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Assessing New-Graduate Applicants: Academic Perceptions and Agribusiness Realities

Cheryl J. Wachenheim and William C. Lesch

This study empirically compares the level of importance assigned to the knowledge, skills, and experiences of applicants for entry-level positions by members of the agribusiness community and how these criteria were perceived by chairpersons of departments of agricultural economics. Chairpersons had a good understanding of criteria important to employers in evaluating applicants and how they prioritize these criteria. Communication and interpersonal skills were ranked as the most important criteria by both groups. Industry members assigned lower levels of importance for formal international training, an attribution largely shared by academic counterparts.

Key Words: agribusiness, agricultural economics, curriculum, international education, international exchanges

> *Employers want the "total package" when they hire their next college graduates. Not satisfied with academically well-prepared graduates, employers want individuals who possess and can demonstrate excellent communication and interpersonal skills, teamwork, leadership, and computer/technical proficiency. A willingness to learn quickly and continuously, problem-solve effectively, and use their common sense is also desired. New employees must also be hard-working, take initiative, and be able to handle multiple tasks.*
>
> — Collegiate Employment Research Institute, "Recruiting Trends," 2002, p. 3

Knowledgeable academicians fulfill a valuable information transfer function in the preparation of new college graduates. But just how good is the fit between the overall needs of the market for new graduates and the "product" academic institutions have to offer? Answering this question is imperative to the overall positioning of a collegiate program and its graduates with one of its major customers—employers of new graduates. To remain competitive, academicians need to regularly review the needs of these firms (Cole and Thompson, 2002; Larson, 1996). Generating knowledge regarding the extent to which new graduates are prepared for employment is also important to satisfy some level of societal accountability with respect to institutional contributions.

Cheryl J. Wachenheim is assistant professor, Department of Agribusiness and Applied Economics, North Dakota State University, Fargo; William C. Lesch is professor, Department of Marketing, University of North Dakota, Grand Forks.
Appreciation is extended to the International Agribusiness Management Association, to the members and chairpersons who responded to our survey, and to two anonymous reviewers.

The process itself can serve as a conduit to facilitate discussion within and between individual academic institutions, between academic faculty and administrators and those employing their graduates, and among key decision makers at individual firms. Such discussions may motivate development or revision of an explicit list of expected/preferred applicant criteria, and a weighting of these criteria to reflect the culture and needs of the firm. This process is not unlike developing standards for admission of students into graduate school. Ethridge and Hudson (1996) argue that doing so may increase the probability of success of, and the uniformity among, those admitted and thus increase efficiency and reduce cost of training.[1]

What characteristics describe a new graduate well suited for employment? Quite generally, new graduates should have the skills, knowledge, and experience necessary to be or become successful in their chosen career. Furthermore, throughout the business community it is clearly understood that the human resources function must necessarily match the "whole person" with the "whole job" (Behling, 1998). Therefore, preparation must extend beyond mere content of a given field. Beyond areas of functional content, then, what makes for a desirable, well-rounded individual from an employer's perspective, and how do academic units identify these characteristics?

Desired characteristics can be inferred from market behavior or directly elicited from firms. Academicians and their supporting student employment services personnel use both methods. They learn what is valued in a student applicant by experience (i.e., paying attention to who is considered and eventually hired for various positions) and by talking with employers about their expectations and needs (e.g., during on-campus visits, at professional conferences). The latter method has unique advantages including reducing unidentified influencers (e.g., a unique situation that increases the value of a particular student competency). Further, explicit consultation with industry may also reduce the impact of curricular bias caused by existing faculty expertise and interests (Lundstrom, White, and Schuster, 1996).

There are also precedents for the formal query of firms about their expectations for applicants. For example, Kretovics and McCambridge (1998) queried employers by survey and identified expectations in three key areas: technical skills, communication skills, and personality characteristics. On the latter characteristic, Behling (1998) identified at least five dimensions relating to personality which were important to job success: extroversion, emotional stability, agreeableness, conscientiousness, and openness to experience.

