



*International Food and Agribusiness Management Review*  
*Volume 10, Issue 2, 2007*

## **Executive Summaries**

---

---

### **RESEARCH**

#### **Middle Management in Agriculture: Roles, Functions, and Practices**

*Vera Bitsch and Elaine K. Yakura*

Middle managers play a key role in agricultural and agribusiness operations by ensuring a continuous workflow, solving unexpected problems, and maintaining a positive environment. There is little agribusiness research on middle managers; considering their importance, this omission is surprising. Lacking this foundation, businesses are left without appropriate decision support tools and tailored managerial training.

Research on other industries focuses on the coordinative and supervisory role of middle managers, positioned between senior management and employees and often in a position of increased stress and role conflict. A major part of the research posits the demise of middle management through layering and change. These findings contradict the centrality of middle management in agricultural and agribusiness operations.

In-depth interviews with 15 middle managers of 12 agricultural operations were analyzed through a grounded theory approach to obtain insights into their organizational functions and human resource management practices. This group uses the full array of practices discussed in the managerial literature, including traditional practices, such as training and discipline, and participative practices, such as accommodation and listening. But while some seem to use many of these practices, others use fewer practices.

Managerial education tailored to middle management's specific needs and the distinct features of the agricultural sector, including seasonality, lean hierarchies, and family-owned businesses will help both novice and experienced managers increase sophistication and fulfill their role more comfortably. Novice managers will assume their new role with less anxiety, and experienced managers will have effective practices reinforced and learn to use new ones.

## **Determinants of U.S. Textile and Apparel Trade**

*William A. Amponsah and Victor Ofori-Boadu*

U.S. textile and apparel industries face challenges related to increasing trade flows from foreign producers. This study evaluates factors affecting the value and direction of textile and apparel trade flows into the U.S. It applies a commodity-specific gravity model, using panel data from 1989 through 2003, to analyze trade flows in textiles and apparel into the U.S. for 13 leading exporting countries.

We conclude that a nation's aggregate output and per unit productivity are important determinants of textiles and apparel trade with the U.S. Additionally, a country's depreciating exchange rate as well as its lower prices relative to that of the U.S., play an important role in determining textiles and apparel trade flows to the U.S. market. Therefore, so long as textile and apparel products are perceived as cheaper abroad, U.S. importers will continue to purchase from abroad and global producers will find it profitable to sell their products in the U.S. market. The Multi-fibre Arrangement (MFA) is found to have slowed down imports of textiles and apparel from leading global exporting countries into the U.S. Consequently, its abrogation in January 2005 is expected to pave the way for greater access to the U.S. market from leading global producers, such as China, India and Pakistan. However, we find that textiles and apparel imports are constrained by distance. Should textile manufacturers want to capture factor-cost differentials on labor while maintaining headquarters activities in the U.S., then industry participants can take advantage of regional and bilateral trade agreements in increasing their investments in other countries where labor and ancillary costs are relatively cheaper. The ability of global competitors in exporting relatively cheaper textiles and apparel to the U.S. must be a troubling source of concern to U.S. textiles and apparel producers and the communities in which they are located.

## **Differential Earnings of the Agricultural Graduates New Evidence from the Agribusiness Industry** *Eivis Qenani-Petrela and Marianne McGarry Wolf*

Various studies continue to debate the role and importance of gender in the process of wage determination. Research findings suggest that no matter how the wage gap is measured, women's earnings are below those received by men. The primary objective of this study is to provide new empirical evidence on the status of gender gap in the agricultural industry first, by investigating the determinants of the earnings of agricultural graduates and second, by examining the causes of wage differentials between the graduates. The study is based on survey data of 1106 agribusiness alumni of Cal Poly, San Luis Obispo. Regression analysis indicates that factors such as education, experience, gender, job status and specialty are important determinants of earnings. Characteristics such as, experience gained through a foreign internship during college, specialties such as marketing, accounting and finance and managerial positions all have a relatively high market value. For academia, these findings call not only for strengthening the technical

skills of the students in these specialty areas, but also signal the need for adjusting the curriculum so that domestic and foreign internships are more prominently featured.

