Addressing the Needs of the Agribusiness "Fringe"

By

Dr. Ronald B. Larson

Department of Marketing, Western Michigan University,

1903 West Michigan Avenue, Kalamazoo, MI 49008-5430

Selected Paper prepared for presentation at the Agricultural & Applied Economics Association's 2013 AAEA & CAES Joint Annual Meeting, Washington, D.C., August 4-6, 2013.

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Abstract:

Students studying "fringe" agribusiness sectors (e.g,, supermarkets, textile manufacturers, paper mills, wholesale nurseries etc.) need more business training. Attempts to serve these sectors by broadening courses would probably add some topics and reduce others. The result could be less beneficial for students seeking careers in traditional "core" areas (e.g., agricultural sales, input supply, agricultural finance, cooperatives, and commodity marketing). Because the needs of these "fringe" areas are not uniform, "generic" agribusiness courses may not address all their specific business skill needs. One starting point could be to rotate part of the agribusiness capstone course so three major topics are covered in depth different semesters: supply chain management, human resource management, and regulations, public relations, and crisis management.

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Agribusiness was widely recognized as an important new field during the 1980s when its unique characteristics and needs were described. Sonka (1989) highlighted five ways agribusinesses may be different from other types of firms: 1) the unique cultural, institutional and political aspects, 2) the uncertainty from production, 3) the alternative goals and forms of political intervention, 4) the public sector's contribution toward development of technology, and 5) the variety of competitive structures in the agribusiness sector. Torok and Schroeder (1992) demonstrated that agribusinesses have distinctive features and may need specialized educational programs. They defined agribusinesses as food and kindred product manufacturers, apparel and other finished products manufacturers, food stores, apparel and hosiery stores, and eating and drinking places. When they compared the business problems agribusinesses had with those faced by nonagribusinesses, they found significant differences. Therefore, general business courses may focus on issues that agribusinesses do not believe are critical and may not emphasize the types of challenges faced by agribusinesses.

To generate topics for the agribusiness curricula, information was gathered from employers and alumni using focus groups (e.g., Bruening and Scanlon 1995) and surveys (e.g., Blank 1987; Litzenberg and Schneider 1987; Morrison and Edwards 1987; Blezek and Dillon 1991; Andelt, Barrett, and Bosshamer 1997; Harris 1989; Wolf and Schaffner 2000; Cole and Thompson 2002; Suvedi and Heyboer 2004; Zekeri 2004; and Onianwa et. al., 2005). Most of this feedback usually came from people in what could be called the traditional, "core" business

fields of agricultural economics (e.g., agricultural sales, input supply, agricultural finance, cooperatives, and commodity marketing).

An important question is whether the existing agribusiness courses and programs, developed using focus group and survey feedback from the traditional "core," can serve the needs of agribusiness firms outside the agricultural economics "core." This research reviews several surveys from alumni and employers from outside the traditional "core" and notes differences in the needs expressed by these groups. Encouraging students in "non-traditional," or "fringe," agribusiness fields to take "generic" agribusiness courses designed for individuals starting careers in areas such as agricultural sales, agricultural finance, or commodity marketing may not be appropriate. Broadening the coverage of agribusiness courses to include additional fields may reduce the emphasis on topics that traditional agribusiness students need. This paper proposes a different approach to meet the educational needs of students interested in, what some might call, the "fringe" segments of the agribusiness sector.

Background

The scope of agribusiness and agribusiness management curricula has been the subject of considerable discussion (e.g., Sonka and Hudson 1989; Beck 1990). The definition proposed by Davis and Goldberg (1957) included all operations that made items from farm commodities. This could be broadly interpreted to include any business involved in food, fiber, forestry, and horticulture: supermarkets and restaurants, textile manufacturers and clothing retailers, paper mills and printers, lumberyards and home builders, wholesale nurseries, florists, and landscapers. Using a sample of American Agricultural Economics members, Harling (1995) conducted a survey to identify the boundaries for agribusiness. He found general agreement that agribusiness

covered many of the traditional areas where undergraduate agricultural economics majors were employed: agricultural finance, input supply, and commodity marketing and processing. Although he did not ask about fiber, forestry, or horticulture firms, he did ask about food retailing and food service operations. More than half the respondents counted food retailing and food service operations as agribusinesses. Identifying which firms are included in agribusiness influences the breadth of topics covered in agribusiness courses.