Specific to the agribusiness environs, previous research has identified course preferences, and those regarding the skill-sets and backgrounds of *new applicants* as identified by employers and alumni [e.g., see Larson (1996) for a review of related literature]. In an earlier study, Blank (1987) elicited and compared faculty and alumni expectations of agribusiness curriculum content. Wolf and Schaffner

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[1] Ethridge and Hudson were unable to identify objective measures which predicted a student's probability of completing a graduate program. This may be due, at least in part, to the limitation that ex post facto evaluation involved only students who were admitted. The same limitation would apply to evaluating the efficacy of using objective criteria to evaluate the success of students interviewed or hired.

(2000) asked agricultural exporters in California to indicate the level of desirability of courses, and the skills and background of potential employees. Cole and Thompson (2002) elicited from agribusiness employers traits they considered desirable and undesirable for employees, and their level of satisfaction with graduates they had hired.

In their study assessing educational priorities, Litzenberg and Schneider (1988) asked agribusiness firms to rank general skills and characteristics of agricultural economics graduates. In their survey, the authors advised agribusiness firms that they have the opportunity to help direct agribusiness curricula at colleges and universities—but, to do so, the firms must be able to communicate their requirements to those institutions well positioned to provide the education which matches their needs. Litzenberg and Schneider further emphasize that relationships between the firm and its select institutions should be built and maintained. The importance of building these relationships, and the difference between this collaborative effort and "hiring new employees" was underscored during the labor market shortage of the mid-1990s, when the "bull market" favored suppliers. Several authors proscriptively outline how to develop these relationships between collegiate programs and firms (e.g., Grabczynski, 2000).

The objective of the current study was to explore how well agribusiness firms are communicating their expectations for new graduates to collegiate programs by assessing how well these expectations are understood. Industry preferences, including the knowledge, skills, and experiences of new graduates, were compared with how these preferences were perceived by chairpersons of departments of agricultural economics.

Methods

Data for this project were gathered using a mail survey of domestic members of the International Agribusiness Management Association (IAMA) and chairpersons of Departments of Agricultural Economics at the 1862 land grant universities in March 2001. Domestic members of IAMA were selected from among employers of graduates with degrees in agricultural economics because of their implied interest or involvement in international agribusiness, an involvement confirmed by the self-reported international activities of their firms.[2] Academic members of IAMA were excluded from this survey. A follow-up reminder e-mail message was sent to each member, and additional survey mailings were sent to those who indicated they had not responded, but wished to do so.

Of the 241 questionnaires mailed and not returned as undeliverable, 40 were completed. The resulting response rate (20.3%) was relatively high for a cold mailing to a business address when compared with other published work. For example, it compares favorably with the 12.3% response rate for agricultural exporters achieved

[2] The survey further explored preferences among industry members of IAMA regarding the design of a study-abroad program for undergraduate students. These preferences are described in Wachenheim and Lesch (2002).

by Wolf and Schaffner (2000), and the 6.25% response rate obtained from among American Marketing Association members by Lundstrom, White, and Schuster (1996).

A second survey instrument was sent to chairpersons of Departments of Agricultural Economics at each of the 1862 land grant institutions. Of the 52 initial contacts, 30 provided usable returns, giving a response rate of 58%. We were pleased with the interest in our survey among department heads, particularly after reading of the frustration experienced by Cole and Thompson (2002, p. 42) regarding the lack of feedback from land grant institutions: "Unfortunately, many of the institutions refused to respond to the correspondence, or stated that they were willing to send the requested materials which were never received...."

Members of IAMA were queried about the operation and characteristics of their firm and their employment needs. Respondents were asked to indicate the level of importance of a student's background, performance, and skills to their marketability or employability. Aided factors for which members indicated level of importance on an eight-point Likert scale (where 1 = not important and 8 = very important) included grade point average, activities, teamwork, communication and interpersonal skills, leadership experience, technical expertise, quantitative skills, international experience, foreign language skills, and farm background.

