IDEAL ACADEMIC PRODUCTS FOR INDUSTRY: RESEARCH AND GRADUATES

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Introduction

Introspection and self-evaluation of our profession is healthy and necessary from time to time. For a number of years, there has been increasing concern expressed by many members of the American Agriculture Economics Association (and by many who are no longer members of the Association) about the relevance of our research and published products. Some have even expressed concern about the quality and content of our curriculum.

The substantial structural change in agriculture in recent years affecting most all disciplines in the agricultural economics profession has resulted in problems and opportunity. This change has resulted in anxiety by many about the future of the agricultural economics profession itself. This is a valid concern.

During the past 50 years, agricultural economics has played a pivotal role in the development of agricultural policies which have served to make the productivity of American agriculture the envy of the world. Throughout modern history, agricultural economics has been effectively applied through farm management and extension programs based on solid research and visionary teaching at the land grant and 1890 colleges and universities. This record of success was due, at least in part, to the creativity and innovation of agricultural economists who were unrestrained by history or tradition and whose focus was balanced between the applied, as well as the theoretical. Problem-solving was a major priority.

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In recent years, there has been a growing criticism of the relevance and applicability of agricultural economics research to the problems of today's food and agricultural economy. As federal research budgets have shrunk, funding for agricultural economics research has suffered. The number of faculty and staff positions in agricultural economics departments around the country has declined. Although problems in the farm economy persist, farm policy issues are far from resolved. World agricultural trade is becoming increasingly complex and unprecedented structural change is occurring in the food sector. However, agricultural economics research seems to be losing focus and impact. Published research seems more concerned with developing models and research techniques than with revealing solutions to the problems persisting in today's food and fiber economy. The time to evaluate our goals and reward systems and to respond to the structural change is now.

Product Demand

Consider the discussion of ideal academic products for industry in a supply and demand context. The university system supplies both human resources, agricultural economists, and agricultural economics research and analysis. The private sector is one of many demanders of those products.

It is important to point out at the outset that there is no "ideal" product for industry. There is no formula, no list of criteria, no checklist and no ideal set of course requirements. Product requirements are unique to circumstances, such as, time, place, type of business, corporate philosophy, and business position in the food system.

Instead, the demand is for professionals with understanding of, and interest in, consumer marketing, distribution systems, financial and business analysis and general management skills. The further removed a business is from production agriculture in the food system, the less interest that business will have in traditional farm management and production economics. It should, therefore, be no surprise that the demand for farm-level commodity analysts declines as the value-added food sector grows in importance relative to production agriculture. This does not necessarily suggest a decline in demand for applied agricultural economists, but only a decline in demand for agricultural economists who choose to focus on production agriculture.

Research Environment

Before looking at the unique needs of industry for human capital and research, first consider the research environment in industry. It is much different than in an academic setting.

Time element - the focus here is on absolute deadlines. Typically, a business decision is to be made within a specified period of time. The decision will be based on the best information available at the time. Economic analysis may be a part of the necessary information base, but not all. The best, most comprehensive economic study presented the day after the decision is made, is of no value. Economic analysis must be completed within the time allowed. In an industry setting, a long-term research project is six months. More typically, a research project will be completed in a two-week period. It is not unusual for a study to be required with a turnaround of a few days.

The short length of time available for these projects does not lessen the importance or value of the research.

Data - they are always limited and often non-existent. Full, complete, tidy, time-series data bases with sufficient degrees of freedom almost never occur in real life. Data gaps are always expected and must be dealt with.

Many times dissimilar data sets must be mixed and matched. Statistics are often a result of deductive reasoning. Data in the food sector must often be purchased or generated from internal documents. Sometimes the analyst may suffer from excessively detailed statistics, but of limited scope. Seldom does an industry analyst have support staff available to organize, tabulate and input data sets into computer files for analysis. This becomes a serious constraint considering the time available for most of these studies.

Methodology - research methodologies are seldom exotic and rarely utilize sophisticated techniques which are so prevalent in agricultural economics research literature. Often times methodology is nothing more than a thorough, critical description of a business or market environment, including relevant statistics. Study methodologies vary widely from one study to another. This requires a very thorough understanding of many basic methods, and their valid application and interpretation of results.

Study objectives - usually are very focused, and almost always for a very specific purpose. Most studies are conducted to support making a business decision or defining a strategy. Basic research to expand the frontiers of research methods or techniques is not likely to be found in an industry research department. What often happens, however,

is that decisions on specific problems and issues precedes the research done on the issues in the academic environment.

Conclusions - usually require recommended action, and may often be distilled to a simple yes or no. Study conclusions are short and pointed, preferably summarized on one page. Conclusions of a study conducted by an industry analyst usually represent a professional endorsement of the study or of the study's conclusions by the analyst. Unlike with most academic research, an industry researcher's conclusion is likely to be subsequently proven right or wrong. This can be quite a humbling experience.

What does all this suggest about industry needs for human resources and research?

Human Resources

Of the 100,000 permanent full-time Pillsbury Company employees, none require an agricultural economics degree. Only a handful of positions desire a degree in agricultural economics. Other experience or related training can easily be substituted.

Most agricultural economist positions in industry are staff and support positions. Rarely are these positions established for "basic" research. Most positions require applied analysis in support of decisions relating to other aspects of the business such as, operations, purchasing, risk-management, and strategic planning. There are limited career growth opportunities available as a practicing agricultural economist outside the general area of economic research. Although agricultural economists often move into line positions in the business, career advancement is not usually dependent upon agricultural

economics credentials. Because of this, recruiting efforts equally consider the qualifications of an agricultural economist in a research position, as well as the potential for advancement elsewhere. Although candidates may be adequately qualified for a research position in industry, if they have limited career growth potential beyond the research department, they may not be hired.

