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Executive Summaries

Developments and Development Directions of Electronic Trade Platforms in US and European Agri-Food Markets: Impact on Sector Organization

Melanie Fritz, Tobias Hausen, and Gerhard Schiefer

Business-to-business (B2B) e-commerce and electronic trade platforms have entered the business landscape including the agri-food industry some years ago to render transactions between enterprises more efficient. However, the B2B landscape has already undergone tremendous transformations. As B2B e-commerce may change the ways of doing business and the structural appearance of the agri-food sector, awareness of developments and tendencies in the e-commerce area may be considered a prerequisite for remaining competitive.

This research has monitored and analyzed the agri-food industry's trade platforms between 2000 and 2002. The objective of the paper is to examine variations in the platform infrastructure, to shed light on development strategies of platforms that have successfully performed during the examination period and to discuss consequences from e-commerce and trade platform developments on the organization and evolution of the agri-food sector.

Of 85 platforms in existence in the year 2000, only 25 have remained active in 2002. But there have still been market entries of new platforms and existing platforms form various types of partnerships. The analysis could identify a range of strategic development lines of successful platforms. Initiating cooperation with other platforms on the joint use of specific platform features and the development and use of standards, gaining support by major market participants, the adaptation and improvement of trading functionalities and the expansion of value-added services are the primary lines of development and evolution of platforms. Platform evolution tendencies and the present occurrence of the trade platform infrastructure illustrate that trade platforms and electronic commerce are more and more becoming an integral part of the agri-food sector. The results allow for projecting the emergence of an agri-food sector with an embedded, interconnected e-commerce infrastructure – a tailor-made “mega-hub” – leading towards a more networked agri-food industry.

This tendency evokes the following managerial implications: An adapted e-commerce infrastructure provides a basis for vertically interconnected and collaborating companies and strategic alliances with features such as Collaborative Planning Forecasting and Replenishment (CPFR). The infrastructure supports the spontaneous creation of ad hoc supply chains within the network of agri-food companies. Efficiency gains through transaction process automation will in particular be achievable by companies facing a large amount transaction processes with suppliers or customers.

A Cohort Approach for Predicting Future Eating Habits

Hiroshi Mori and Dennis L. Clason

Research Question

Japanese society is aging rapidly. Those 60 years old and older accounted for 22.4% of the total population in 2000, compared to 12.9% in 1980. Their share is expected to increase to 33.7% in 2020. Casual observation tells us that older Japanese eat more fish than do the young. Many industry experts tend to assume that future generations of Japanese middle to elderly also will prefer fish to meat so that fish consumption will not decline as the population ages. This study looks at the validity of that assumption by analyzing the cohort effects in food consumption (i.e., the notion that if one eats more meat than fish as a young adult, his preference for meat may persist throughout his entire life, for example). Our hypothesis was that future fish and meat consumption in Japan will depend on the relative power of cohort versus chronological age effects, setting economic factors aside.

Study Description

Per capita consumption of individual household members by age was derived by incorporating family age composition into household data classified by age groups of household head. Individual consumption estimates were decomposed into age, cohort and time effects, using Nakamura's Bayesian cohort model. These effects were synthesized to predict per capita consumption in each population age cell in 2010 and 2020.

Findings/Results

Today's young, the newer cohorts, carry increasingly negative cohort effects in fish consumption. Aging may increase individual fish consumption to some extent, but the future middle-aged to old will not eat as much fish as their present counterparts since their negative cohort effects are found to surpass pure aging effects. Our study predicts that in 2020, those 60 years old and older will account for nearly 60% of total fresh fish consumption and those older than 75, 23.5%. Total fresh fish consumption may drop dramatically after 2020, when those consumers with positive cohort effects fade from the market. On the other hand, fresh meat consumption likely will increase 11% from 2000 to 2020, since today's middle-aged consumers with positive cohort effects in meat consumption will not decrease their meat consumption as they age.

Management Implications

The cohort approach proves a useful tool in improving prediction of future food product consumption and, combined with economic factors, may prove useful in economic forecasting. In the current case, this analysis method showed that aggregate consumption of fish will not automatically increase as the Japanese population ages and actually may drop drastically as older generations with a preference for fish fade away. Measures to reverse the negative trend in cohort effects for the currently young should be implemented, if total demand for fish is to be maintained.

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

Cheryl J. Wachenheim and William C. Lesch

Collegiate faculty and administrators have a responsibility to know what credentials are sought by employers of their graduates and be responsive thereto. We sought to identify preferences for components of undergraduate agribusiness education from executives from a diverse set of firms tied by a common interest in international agribusiness.

A mail survey of U.S.-based members of the International Agribusiness Management Association was undertaken. Foci of the survey were 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 and about the importance they place on contextual considerations when evaluating student credentials for entry-level positions including at least twenty-five percent internationally related duties.