To minimize the length and scope of the survey, applicant characteristics included in previous studies, such as dependability and completion of an internship, were not included. There is ample evidence in the literature to show internships are a curricular component valued by employers and students (e.g., see Cole and Thompson, 2002).

The importance attributable to student credentials for entry-level agribusiness positions including at least 25% international-related duties was also elicited from our survey respondents. Considerations included foreign language competency, courses in international business and intercultural communication, foreign internship and study experience, and an international agribusiness degree. Member opinions regarding entry-level agribusiness positions with and without a focus on international agribusiness were compared with those opinions which chairpersons believe employers hold. A one-way analysis of variance was used to test for differences in average level of importance assigned by the two groups.

Results

Respondent Characteristics

Characteristics of Agribusiness Firms

Firm type among respondents was quite diverse and included those producing and marketing agricultural inputs (e.g., seeds, genetics, chemicals, equipment), agricultural commodities, and food products, and those specializing in internet, investment, trade, purchasing, food distribution, and consulting. Sales volumes and number of

customer accounts characterize the population of firms as ranging from small enterprises to those of considerable size. Most respondents were in senior management.[3] By and large, respondents reported themselves or their firms to be engaged with academic partners. Overall, 89% of firms participated by giving tours to students or offering international internships (57% of firms for each), or providing speakers on the topic of international business (67%).

Characteristics of Department Chairpersons

Characteristics of chairperson respondents represented well the population of the 1862 land grant universities in the United States and their Departments of Agricultural Economics. The number of undergraduate students at respondent universities averaged 25,195, and ranged from 8,500 to 53,000. The average number of departmental undergraduates was 195, with a range from 35 to 816. Number of faculty ranged from 7 to 60, and averaged 24. Chairpersons reported an average of nearly half of their faculty had worked or studied in a foreign country (with a reported range of 16.7% to 100%). Few students were reported to participate in a foreign study or work experience of any length.

Eighteen percent of responding departments offered a degree with a specific focus in international issues. Those with such a degree offered a larger number of courses including an emphasis on international issues, and reported a higher percentage of faculty who had worked or studied in a foreign country and of students who had participated in an international study or work exchange of at least one semester.

Comparison of Agribusiness Valuation of Student Credentials with Academic Perceptions

The level of importance assigned to various criteria for student applicants for entry-level positions and for those with international responsibilities assigned by IAMA members were compared with how these criteria are perceived by agricultural economics departments' chairpersons.

Applicants for Entry-Level Agribusiness Positions

As shown by table 1, academic chairpersons appear to have a good understanding of what IAMA members value in the applicants they consider for interviews. Both groups assigned the highest level of importance to interpersonal and communication

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[3] One reviewer noted that senior managers may not know what criteria their firms are using to evaluate new applicants. We concur, and add that senior managers may not have a good understanding of the characteristics they desire for an (even entry-level) applicant, or may not well communicate these preferences to human resources personnel at the firm. There does not appear to be any literature addressing whether considering the input of senior management regarding characteristics of new hires is efficient and would lead to the hiring of more productive employees. Consequently, the extent to which the input of senior management is considered in hiring by agribusiness firms is an interesting but, to the best of our knowledge, unanswered empirical question.