Results show that women are paid 81 percent of men's wages, corresponding to a 19 percent wage gap. Differences in human capital characteristics explain to a large extent the gap; however, 45% of the gap remains unexplained. Literature suggests that lifestyle choices that trade greater flexibility to manage work and family versus potentially higher earnings might play a key role in the earnings differential. The implication here for agribusiness companies is to create and expand policies to help women integrate successfully work and family responsibilities, as well as implement strategies aimed at assisting women attain management and leadership positions. This approach will give agribusinesses a competitive advantage to hire and retain the best-qualified employees, male or female.

### **The Joint Impact of Supply Chain Integration and Quality Management on the Performance of Pork Processors in China** *Jiqin Han , S. W. F. (Onno) Omta and Jacques H. Trienekens*

It is widely acknowledged that competition no longer takes place between individual enterprises, but between supply chains. A number of studies have indicated that supply chain integration and quality management have become essential to gaining competitive advantage. To cope with ever-increasing competition and achieve superior company performance, some leading meat processors in China have implemented external cross-functional integration with their strategic suppliers and customers to improve their practical supply chain capabilities. Previous research has indicated the role and benefit of supply chain integration (SCI) can vary depending on the developmental stage of SCI. What is the level of SCI in the pork processing industry in China? Will the level of SCI facilitate the implementation of quality management in the industry? Will inter-organizational supply chain orientation and quality management improve company performance? Considering these questions, the purpose of this research was to examine the interactive relationships among SCI, quality management practices and business performance and to identify critical success factors to the competitiveness of pork processors in China.

The study domain of the research is the dyadic relationship between pork processors and their most important suppliers. In keeping with existing literature, hypotheses were developed incorporating dimensions of SCI and quality management practices and business performance indicators. A survey instrument was developed and data were collected from a field survey of 229 Chinese pork slaughterhouses and processors. After the validity and reliability of the constructs were determined, structural equation modeling (SEM) was applied to test the hypotheses.

The most important results are that significant positive relationships have been found between quality management and company performance and between SCI and quality management practices. As managers put it, “Quality is the life of the enterprise”. Equally significant is the indirect link through quality management between SCI and firm performance. This study indicates that businesses need to adopt an integrated approach to the management of pork supply chains in a transitional economy. Furthermore, evaluation of quality management initiatives should be made within the contexts of internal and external supply chains. The results also show that important components of quality management practices contributing to company performance include company quality management, supplier quality management and process management. Notably, long-term quality strategy, policy goals, quality assurance systems and supplier quality management are critical elements in quality management. Therefore, to improve the quality of their products and reduce uncertainty in hog supply chains, companies are advised to invest in quality management and develop more integrated relationships with their suppliers. However, in contrast to earlier studies, the direct link between supply chain integration and company performance was found of little significance. This result may indicate that the Chinese pork processing industry is still at an early stage of SC integration. To exploit the benefit of supply chain integration, managers should apply a more focused approach to developing external integration capabilities, especially the integrated management of information technology and logistics.

## **Discovering and Promoting Commodity Health Attributes: Programs and Issues** *Hoy Carman*

Increased consumer interest in selecting foods based on health and nutritional attributes provides economic incentives to food processors and manufacturers to provide label and promotional information on the benefits of consuming their product(s). Faced with consumers’ confusion over a wide array of product claims using undefined and often misleading terms, governments in both the U.S. and the EU have established regulations regarding health and nutrition claims for food products. The requirements for nutrient content claims, such as “calorie free,” “low fat,” and “light/lite,” have been defined and health claims can only be used when supported by sound scientific findings.

Producers of four California crops, almonds, avocados, strawberries, and walnuts, are using mandatory assessments collected by their commodity organizations to fund health and nutrition research. Recent budgets have totaled over \$3 million for a portfolio of projects on relationships between consuming each product and cardiovascular disease, weight and obesity, cancer prevention, diabetes, antioxidants, aging, prostate health and bone health. Almonds and walnuts have received qualified health claims from the U.S. Food and Drug Administration regarding consumption of almonds or walnuts to reduce the risk of heart disease. Producer organizations for avocados and strawberries each have a stated goal of obtaining the research results needed to secure a health claim for their product.

Public relations programs based on health and nutrition research have proven to be a very cost-effective method of communicating with consumers. Advertising programs using a health and nutrition message have also been effective for almonds and strawberries.