Executives considered the most important credentials for new agribusiness graduates to be oral and written communication skills and those indicating an ability to work with others including people skills, evidence of teamwork skills, and leadership experience. The comparative magnitude of importance assigned to criteria often assumed by academics to be important for a position including international responsibilities was low although responses exhibited considerable variability. Experiences considered most important for positions with international responsibilities were those students can achieve at their home university: competency in foreign language and business and intercultural communication courses. Firms with foreign employees assigned greater importance to student foreign internship and study experiences than those without.

Overall, agribusiness executives surveyed did not consider proficiency in the international arena an important credential for graduating students and in general, the findings of the current study do not support curricular internationalization as an important priority for agribusiness education. However, the considerable variability in preferences between members underscores that collegiate recruiters and program directors need to be keenly aware of each others' needs. Academic

departments should seek input from a variety of firms in the preparation of their curricula and strategic plans. Respondents to this survey who expressed experience in collegiate international activities appear to represent a viable and motivated source of insight into the international aspects.

If You Can't Trust the Farmer, Who Can You Trust? The Effect of Certification Types on Purchases of Organic Produce

Ruby Ward, Lynn Hunnicutt, and John Keith

The Research Question

Consumers cannot verify that produce is organic through visual inspection. As organic produce generally commands a price premium, consumers can be suspicious about organic claims made. Various methods exist for overcoming this problem including signals, reputation, and certification. Signals such as blemishes on produce are noisy and do not work well. Reputation is difficult to use as often consumers have no information on where and by whom the produce was grown. Certification is a method that can be used to overcome the problems of asymmetry if it is a program that consumers see as credible and believable. The question is then raised as to who consumers trust to certify produce as organic.

Study Description

A telephone survey was conducted where 3,000 phone numbers were used and 933 usable responses were collected. The person most responsible for purchasing groceries in the household was interviewed. Households that indicated that they currently purchase organic producer and/or think certification is important were asked how organic certification programs by various government agencies and other groups would affect their organic produce purchases. Demographic information was also collected. The model hypothesized that the change in organic purchases with certification was a function of current organic purchases, income, gender, age, education, household size and the type of certifying body. It was thought that certification by the federal government would be most believable and a certification program by the farmer or retailer would be least believable.

Findings/Results

Demographics of the sample were fairly representative of the Utah population as a whole. There was a larger percentage of females in the sample indicating that more females are primarily responsible for grocery shopping than males. Larger changes in organic produce purchases were found with government and independent third party certification and with a farm or retailer certification method. When the certification caused a 10% price increase the change in purchases was much smaller for all certification methods indicating that consumers are price sensitive.

Management Implications

The usefulness of certification depends in large part upon the credibility it has with consumers. Not surprisingly, consumers place more faith in an outside party certifying growing methods. The federal government has implemented a certifying program for organic produce. The results here indicate that the only benefit to a

certification program other than the federal one would be if standards were different. To be effective such a program would have to educate consumers not only on the standards or their program, but also convince consumers that such differences are valuable. Many consumers that were aware of certification programs did not look for it when making purchases. Consumers were very sensitive to price increases. If a certification program increases the cost of organic produce it may be that overall purchases of organic produce may not increase. However, because the organic market is small a response large enough to have a significant affect on the organic produce market may exist even as most people continue to consume conventional produce.

Consumers Preferences Regarding Multifunctional Agriculture

Tapani Yrjölä and Jukka Kola

Research Question

Multifunctionality is one of the key issues and concepts in European agriculture and in the common agricultural policy. Its importance is further emphasized in the context of the WTO negotiations. The multifunctionality of agriculture consists of non-market goods produced jointly by agriculture. Usually the multifunctionality of agriculture is seen to comprise the impacts of agriculture on the state of the environment in rural areas, rural landscape, biodiversity on and close to farmland, contribution of agriculture to the socio-economic viability of the countryside, food safety, national food security, welfare of production animals, and cultural and historical heritage. Yet, until now the consumers' views and attitudes concerning multifunctionality have largely been neglected in both policy planning and research.

Description of the Study

This study reveals (1) the attitudes of the Finnish consumers towards the different elements of multifunctional agriculture, and (2) Finnish consumers' willingness to pay (WTP) for multifunctional agriculture as a whole (in euros). The study provides one of the first major surveys on consumer preferences and reactions as regards multifunctionality. It is based on a modern computer aided interviewing system, N = 1,300. The contingent valuation method is employed to reveal the WTP.

Results

Of the different elements of multifunctionality, the Finnish consumers/citizens usually considered food safety and welfare of production animals as highly important issues. Securing the viability and permanent settlement of rural areas and the sufficient production of wholesome and high-quality food products were regarded as the key roles of Finnish agriculture in the society at large.