Table 1. Comparison of Agribusiness Valuation and Chairperson Perceptions of Credentials: General Entry-Level Positions

	Agribusiness Firms			Department Chairpersons			
Criteria	Rank	Average (S.D.)[a]	% Rating Important[b]	Rank	Average (S.D.)[a]	% Rating Important[b]	Signif-icance[c]
People skills	1	7.29 (0.94)	95.9	1	7.14 (0.85)	100.0	0.507
Written and oral communication skills	2	7.27 (1.03)	97.9	2	7.07 (0.90)	92.9	0.396
Evidence of teamwork skills	3	6.98 (1.07)	93.7	4	6.36 (1.06)	78.6	0.016
Leadership experience	4	6.61 (1.15)	87.7	3	7.04 (0.96)	92.9	0.104
Quantitative skills	5	6.37 (1.10)	81.2	8	5.11 (0.83)	31.0	0.000
Technical expertise related to position	6	6.00 (1.80)	72.4	7	5.71 (0.98)	53.6	0.441
Curricular and co-curricular activities	7	5.96 (1.53)	69.3	6	5.89 (0.87)	71.4	0.834
Grade point average	8	5.88 (1.27)	75.5	5	6.07 (1.09)	67.9	0.500
Foreign language skills	9	4.81 (1.80)	38.3	11	4.18 (1.66)	32.1	0.136
International in-country experience	10	4.72 (2.00)	29.8	10	4.25 (1.60)	21.4	0.290
Personal farm background	11	4.29 (1.92)	29.2	9	4.28 (1.91)	34.3	0.928

[a] Responses indicate level of importance on an eight-point Likert scale, where 1 = not important and 8 = very important; S.D. denotes standard deviation.
[b] A rating of "important" is defined as 6 to 8 on the Likert scale.
[c] Significance of difference between average level of importance assigned by agribusiness firms and department chairpersons based on one-way analysis of variance.

skills. Among the top four criteria for both industry and academic respondents were people skills, written and oral communication skills, teamwork skills, and leadership experience.

Agribusiness professionals considered several criteria to be more important than chairpersons' attributions (although only two of these differences were statistically significant). Industry respondents assigned higher levels of importance to evidence of teamwork and quantitative skills than was perceived by chairpersons. Members also considered the two criteria directly related to the international marketplace—foreign language skills and international in-country experience—numerically (but not statistically) more important for applicants for general positions.[4] The numeric

[4] There was considerable variation in level of importance assigned to each of these criteria within both groups.

difference was expected because agribusiness respondents were all members of an organization with an international emphasis, but chairpersons were asked to provide their perceptions about the value of various criteria to agribusiness firms in general. Consistency of responses between the two groups (academic chairperson attributions of importance and those actually assigned by IAMA members) was similar for most criteria.

Positions with International Responsibilities

Chairperson perceptions about the level of importance employers assign to various criteria for applicants for positions with at least 25% international responsibilities and the importance reported by IAMA members in general also concurred (table 2). Academic chairpersons expressed a good understanding of what firms value in graduates applying for positions with international duties. In contrast to their perceptions regarding firm evaluation of general entry-level position applicant criteria, chairpersons overestimated the level of importance members place on foreign language competency, international business courses, and foreign work and study experience, although only the latter difference was statistically significant. Specifically, 70% and 74% of chairpersons perceived foreign internship and study experience, respectively, to be important to members, while only 46% of members actually considered these criteria important. Members assigned intercultural communication courses and a degree in international agribusiness a higher degree of importance than chairpersons perceived they would, although neither difference was significant or large. The average chairperson ranked these choices relatively low among the criteria. The low ranking assigned to a degree in international business is supported by the fact that a minority of departments actually offer such a degree at the undergraduate level.

Discussion

From an academic perspective, the results of this investigation are reassuring. The levels of importance assigned by IAMA members to most of the criteria describing the skills, knowledge, and experience of student applicants for entry-level agribusiness positions and those with international responsibilities are not different from what chairpersons perceived them to be. Chairperson perceptions about member valuations were fairly accurate. These findings support those reported by Wolf and Schaffner (2000) who found that faculty at Cal Poly San Luis Obispo generally concurred with executives of California agricultural exporting firms regarding the relative importance of courses for a concentration in international agribusiness.

