills was not different than that assigned to communication skills. Importance levels assigned to the following sets were also not different: communication skills compared to teamwork skills; quantitative skills compared to leadership skills, technical expertise and activities; technical expertise compared to activities and grade point average; international in-country experience compared to foreign language skills and farm background; and language skills compared to farm background. All other differences were significant. Under positions with international responsibilities, the level of importance assigned to a degree in international agribusiness was different than that assigned to foreign language competency and both international communication and business courses. Differences of importance of degree from that assigned to foreign internship and study were significant at the 0.10 level. All other differences were not significant.

country experience, and personal farm background.^{iv} Responses for these latter three criteria were much more evenly divided over the Likert scale.

Applicant Attributes: International Assignment

The comparative magnitude of importance assigned to criteria normally considered important for a position including international responsibilities was low and responses exhibited considerable variability. (This was somewhat surprising because the criteria were selected as those previously identified as important for students who will work in the international arena, and the referent population was presumed to have an interest in international agribusiness.) Experiences considered most important were those that students can achieve at their home university: competency in foreign language and business and intercultural communication courses.^v Although ranked first, only a slight majority of respondents considered foreign language competency as important. This is in contrast to work by Lundstrom, White, and Schuster, and Tillery, Cudd, and Rutledge who found that members of the American Marketing Association and students, respectively, considered foreign language competency to be important for careers in international business.

Next-ranked were foreign internship and study experience. Although 46 percent of respondents considered them important, 17 percent considered them to be unimportant. Ranked lowest among the criteria was a degree in international agribusiness. Only 35 percent of members identified this as important for entry-level applicants for positions with international responsibilities. Although surprising, this result is supported by the results of the global curriculum survey of the Academy of International Business in the early 1990s. Kwok, Arpan, and Folks reported that only 24 percent of participating undergraduate business programs had an international business degree and two-thirds of collegiate administrators and international program coordinators did not view international business as its own discipline.

Group Comparisons

Overall, level of importance assigned to those criteria considered most important for evaluating applicants for entry-level positions was consistent among respondents. However, there was sometimes considerable variability in that assigned to other criteria, especially for applicants considered for positions with international responsibilities. Comparisons were made between respondent groups based on the characteristics of their firms to explore this. Firm groups were defined based on their need for students with international experience and the form and scope of their partnerships with the academic community in providing students exposure to, and experience in, international business.

Member responses were first grouped according to their firm's involvement in collegiate curricula. Involvement was defined by member response to queries about the level of participation by their firm in any 2- or 4-year collegiate program. Members were asked how many times each year they invite students for tours, provide speakers about international business, and provide internships with international responsibilities. Eighty-nine percent of firms provided a non-zero response for at least one of the three activities. Fifty-seven percent of firms invited students for tours (the average number provided annually was five). Sixty-three percent provided speakers (the average number was four). Fifty-six percent offered internships with international-related duties (the average number was 2.8). There were few differences in level of importance assigned to criteria for general entry-level positions or those with international duties when firms that invite students for tours or provide international internships were compared with those that did not.

Alternatively, sometimes large differences were identified when responses of employees of firms that provide speakers about international business were compared with those who do not (Table 2). This was particularly true regarding consideration of applicants for positions with international responsibilities and the importance of international in-country experience and foreign language skills for applicants for all entry-level positions. The fact that firms providing speakers about international business found those criteria more important was not surprising. It may be more likely these firms are involved in international business and, therefore, value more highly applicants with skills and experience in this area. Members of firms providing speakers also valued leadership experience and technical expertise related to the position more than others.

These differences reveal that the viewpoints of those working with students are not always those more universally held. For example, a much higher level of importance was placed on an international agribusiness degree by those whose firms provide speakers than other respondents. There is a reasonable likelihood that students, and perhaps others within the academic community, will infer that this degree carries a greater level of importance to agribusiness firms in general than is actually the case.