At many universities during the late 1980s and 1990s, there was a surge of interest to offer some type of undergraduate agribusiness program. Colleges of Agriculture and Natural Resources experienced a decline in the number of degrees conferred (Figure 1) and agribusiness was perceived to be an option to attract students. Connor (1989; 1993) argued that agribusiness, a professional degree, should be a separate major from agricultural economics, a disciplinary degree. He suggested that agricultural economics departments should offer their own business courses that address the needs of agribusinesses. Teaching agribusiness courses could help make the degree distinctive from agricultural economics and business administration degrees, which was also one of White's (1990) recommendations. Thompson (1992) believed that undergraduate agribusiness students could still acquire the same financial management, marketing management, and business strategy skills that are in business school curricula. To assist with these developments, model agribusiness course outlines were proposed (e.g., Woolverton and Torok 1987; Westgren and Litzenberg 1989; and Fulton 1998) and curriculums were compared (Larson 1996). Over time, more undergraduates became interested in this major. Figure 2 shows that between 1991-92 and 2002-03, the number of agribusiness degrees awarded increased by nearly 76 percent. According to a survey, 75 percent of department chairs agreed or strongly agreed that their agribusiness degrees had helped them increase their undergraduate numbers (Dooley and

Figure 1. Bachelor Degrees Conferred by Colleges of Agriculture and Natural Resources, 1970-71 to 2010-11 (Source: Digest of Educational Statistics)

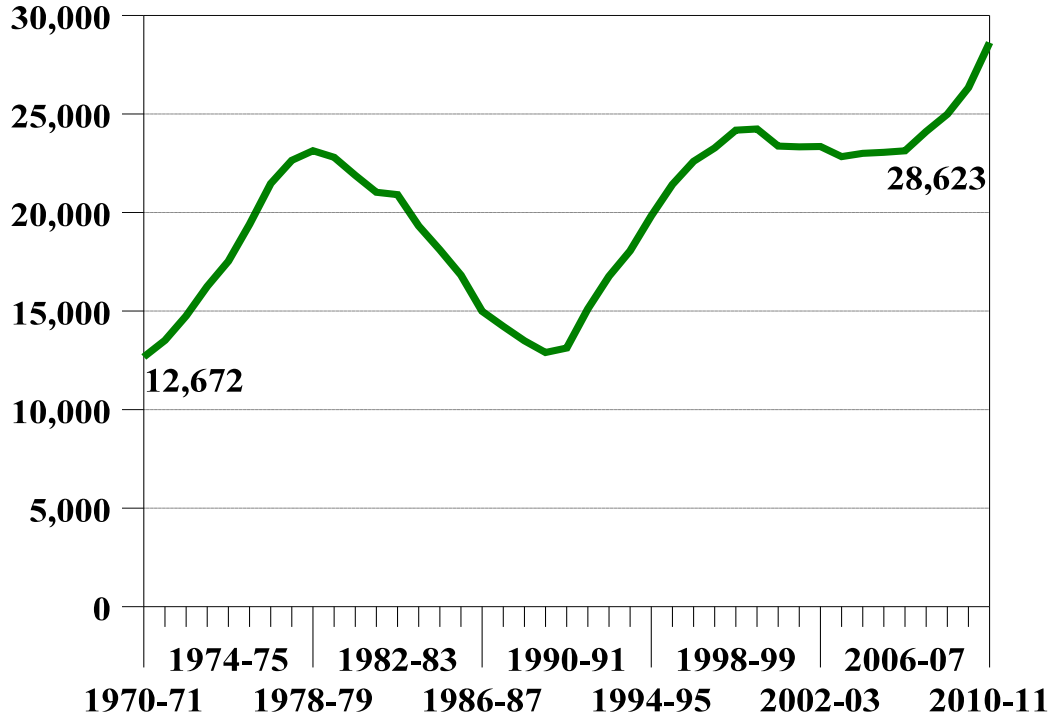
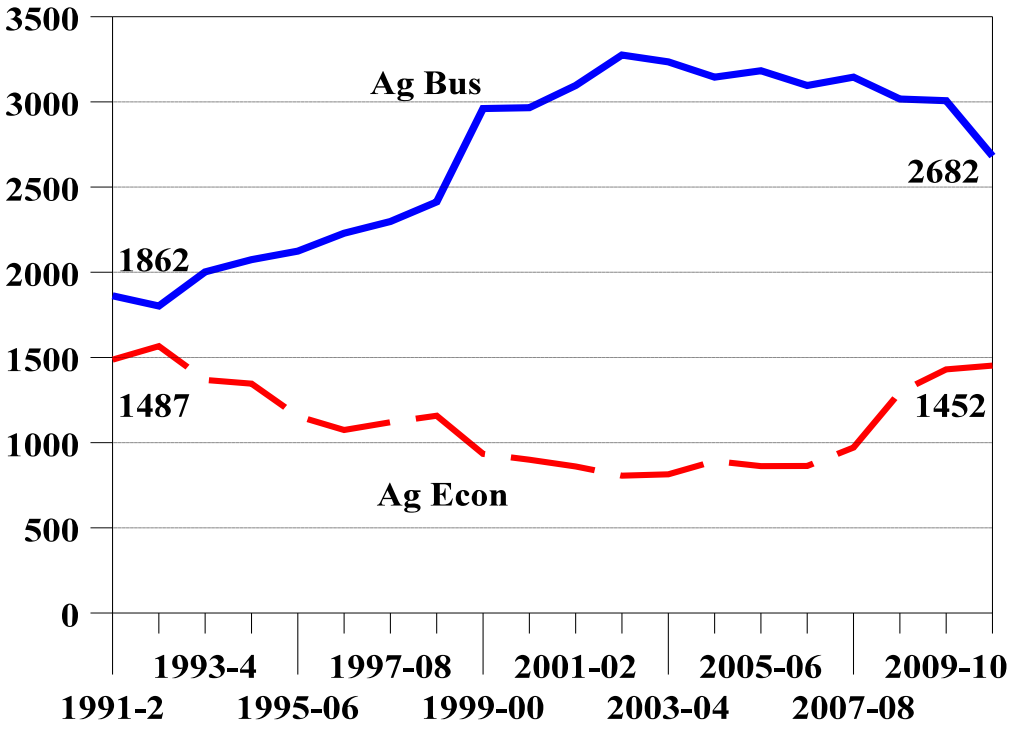