In the current study, communication skills and those relating to an ability to work well with others were ranked as the most important by both groups. This finding corresponds to factors identified by the more general population of agribusiness firms surveyed by Litzenberg and Schneider (1988) in the mid-1980s, and the conclusion drawn by Larson (1996) from a review of the literature—agribusiness firms

Table 2. Comparison of Agribusiness Valuation and Chairperson Perceptions of Credentials: Positions with International Responsibilities

	Agribusiness Firms			Department Chairpersons			
Criteria	Rank	Average (S.D.)[a]	% Rating Important[b]	Rank	Average (S.D.)[a]	% Rating Important[b]	Signif-icance[c]
Competency in foreign language	1	5.44 (2.01)	60.4	1	5.91 (1.70)	65.2	0.331
Intercultural communication courses	2	5.33 (1.75)	52.1	5	5.00 (1.71)	47.8	0.452
International business courses	3	5.27 (1.62)	58.3	3	5.70 (1.46)	69.6	0.290
Foreign internship	4	5.13 (1.68)	45.8	4	5.65 (1.64)	69.6	0.217
Foreign study	5	5.08 (1.65)	45.8	2	5.83 (1.23)	73.9	0.059
Degree in international agribusiness	6	4.73 (1.69)	35.4	6	4.43 (2.00)	39.1	0.519

[a] Responses indicate level of importance on an eight-point Likert scale, where 1 = not important and 8 = very important; S.D. denotes standard deviation.
[b] A rating of "important" is defined as 6 to 8 on the Likert scale.
[c] Significance of difference between average level of importance assigned by agribusiness firms and department chairpersons based on one-way analysis of variance.

and program alumni in general suggest more emphasis be placed on communication skills and business. The current results also support findings recently reported by Cole and Thompson (2002). The graduates surveyed in their study recommended additional general education courses, such as communication, be included in the two-year curriculum. Firms surveyed by Cole and Thompson identified writing skill improvement as their number one suggestion for program improvement.

Despite their noted importance among employers and alumni, course requirement increases in the subject matter areas of communication and business skills within agribusiness programs were surprisingly small between the early 1980s and the mid-1990s (Larson, 1996). Courses in written and oral communication comprised only 9% of the required curriculum for the average agribusiness program. Larson recommended increasing communication course requirements or adding writing and presentation assignments to existing agricultural economics courses to help students become more proficient communicators. The results of our study support this recommendation: The message from industry remains that, however achieved, graduates need to be proficient in working and communicating with others. Furthermore, this message appears to be well received by chairpersons of academic programs.

There was no statistical difference in the level of importance assigned to people skills, a characteristic demonstrating interpersonal prowess. However, on average, chairpersons overestimated the value of leadership experience to industry and underestimated the value of teamwork skills. These differences do not necessarily imply faculty should de-emphasize the importance of assuming leadership responsibilities

or developing related skills, but rather, they might also emphasize teamwork skills as an important component of leadership. For example, exhibition of leadership tendencies of either extreme (i.e., taking on a majority of the work of an organization alone or, alternatively, delegating most of the work to others) may be less attractive to those considering student applicants than leadership activities which include building and being part of a strong, cohesive team.

IAMA members also valued the quantitative skills of applicants more than chairpersons realized. The difference was quite large. The results do not allow for speculation about whether the gap is due to differences in how the two groups define quantitative skills, or whether it manifests itself in a curriculum which underprepares our students in this area. Regardless, this disparity does reinforce that employer needs regarding quantitative skills should be carefully assessed, including the nature and scope of such skills, and the curriculum should ensure graduates continue to remain competent in these proficiencies.

Conversely, chairpersons had a good understanding of the level of importance assigned by members to technical expertise related to the specific position for which a student is being considered. Agribusiness firms may be more comfortable hiring entry-level applicants possessing the basic quantitative tools and then providing them with specific technical expertise in-house. The value of an applicant with strong basic skills was underscored earlier by Wolf and Schaffner (2000). They determined that neither executives nor faculty reported country-specific topics or narrowly focused areas important enough to include in the curriculum, believing such detail is probably best left to on-the-job training and community colleges.