The level of importance assigned to criteria used to evaluate applicants by members that do (15 percent), or are willing (48 percent) to, help faculty at colleges or universities in their area develop or refine international study programs were compared to those assigned by members who are not able to do so (Table 2).^{vi} In general, differences mirrored those found when firms that provide speakers were compared with others. This was expected because there was a great deal of overlap between the groups.^{vii} [Importance levels assigned to technical expertise and leadership experience were no longer different between the groups.] The same implication can be drawn. Those individuals willing to participate in curricular development *are those most likely to be those who will make a difference in such,*

Table 2: Member Valuation Differences Between Groups ^a

Criteria	Provide Speakers about International Business ^b			Aid in International Study Program Design			Have Employees Working Outside the United States		
	Yes	No	Sign. ^c	Do or Willing	Not Willing	Sign.	Yes	No	Sign.
Student Credentials [Interviews of New Agribusiness Graduates for Entry-level Positions]									
Leadership experience	6.97	6.13	.010	6.70	6.39	.368	6.54	6.76	.538
Technical expertise related to position	6.52	5.41	.049	6.00	5.89	.838	6.18	5.65	.350
Foreign language skills	5.27	3.86	.017	5.23	3.88	.013	5.21	4.25	.080
International in-country experience	5.40	3.21	.001	5.10	3.88	.045	5.21	4.00	.054
Personal farm background	4.43	4.20	.702	3.97	4.94	.097	4.32	4.35	.959
Student Credentials [Entry-level Positions Including International Duties]									
Competency in foreign language	5.77	4.67	.086	5.93	4.41	.010	5.81	4.88	.123
Intercultural communication courses	5.77	4.60	.028	5.80	4.53	.016	5.56	4.71	.115
International business courses	5.71	4.27	.004	5.80	4.24	.002	5.41	4.82	.244
Foreign internship	5.65	4.13	.004	5.80	3.88	.000	5.67	4.41	.015
Foreign study	5.58	4.13	.005	5.63	4.06	.001	5.59	4.41	.019
Degree in international agribusiness	5.32	3.53	.000	5.10	3.94	.020	4.78	4.59	.732

a. Responses indicate average level of importance on a scale from 1 = not important to 8 = very important.

b. Cell sizes are as follows: Provide Speakers About International Business, yes (31) and no (15); Aid in International Program Design, do or willing (30) and not willing (18); Employees Working Outside the United States, yes (28) and no (17).

c. One-way ANOVA.

but their input will not necessarily reflect that of the agribusiness community in general.

Finally, preferences of firms with employees working outside the United States and those without were compared. There was also considerable overlap between firms willing to help in international curricular design and those with employees working outside the United States.^{viii} As such, like differences in comparison with their less involved counterparts were expected and found. Generally, the magnitude of differences was not as great in the case of the latter (see Table 2). Firms with foreign employees assigned greater importance to foreign language skills and international in-country experience for general applicants than their counterparts. For entry-level positions including international responsibilities, foreign-employee firms assigned greater importance to student foreign internship and study experiences. They also assigned a greater average level of importance to competency in foreign language and intercultural communication course work although the differences were not statistically significant. No difference existed between the groups in level of importance assigned to an international business degree.

International Exchange Programs

Members were asked how they would design an international study opportunity for students who would later work for them so as to maximize the student's value to their firm. Thirty-four professionals defined such a program. A majority identified its focus to be in Latin America or a specific country within Latin America (53 percent).^{ix} Forty-four percent mentioned Asia, 29 percent Europe, 9 percent Eastern Europe, and 3 percent the Middle East (multiple responses were allowed). Other regions or countries mentioned included Africa, Australia, Canada, and Russia. Ideal length of the program averaged six months. Six percent specified a period of up to 2 months, 28.5 percent of between 2 and 6 months, 18 percent of 6 months, and 33 percent a program of more than 6 months. The longest duration was 12 months, mentioned by 10.2 percent of respondents.

In an aided question, professionals were asked to design the international study program by indicating the percent of "awake and ready" time that would be devoted to various activities. Averaged over all respondents, over forty percent was allocated to farm (20.6 percent) and agribusiness firm (21.1 percent) visits (Table 3). Classroom instruction including non-language attributes (16.5 percent) and language instruction (13.6 percent) comprised 30 percent of the program. Cultural exploration comprised 12.6 percent and "other" comprised 15.6 percent. Fourteen respondents included a non-aided response in their ideal program (other). Twelve referred to practical work experience with a company, one to classroom and practical training, and one to students teaching locals about agribusiness. Practical work experience was not included as an aided response. It is largely impractical for inclusion in most study abroad programs because of lack of language fluency among our agribusiness students (Kennedy and Harrison) and complexities associated with foreign employment laws. It is

no doubt a major reason that overseas internships for U.S. business students are limited and their development is complex (Kedia and Cornwell).