Figure 2. Bachelor Degrees Conferred in Agricultural Economics and Agribusiness, 1991-92 to 2010-11 (Source: Digest of Educational Statistics)



Fulton 1999). Compared to the average agricultural economics major, the typical agribusiness program required one less economics course, one less agricultural economics course, one more agribusiness course, and two to three more general business courses, depending on how general business courses were defined (Harris, Miller, and Wells, 2003). Departments have continued to use feedback from alumni and employers to modify their agribusiness-focused courses and majors (Wysocki et. al., 2003).

Over time, the coverage of agribusiness majors appears to have expanded. Surveys of other majors in Colleges of Agriculture found that alumni and employers recommended more emphasis on business topics (e.g., Nippo, 1983; Broder and Houston, 1986; Riesenberg, 1988; and Eggenberger and Cepica, 1990). Departments started promoting their agribusiness majors and minors as providing good training for students interested in working in any agricultural business. Curricula was modified in an attempt to cover all the diverse parts and issues in the agribusiness sector, making the courses more generic. Unfortunately, using the broad definition for agribusiness may have started to cause problems. A survey of employers found fairly strong evidence that agribusiness graduates had less understanding of basic business principles, of cultural and economic differences in international business, and of how the U.S. economy works in comparison to business school graduates (Miller et. al., 2005). The survey also found some evidence that agribusiness graduates had less ability to use computer technology, less understanding of the global nature of business today, and less understanding of the interdependence of business functions/departments.

There have been attempts at developing a new definition of agribusiness. Edwards and Shultz (2005, p. 66) proposed: *"Agribusiness is a dynamic and systemic endeavor that serves consumers globally and locally through innovation and management of multiple value chains*

that deliver valued goods and services derived from the sustainable orchestration of food, fiber, and natural resources." This definition continues to include the "fringe" areas as part of agribusiness. Ng and Siebert (2009) attempted to define the field of agribusiness management. They concluded that the agribusiness is unique because it requires many disciplinary approaches to address all the issues at the firm, inter-firm, and market levels. They state: *"it is such pluralism that serves to uniquely identify agribusiness management as a field in its own right."* (p.139).