The average willingness to pay for multifunctional agriculture is about 94 €/year/citizen. The aggregate WTP for an optimal bunch of the elements of multifunctional agriculture varies between € 189 and 377 million. Compared to the amount of agricultural support paid annually in Finland (€ 1.79 billion in 2003) the consumers'/citizens' WTP for multifunctional agriculture can be considered remarkable.

Implications to Management

As regards the food and agribusiness sector, increased emphasis on multifunctionality in agriculture and agricultural policy may have considerable impacts on consumers' demand for food products and farmers' demand for production inputs, as well as on the quantity and quality of raw materials supplied to the food processing industry. In addition, the stronger orientation to multifunctionality is also going to influence citizens' preferences concerning appropriate policies for agriculture and agribusiness at the regional, national and international levels.

Business Challenges in Commercialization of Agricultural Technology

Michael Boehlje

One of the plenary sessions at the 2003 IAMA meetings in Cancun focused on the challenges and opportunities in creating value from new technology. Participants included: Michael Boehlje, Center for Food and Agricultural Business, Purdue University; Lynn White, Vice President, Global Ag Services, Deere; Marcello Arguelles, CEO of Biosidus; and Greg Clarke, Technical Director, FXA Group. This synopsis attempts to capture the key observations of the session presenters and the discussion that followed.

Boehlje summarized the business challenges in the commercialization of agricultural technology as: 1) creating value; 2) gaining customer/consumer acceptance; 3) capital market access; 4) value capture/sharing; 5) protecting intellectual property; and 6) innovation strategy.

White indicated that the business proposition of Deere Global Ag Services is to identify and bring to market new business opportunities that will expand the footprint of Deere in the agricultural marketplace. The product/service offerings always start from a value proposition with technology being used as a means to deliver that value proposition. Success in deploying new technologies depends fundamentally on the following: 1) customers are looking for answers -- not tools -- which requires packaging of technologies in a system context; 2) the applications must have supply chain data/information capability so as to integrate the stages in that chain; 3) the approach of adapt from other industries rather than invent new is critical to cost effective delivery, 4) field testing is a necessity.

Arguelles indicated that the business proposition of Biosidus is fundamentally to use agricultural biotechnology, particularly animal biotechnology to create products for the health/pharmaceutical industry. Their current interest in agricultural biotechnology is to use transgenic animals to produce human growth hormone -- more specifically, to produce growth hormone in the milk of transgenic cows.

Clarke indicated that the FXA Group is a software/information company focused on producing traceability products and systems for the food industry. Interest in food traceability systems has grown in recent years because of increased government regulations including restrictions on acceptance of biotech food products in certain countries and by certain food companies; consumers increased concern and

awareness of the characteristics of the products they consume; and retailers and processors concern about food safety and brand protection. Traceability is increasingly important in the food industry because food safety lapses are often fatal to food companies.

The USDA CSREES Higher Education Program: Doctoral Fellowships in the National Need Area of Management and Marketing

Michael Boland

The Research Summary

The mission of USDA's Cooperative, State, Research, Extension Education Service (CSREES) Higher Education Programs (HEP) is to promote excellence in higher education throughout the food and agricultural sciences. The objective of this study is to summarize the HEP graduate fellowship program in the national need area of management and marketing.

Study Description

The fellowships are the most prestigious in the agricultural sciences in the United States and the monetary amount of the fellowship is the highest in the agricultural sciences at \$22,000 per year. In addition, fellows can apply for \$5,000 travel grants to pursue international research. The goal of the program is to create a cadre of leaders in the national needs subject area for positions within academia, government, and industry. University Microfilms International in Ann Arbor, Michigan, collects copies of completed dissertations and makes them available for a fee. This database was used to search for the names of every fellow provided by HEP to determine if a dissertation was completed. Next, the on-line libraries for each university were searched to see if a dissertation had been deposited, but not reported to University Microfilms International.

Findings/Results

Of the 165 granted awards through 1998, we found dissertations on 109 fellows. Almost 40 percent of all graduated fellows are currently employed in academic positions in the United States and are represented on the faculty of 27 universities.

Management Implications

Clearly, HEP has helped establish successful graduate programs in the national need of marketing and management. Several universities have developed niche programs in these subjects. Management and marketing positions in food and agribusiness management continue to be a top priority for future faculty positions in agricultural economics departments. This program could serve as a model for other countries that seek to develop similar fellowships for the purpose of creating a cadre of leaders within agribusiness management. Thus, it is important that qualified fellows be recruited, trained, and graduated from doctoral programs that have demonstrated success in training students in the national need of management and marketing.