Programs designed by respondents expressing a willingness to aid in the development of international study opportunities for students and those whose firms explicitly support international programs and hire student employees or interns were not, in general, unique. One notable exception was that those willing to help with international program design would devote less time to cultural exploration (10.4 percent) than others (17.5 percent). The lack of substantial differences between the programs designed by respondent groups implies that, if the aid of those willing to help is enlisted, resulting programs will likely reflect general preferences among responding members.

The program designed by the average firm with foreign-based employees differed from that designed by others (Table 3). The former specified a larger component of classroom instruction, including non-language and particularly language instruction, and cultural exploration. They devoted less of the program to farm and agribusiness firm visits and in-country work experience. A smaller percentage (36.4 percent) included the unaided category of in-country work experience when compared with others (55.6 percent). Firms with foreign-based employees may be more aware of the difficulties associated with existing language and cultural barriers and thus may be less likely to see it as a viable option for a study abroad program.

Table 3: Ideal Design of International Study Opportunity for Students ^{a,b,c}

Study Program Component	Overall mean	Firm has employees working outside the United States		sign. ^d
		yes	no	
Non-language classroom instruction	16.5	18.03	11.67	.134
Language instruction	13.6	16.31	7.22	.005
Farm visits	20.6	19.57	25.56	.414
Agribusiness firm visits	21.1	20.28	26.67	.225
Cultural exploration	12.6	12.60	7.78	.179
Other ^e	15.6	13.21	21.11	.390

a. Indicates percent of “awake and ready” time devoted to study program component.

b. Thirty-four professionals responded to this inquiry.

c. Percentages may not add up to 100 due to rounding.

d. One way ANOVA.

e. Other includes the non-aided response of fourteen respondents for inclusion in their ideal program. Thirteen of them referred specifically to practical agribusiness experience.

Finally, differences were identified in the programs as defined by those participating in 2- or 4-year collegiate programs by inviting students for tours, providing speakers about international business, and/or providing internships with international-related duties and their less involved counterparts. Surprisingly, respondents from firms that invite students for tours assigned less

time to agribusiness firm visits (16.0 percent) than those from firms who do not (26.5 percent). This difference was not completely reconciled by the higher percentage of time the former allocated to in-country work experience (18.9 percent) as compared to the latter (11.6 percent). Respondents whose firms provide international business speakers devoted less time to farm visits (17.2 percent versus 28.8 percent by others) and more time to both language and non-language instruction. Respondent firms providing international internships would devote a much larger percent of time to cultural exploration (16.1 percent) than others (6.7 percent).

Conclusions / Discussion

The purpose of this study was to acquire information about agribusiness preferences for, and participation in, agribusiness education. Although a diverse set of firms comprised the respondent group, limiting the population to IAMA members allowed for a focus on individuals with an express interest in international agribusiness likely to consider applicants with related skills and experiences. Approximately one-third of the customers and the sales of the average firm were foreign, and one-fifth of their college graduate-level positions required foreign language competency. The lack of language competency among graduates of existing agribusiness curricula in the United States may be an obstacle for American students with aspirations to work in the international marketplace. Respondents overwhelmingly identified Spanish as the language of highest priority. This concurs with the findings of Lundstrom, White, and Schuster who attributed the importance of this language to its more general applicability and the fact that fewer South American executives speak English than their counterparts elsewhere in the world.

Marketing Applicant and Program Credentials

Considerable agreement existed among respondents that communication and interpersonal skills are the most important criteria for evaluating applicants for entry-level positions. These findings concur with the literature (e.g., see Litzenberg and Schneider; Lundstrom, White, and Schuster) and highlight questions that should be asked about existing agribusiness curricula. Do they include a preponderance of courses designed to facilitate development and improvement of interpersonal and communication skills? Do they include outcome testing for these components to evaluate success? The consistent message from respondents about the importance of these skills also implies that they need to be well marketed. It is common to see leadership experience noted on a student's resume. Often lacking, however, is mention of those skills and experiences that otherwise reflect an applicant's ability to communicate and work with others. These should be highlighted in materials for *general distribution* to potential employers, by programs and their individual graduates.