Industry candidates must be qualified in three areas, all equally important:

Academics - basic requirements include native intelligence, broad-based course work, not highly focused. Absolutely necessary is a thorough understanding of basic economic principles and the ability to apply those principles. Applied statistics are essential, but should not be a primary focus. Econometrics courses are nice, but not in excess. Course work should show some indication of business interest. Knowledge of agriculture may be critical in some positions, but not all. Notice that this list of basic academic requirements does not require a degree in agricultural economics.

Typically, recruiting will target an M.S. level candidate with some experience beyond graduate school. Usually a B.S. level candidates lacks maturity and quantitative skills for a research function. PhD level candidates are often too rigid or too highly focused in their training and are often inflexible in the type of work they prefer to do. Many PhD candidates seem to carefully distinguish between "research", which they prefer, and "analysis", which they admit may be necessary, but not of substantial scholarly challenge.

Personal skills - verbal skills are crucial since success as an analyst requires personal interaction with a wide variety of people in other areas of the business, both for collecting information available in business units and presenting results to decision makers. Writing skills require the ability to write shorter, which is more difficult than writing longer. Long reports are nice for the files, but are not likely to be read. Useful written reports will summarize a complex research project with conclusions on a few pages. A successful business economist will be resourceful and be able to seek out sources of information from even the most obscure places. Decisiveness is necessary to successfully operate in a deadline-oriented environment. Personal initiative is essential, since projects cannot be held up waiting for supervision.

Personal objectives - what are the candidates career goals? If they are for a career in research, then an industry position may not be the best long-term option. Individuals looking for an academic type research position in industry are likely to be frustrated. Personality plays a role in the success of individuals in the business environment. How the individual relates to the corporate culture will be a success factor. An introverted personality will have a difficult time relating to peers. Researchers must be able to interact successfully with non-economists throughout the business. The successful analyst must have a strong customer service orientation.

Research Products

It is extremely difficult to generalize the "research" needs of industry. Research requirements are very targeted to specific issues.

The value of research could be of either extremely high value or of no value, depending on how well a study addresses a very specific research need. The type of food and agricultural economics research will almost always be "applied", but varied depending upon where the business is located in the food chain. Food research needs of a restaurant business are quite different, for example, than the food research needs of a retail grocery chain.

In general, agricultural economics research needs to be shifted in focus from production agriculture to value added. The research needs of industry are usually very basic, descriptive and require simple application of economic principles using very basic statistical procedures. Elaborate new techniques and application of sophisticated econometric procedures are seldom necessary. Industry research needs often can be met with basic studies of food industry structure, organization and industry dynamics. Much of this research capability is limited by the appalling lack of public data available regarding the food industry beyond the farm gate. Agricultural economics is wealthy with data related to virtually every aspect of production agriculture, but lacks even the most basic data describing the food economy. For example, we have extensive data sets regarding cattle in feed lots by weight group, by sex, and by state, but we know virtually nothing about what happens to that animal once it walks into a slaughter house. All we know for sure, is that the beef from that animal "disappears".

The Supply Demand Gap

We suggest a gap exists between the products supplied by universities and demanded by industry. The profession has pressed out

the frontier of agricultural economics as a science beyond application needs. There exists a big gap between techniques available and those that are useful. Libraries and academic offices are full of manuscripts of theoretical models collecting dust, while the need for practical models to help solve day-to-day decisions goes unfilled.

Why does this gap exist? It may be due to the traditional focus of agricultural economics on: (1) production agriculture, (2) research, and (3) a reward system based upon the sophistication of the model, rather than its contribution to decision-making. Now, production agriculture is losing focus in the U.S. economy, and the research effort seems to be off target, oriented too much toward techniques and models and not sufficiently toward applications.

Contributing to this gap is the reward structure in academics where process and new methods are the challenge and scholarly publications are the end product of research. Industry has little interest in pressing the frontiers of methodology at the expense of problem-solving. Scholarly publications are of little value to industry unless they coincidentally address a very specific industry need. In fact, the interest in publications in industry is almost the reverse of academics: new discovery should be closely held, not published. For industry, the successful conclusion of research is a solid business decision. For academia, a successful conclusion of research is a scholarly publication. With such different goals, it is not surprising that economists trained by universities have a difficult time adapting to industry requirements.

The existence of the gap between resources needed by industry and products supplied by agricultural economics departments is more a problem for the profession than it is for industry. The industry can source human talent elsewhere, from other academic disciplines if need be. Research and analysis can be conducted internally or under contract with private research firms which specialize in this type of work. In recent years there has been a growing number of food industry research studies completed by private research companies and sold for profit.

How should the agricultural economics profession respond?

(1) Recognize the problem exists.

(2) University programs must develop employment skills in students, as well as fulfill course requirements.

(3) Review and restructure the reward system in academics which rewards techniques and publications more than application and impact.

The challenge is how to turn the present problem into an opportunity for the profession. It should be noted that the food sector is not shrinking, problems in the food and fiber sector are not resolved, trade issues are growing in magnitude and policy challenges remain. Skilled professionals will fill this need in the future. There is no reason why these skilled professionals cannot be agricultural economists. To do so will require a focus on the changing market demand for its products -- research and graduates. Not to do so will result in product substitutes -- graduates and research provided by other disciplines.