Although not statistically significant, numeric differences between the level of importance assigned by IAMA members and by chairpersons to foreign language skills and international in-country experience were evident. The fact that members considered these skills more important for general applicants was not surprising, given their implied interest in international agribusiness. Therefore, it *was* surprising that the level of importance assigned by members was lower than perceptions held by chairpersons for four of the six criteria related to the preparedness of students to work in positions with international responsibilities. Moreover, the percentage of respondents who considered a criterion important was higher among chairpersons for all criteria except international communication, and was substantially so for foreign internship and study experiences.[5]

This and other studies in which firm input was formally elicited do not support the level of importance assigned to international business as a curricular component throughout much of the relevant academic and popular literature. For example, Kennedy and Harrison (1996, p. 173) state, "Firms competing in international markets recognize the need for future hires to have a better understanding of diverse cultures, international finance, customs, regulations, and other skills necessary to compete in a global environment." In spite of this type of proclamation throughout the literature,

[5] As variation in response was relatively large, particularly by members, the only statistically significant difference was the higher level of importance of foreign study perceived by chairpersons than assigned by agribusiness firms.

students trained in the area of international business do not appear to be held in the same esteem by agribusiness firms as may be generally believed. The difference between what is generally thought to be true and what firms report may be the result of a combination of factors. These factors are detailed in Wachenheim and Lesch (2002) and are summarized below.

One possibility for this contradiction is that international skills and experiences are not considered remarkably important by industry in general because, although they are considered very important by some firms, they are unimportant to others (i.e., the market is segmented). Second, it is possible firms believe skills and experience in the international arena can (and perhaps should) be gained on the job. Related possibilities may also contribute to these apparent disparities. International preparedness is of value, but less so in entry-level than for more senior positions, and there may not be 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. Finally, the general "leap" frequently expressed in the literature from a more globalized economy to the need for graduates educated and with experience in the international arena is possibly ill-directed.[6] Regardless of the source of the relatively ambiguous results regarding the importance of various international skills and experiences held by applicants for entry-level positions, the findings of the current study do not support curricular internationalization as an important priority for agribusiness education—and chairpersons in agricultural economics seem to recognize this.

The large variability in responses among agribusiness firms, even among organizations with a relatively specific focus, reinforces the importance of matching skills and experiences of students to a particular type of position or company, or at least the communication of these skills and experiences during the application process. Specifically, while there is a relatively high degree of consistency among chairpersons in their perceptions of what agribusiness firms value and, in most cases, these perceptions closely match what firms do in fact value, our findings show the needs of individual firms differ, at times substantially. Thus, academic units would be wise to identify and partner with those firms which consider their students, and actively work to ensure open channels of communication regarding the needs of these firms. There is evidence to suggest some academic units may already be employing this practice. For example, Larson (1996) suggests the range in emphasis among agribusiness programs is perhaps attributable to differences in the educational needs of the firms employing their students and the competitive advantages and educational philosophies of the individual programs.

Ongoing relationship building between firms and academic departments, such as advocated by Grabczynski (2000), should be an important part of strategic planning

[6] Other possibilities may be related to methods employed in the current study and other studies. For example, asking open-ended (versus closed, aided) questions to those individuals actually considering graduates for entry-level positions (versus firm executives) may in part reconcile the gap between our findings and those more generally hypothesized.

for those on both sides, as it is likely to improve market efficiency in the allocation of new graduates as well as the performance of both market members. This strategy is particularly important, as there is evidence showing agribusiness employers are not necessarily motivated to utilize more traditional means of assessing students—such as providing internships or recruiting on campus (see, e.g., Cole and Thompson, 2002). This same evidence suggests a majority of employers do review resumés, conduct interviews, check references, and examine transcripts of targeted students. Clearly, these employers expect to hire students well suited to their firm's individual needs.

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