Several suggestions have been offered to improve agribusiness education and address employer concerns. Padberg (1987) predicted that some departments would develop specialized programs for segments of the agribusiness industry. Boland and Akridge (2004) suggested that programs consider a niche strategy and focus on individual segments of the agribusiness sector to help differentiate programs and improve student education. Specialization creates three ongoing challenges: attracting sufficient numbers of students who are interested in the niche career path to fill classes and to satisfy recruiters (i.e., filling interview schedules), attracting support (e.g., scholarships, internship opportunities, and full-time employment offers) from employers who may be scattered across the country, and attracting sufficient resources to teach enough specialized courses to justify the existence of the niche program. Meeting these challenges may be particularly difficult unless programs expand their focus beyond state boundaries. One example of a program that fills a niche need at a regional, national, and sometimes international scale is Western Michigan University's Food and Consumer Packaged Goods (Food/CPG) major which is located in their business school. Industry feedback led to the creation of six custom-developed Food/CPG courses that only students in the major can take (e.g., Retail Merchandising, Category Management, Marketing Logistics, Food & CPG Sales etc.). Undergraduates must also complete

an internship in the industry, a marketing research course, as well as all business school core course requirements. Even with the program's long history of successes, faculty must constantly market the Food/CPG program to students, to employers, and to administrators.

Some agricultural economics programs have pursued an alternative to an in-house niche program and have developed joint programs with other departments or fields (Heilman et. al., 2002). The creation of interdisciplinary academic programs was an important trend in Colleges of Agriculture (Fields, 2005). These joint efforts offer significant opportunities if the curricula are designed to meet the needs of the employers in each field. An emerging challenge is to offer agribusiness courses that meet the needs of the students in these interdisciplinary programs.

Identifying Program Needs

The business portion of a curriculum should focus on student needs during the first few years after graduation. The original AGRI-MASS survey asked about 20 business and economics skills and 9 technical agriculture skills (Litzenberg and Schneider, 1988). Proficiencies in nearly all the business skills was rated as more important than proficiencies in the technical skills (crop production systems was rated above several business skills and food transportation/distribution, was rated above international trade and international economics). A survey of college alumni also found that most business and economics skills were rated as being more important to improve career experiences than technical agriculture skills (Preston and Broder 1990).

Harris, Miller, and Wells (2003) reported that the average agribusiness major required about 12.2 semester credit hours of technical agriculture. This is more than the 9.1 hours required by agricultural economics degree programs. It may not be enough to prepare students to work in some of the fringe fields. The needs of firms in the "fringe" are diverse. Some must deal

with perishable products or seasonal demand, so demand forecasting, supply chain monitoring, and inventory control may be particularly important. Others may involve much more labor supervision and motivation. For them, human resource management skills may be important. Still others may work with products that could be harmful to consumers if not handled properly. Working at these firms may require more regulatory knowledge and more public relations and crisis management skills. A "generic" agribusiness curriculum may lack the flexibility to provide students with the specific business skills that they need in their "fringe" agribusiness field.

Surveys on the skill needs of graduates have been conducted in a variety of areas such as animal science, plant science, crop, soil and environmental sciences, forestry, printing and paper science, food marketing, horticulture, and food science (e.g., Meyer, 1990; Long, Straquadine, and Campbell, 1992; Madewell, Savin, and Brye, 2003; Tindall, 2001; Larson et. al., 2005; Basinger, McKenney, and Auld, 2009; Bohlscheid and Clark, 2012). Most of these surveys have found that some additional business training could be helpful. However, the need for technical skill training was generally perceived to be much more important. One reason these results differ from the large, college-level surveys of alumni and employers is that all the fields were aggregated in the surveys. The rest of this section reviews many of these industry skill surveys and shows that business and technical skill needs vary by major.

In a survey of people working in the horticulture area, Larson (2007) found that the top technical skills (plant identification and nomenclature, plant disease identification and control options, and insect identification and control options) rated higher than all business and economics skills. The top business and economics skills were identification of customer needs and wants, identify firm objectives and goals, and understand accounting concepts. VanDerZanden and Reinert (2009) asked employers of recent horticulture graduates to rate the importance of twelve

business-related skills. Time management and managing employees were rated the highest while marketing and advertising techniques were rated the lowest. Iacomini and Reneau (1988) asked horticultural businessmen to rank the importance of thirty-three supporting courses. Public relations was ranked sixth, personnel management was seventh, marketing was ninth, finance was twelfth, and accounting was fourteenth. The top four were work experience (internship), entomology, plant pathology, and plant physiology. Berle (2007) asked landscape horticulture graduates to rate the importance of coursework and activities. Learning business skills was number ten in a list of twenty items. Beidler et al. (2006) asked landscape contractors which area (from a list of five) was the most deficient among college graduates. Business was chosen by 53.1 percent of respondents. The topics they preferred most to be added to a landscape contracting undergraduate program were personnel management and estimating and bidding. One conclusion from these horticulture surveys is that adding more training in human resource management could be beneficial. Accounting also appeared to a helpful skill to consider adding to the curriculum.