Although international work experience, foreign language skills, and farm background were not considered important by the average respondent, there was considerable variation in response. There is demand for these skills and

experiences among only a subset of firms. The demonstrated variability in what firms value underscores that collegiate recruiters and program directors need to be keenly aware of each others' needs.

Does Industry Value International Education?

The relatively low ranking assigned to student preparedness for positions with international duties was surprising given the respondent population. The same phenomenon was identified by Litzenberg and Schneider who did not appear deterred in their belief that international education would become increasingly important to the discipline of agribusiness. In fact, they identify steps academic departments should take to ensure students are prepared for the international marketplace. This is despite evidence that the agribusiness firms they surveyed did not consider proficiency in this area to be important.

There are a number of possibilities that help reconcile the fact that what is reported throughout much of the literature to be an important curricular component does not appear to be held in the same esteem by agribusiness firms. One possibility is perhaps the most obvious from the data. International skills and experiences are not considered important in general but are considered very important by a number of firms (segmentation effect). Not all firms have a need for entry-level employees with skills related to the international marketplace, even within the organization of IAMA. A second possibility is that firms may believe that skills and experience in the international arena can (and perhaps should) be gained on the job and that an applicant's ability to learn on the job will be enhanced by other skills more generally considered important (e.g., interpersonal and communication skills). A related possibility is that international preparedness might be valued but less so for entry-level than for more senior positions. Fewer entry-level positions, those for which new graduates are likely to be considered, include international responsibilities. The data collected from the current survey does not allow for inferences regarding respondents' beliefs about when, and in what context, employees should receive international education. However, both possibilities afford consideration to providing opportunities for executive and other continuing education in international agribusiness.

A fourth possibility is that there are not enough graduates (new or experienced) with exposure to the international marketplace for it to be a criterion by which agribusiness firms generally select applicants for interviews and employment. The number of such graduates is unknown. However, in a survey of upper-level business students at six universities, Tillery, Cudd, and Rutledge found that a majority were not interested in a career in international business even though they strongly agreed it would provide them a competitive advantage for career advancement. Fewer than 10 percent had been advised to seek a career in international business. Evidence from the literature helps explain why. Jensen found a strong interest among forestry undergraduates in international affairs and global resource issues. However, few students were enrolled in the university's international forestry degree. He identified the most important

constraints for students to be the opportunity cost of additional course requirements (particularly foreign language), that few international courses were offered, and the difficulty in managing a compulsory overseas internship.

Two additional explanations for the gap between the supposed importance of internationalized curricula and that identified here and elsewhere relate to methods employed to elicit industry demand. One is that those surveyed may exercise little actual influence in the new-hire process. The second raises the question of domain validity. Did the survey instrument measure accurately and completely the dimensions of importance in graduate preparedness for a position with international responsibilities? Aided (defined) factors and a closed-format of questioning were used to identify dimensions of supposed importance. Responses to unaided, open-ended questions may have provided more insight regarding credentials important in predicting employee success in the international arena. Thus, the relatively low level of importance industry assigns to the international preparedness of applicants may be, in part, reconciled by posing less structured questions to those individuals who actually screen and interview them.

A final possibility to explain what appears to be a lack of industry interest in the international exposure of applicants is that the skills and experiences the academic community has identified as important to prepare students for a career with international responsibilities are not those valued by industry. That is, the general leap frequently made in the literature from a more globalized economy to the need for graduates educated and with experience in the international arena is ill-directed. Institutes of higher education have made strides in increasing the number and scope of international experiences for their students in response to the increasing globalization of the marketplace (Kennedy and Harrison). However, there appears to be at best ambiguous evidence that industry considers this to be an educational priority. Supporting this is corollary evidence from the academic community. The results of the recent 10-year follow-up of administrators of business schools throughout the world revealed that the major pedagogical objective of most programs relating to international business continued to be *awareness* at the level of the bachelor's degree (74%), whereas the development of *expertise* was much less prevalent and confined to typically one functional field (e.g., marketing) (Arpan and Kwok).

Strategies for Enlisting Industry Support

Overall, the findings of the current study do not support curricular internationalization as an important priority for agribusiness education. This may contribute to the lack of support by industry for international experiences for agribusiness students. Only 6 respondents reported explicitly supporting international exchange programs (e.g., through scholarships) and only 12 reported implicitly doing so. Fifty-seven percent indicated they would be less willing to hire a student intern if they could not offer contiguous summer employment because of their participation in a study abroad program while only 28 percent were more willing. Only 15 percent of respondents indicated they are

working with departments on the refinement or design of study abroad programs. On a more positive note, nearly half indicated they would be willing to do so. Thus, although there does not appear to be widespread industry support for the internationalization of agribusiness curricula, it may be that this support has simply not been exploited. Academic departments may benefit from contributing resources to educating agribusiness firms about how they can participate and the value of doing so for their firm.