Tindall (2001) surveyed people familiar with forestry. When asked the relative importance of different areas of knowledge, conservation ethics was rated as most important. Economics was rated third behind interpersonal relations/small group dynamics. In the related field of paper and printing science, respondents rated four technical skills above the top business and economics skills (identify firm objectives and goals and identify and manage risk). Understand accounting concepts was in the bottom half of the business skills list (Larson et al., 2005). Compared to horticulture, the business skill needs of forestry majors appear to be different.

Long, Straquadine, and Campbell (1992) surveyed plant science alumni and asked how important sixteen skills were for their job success and what skills alumni needed to improve. The importance of agricultural economics was rated eighth, below biological science (4) and

chemistry, math, and physics (5). Accounting was rated sixth. Agricultural economics was rated by alumni as the skill they needed to improve the most (58 percent of respondents said they needed additional training in the area). Madewell, Savin, and Brye (2003) surveyed graduates with either a crop management or an environmental, soil and water science bachelor's degree along with employers. Given a list of seventeen skills, environmental soil and water graduates rated business thirteenth, crop management graduates rated it fifth, and employers rated it seventh. This illustrates that the perceived need for more business skills varied by major within related fields.

Meyer (1990) surveyed animal science alumni. An average of 16 percent suggested adding more business and economics in their curriculum. This ranged from 9 percent of laboratory or medical scientists agreeing with this need to 34 percent of ranch owners or managers agreeing with this need. All these surveys suggest that technical skills are particularly important in these areas and that selected training in some business skill areas could be helpful.

Option to Consider

Because of the diversity of issues and institutions that must be covered in agribusiness courses for students in both "core" and "fringe" areas, a "generic" course or curriculum may not be able to cover all the principles with the depth that employers expect students to know. Adding demand forecasting, human resource management, and public relations issues to a course would take considerable class time and some material that "core" agribusiness firms believed was important would be dropped. An alternative would be to rotate a significant part of the course content (e.g., in the "capstone" class). One section could highlight traditional agribusiness issues. A second section, perhaps taught a different semester, could replace some traditional topics with

cases and material on handling seasonality and perishability, managing the supply chain, and forecasting demand. A third section could emphasize human resource management and a fourth could cover regulations, public relations and crisis management. Guest speakers could be selected that address key business issues in each technical field. Class projects that apply both technical and business skills could also be selected. Traditional agribusiness students could select the course section that best prepares them for their career path. "Fringe" agribusiness majors could be encouraged to take the section that is most applicable to their field. Even if students interested in "core" agribusiness careers took a specialized topics section, they would still learn much of the basics and would gain some new skills that might prove useful. This approach appears to address the needs of the agribusiness "fringe" without requiring significant investments.

To make this happen, agribusiness faculty need to create linkages with departments that need more business in their curricula. These partnerships could produce case studies and problem sets that are relevant for those fields and could be used in specialized capstone course sections. Perhaps an advisory board could help identify topics, speakers, and projects for the students (Foltz and Devadoss, 2008). As areas with greater business skill needs are identified, a principles of agribusiness service course, typically for juniors in selected "fringe" areas, could introduce many of the basic business skills the alumni and employers are requesting. This course would prepare students for the capstone agribusiness course that emphasizes their business issues. In a few fields, a concentration could be offered that includes three or four agribusiness courses to help better prepare students for their careers. If students perceive even greater needs for agribusiness training, minors could be offered. The capstone course would let students in the technical fields apply both their technical and business skill to solve relevant cases and possibly work with traditional agribusiness students on applied projects.

Conclusions

Programs in agribusiness need to continue serving their traditional "core." Attempts to also serve the "fringe" sectors by broadening courses would probably add topics that would not benefit "core" students at the expense of other important skills they will need. At the same time, the "fringe" students would not learn the relevant business skills they will need early in their careers. Instead of developing new courses, agribusiness programs could modify the capstone course and cover the key business skills these "fringe" agribusiness students need. A portion of the capstone agribusiness course could be rotated each semester with emphasis on at least three different areas: supply chain issues (seasonality, perishability, inventory, demand forecasting), human resource management, and regulations, public relations, and crisis management. Starting with this rotating capstone course approach does not require extensive resources and still helps address the needs of the agribusiness "fringe."

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