The overall sparse involvement of industry in the international experiences of college students may be due in part to conflicting interests (e.g., competition with summer employment pools). However, their participation cannot be ruled out. Strategic partnerships incorporating firms with an international component offer one solution. Most firms already partner in some way with their local colleges and universities (e.g., by providing speakers, offering tours of their facilities, or hiring student interns). Other forms of their participation in international programming could be billed as merely extending already successful relationships.

Selecting industry partners should not be a passive process. Results demonstrate that the needs of firms currently partnering with colleges and universities differ from those of their less involved counterparts, sometimes substantially and particularly for criteria related to student preparedness to participate in the international marketplace. Academic departments should hear from a variety of firms who would consider their students and not simply those who visit the classroom or are more willing to provide input into the curriculum. And, the process of internationalizing an academic program should be approached as that—a *process*—in which goals of the programs are well matched with the needs of their business constituents.

In sum, there is strong concurrence within the industry that, however achieved, graduates need to be proficient in working and communicating with others. Alternatively, the level of recognized need for international training differs among employers. Thus, explicitly involving industry partners (e.g., those likely to hire departmental graduates) and their needs might be more successful than a generalized strategy. A strategy involving targeted relationship building offers the greatest likelihood of success in that it is more likely to satisfy the needs of both parties, maximizing the use of joint resources, and thereby, providing the basis for long-term mutual satisfaction.

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End Notes

ⁱ One reviewer pointed out that curricular design and revision can be difficult and time-consuming for academic units even when industry input is not elicited as a formal part of the process. For this reason and because, the reviewer points

out, faculty may assume they have a good understanding of the needs of agribusiness firms, external industry input is often not directly sought.

ii One reviewer noted that human resources personnel, rather than the executives who comprise much of the IAMA membership, are more likely to screen and hire applicants. However, the objective of the survey was to ascertain what executives consider important rather than how this has been articulated to, and interpreted by, those in human resources. *Executives* are the typical recruitment target for collegiate advisory boards for the experience and perspective they bring to discussions, as well as their influence in corporate policy. Certainly, the comparison would be interesting.

iii Average level of importance assigned to leadership experience was not different than that assigned to quantitative skills ($p = 0.253$).

iv Average level of importance assigned to grade point average was not different than that assigned to personal farm background ($p = 0.157$).

v The level of importance assigned to a degree in international agribusiness was different than that assigned to foreign language competency and both international communication and business courses. Differences of importance of degree from that assigned to foreign internship and study were significant at the ten percent level. All other differences were not significant.

vi Academic units in agribusiness have not fully heeded the suggestion of various authors that industry be enlisted as a partner in curricular development (e.g., Lundstrom, White, and Schuster; Farm Foundation; Bor, Bryden, and Fuller; Kennedy and Harrison). Unless there are high administrative costs associated with involving agribusiness firms in curricular design, as was suggested by one reviewer, the fact that almost half of willing individuals have not been enlisted to partner in curricular design is reflective of an important untapped resource.

vii Three-fourths of members who do, or are willing to, help with international program design reported that their firm provided speakers about international business as compared to only 52 percent of those who are unable to help. Seventy percent of those who provide speakers about international business do, or are willing to, help with international program design as compared to only 47 percent of others.

viii A larger percentage of firms with employees working outside the United States (70 percent) was willing to be involved in the design of international study programs than of those without international employees (53 percent). A larger percentage of firms with employees working outside the United States (70 percent) was willing to be involved in the design of international study programs than of those without international employees (53 percent).

^{ix} This compares with the query of members of the American Marketing Association by Lundstrom, White, and Schuster about which specific world regions the future international marketing manager should have knowledge. The overwhelming response was the Asia/Pacific region. Then, in descending order were Western Europe, Central America, South America, Eastern Europe, Africa, and the Middle East. More recent developments in the Free Trade Area of the Americas may have contributed to member interest in the Latin American experience for students in the current study.