There is some controversy over food health claim regulations. U.S. rules are still evolving after several years while EU rules are just becoming effective. The interest in evolving rules is warranted since potential costs and returns can be high for food manufacturers, producers, and consumers.

**Analysis of Farm Household Preferences in the Management of Invasive Species: The Case of Miconia in Hawaii** *Catherine Chan-Halbrendt, Fang Yang, Lynna Thomas, and Archana Pant*

*Miconia calvescens* is a highly invasive tree species found in Hawaii and was brought in the 1960s as an ornamental plant. *Miconia's* invasive characteristics include rapid growth, early maturity, large quantities of fruits and seeds, effective seed dispersal, and its ability to reproduce by seed and vegetative growth. Without effective control, the spread of *Miconia* causes soil erosion threatening the productivity of the agricultural and agro-forestry industries and consequently changing the ecosystem and biodiversity of the environment. With the limited amount of funding for its control, it is important to ensure the available funding is being spent in a way that addresses the needs of the farmers in Hawaii.

The objective of this research is to evaluate the extent of farm households' preference for *Miconia* control program attributes. This would be indicated by their choices of the different control programs presented to them using the Conjoint Choice Experiment (CCE) methodology. Using CCE, a survey was designed to measure the farm households' preference for the different *Miconia calvescens* control program attributes. The important program attributes identified are cost, biodiversity loss, extent of spread and soil erosion. The data is analyzed using logit regression.

The results of the CCE suggest that cost is relatively not as important in respondents' choice of control programs. The two most important program attributes are preventing soil erosion (31.30%) and biodiversity loss (29.16%) followed by the extent of spread of *Miconia* (21.86%). In addition, from the survey results, farm households are willing to pay \$14.63 extra to minimize biodiversity loss so as not to lose 100 native species, \$12.04 extra to avoid high spread, and \$14.21 extra to avoid high levels of soil erosion with severe landslides. This study provides decision makers with the information that farmers are willing to support spending for *Miconia* control programs if they are effective in preventing severe landslides and huge loss of native species.

## **The Role of Trust in European Food Chains: Theory and Empirical Findings** *Melanie Fritz and Christian Fischer*

In Europe, consumer trust in food has become one of the most important factors for the stability of the food sector. An essential prerequisite for the ability to communicate the trustworthiness of food to consumers (B2C) is the creation, maintenance, and communication of trust between companies across the entire food value chain (B2B). For the management and preservation of trust in food chains it is important to know whether differences occur across European countries or whether distinct product chains show variations regarding trust. Based on a survey in five countries with 747 respondents, this paper assesses the current level of trust between companies together with its influencing structural factors in European food chains and determines criteria allowing the active management of the level of trust in business relations in food chains by estimating a structural equation model.

The most important results are that in the observed European food chains, the perceived level of trust of buyers towards the respective supplier is considerably high. With regard to the structural factors including the country, the stage of the value chain, the product, and the governance form it can be said that only small differences can be observed. The relatively high level of trust in European food chains is a positive prerequisite for the communication of trustworthiness of food to the consumer. For an active management of trust in food chains, the quality of the communication, which is realized by the frequency of communication and the quality of the information, together with the collaboration experience are the most important determinants. It is interesting that personal relationships do not in all observed situations equally impact the level of trust, but they are important when dealing with farmers. It must be said that the emergence of trust to a large extent depends on positive collaboration experiences, which only evolve over time. However, although to a comparatively smaller extent, with the quality of the information communicated impacting the level of trust at a business partner in food chains, a management means to actively increase the level of trust ex ante and ad hoc at the business partners is available even for “first-time” cases where no past collaboration history has existed.

## **On the Use of Valuation Mechanisms to Measure Consumers' Willingness to Pay for Novel Products: A Comparison of Hypothetical and Non-Hypothetical Values** *Andres Silva, Rodolfo M. Nayga, Jr., Ben L. Campbell, and John Park*

Agribusinesses are increasingly interested in developing and marketing novel products. Consequently, managers are looking for analytical techniques to assess consumers' valuation of these novel products and optimize pricing decisions. The use of conjoint analysis and auctions, to elicit consumers' willingness to pay (WTP) for novel products, are increasing in popularity. We review some of the advantages and disadvantages of both approaches and some considerations in the conduct of an experimental marketing study. Using data from field experiments, we focus on

comparing WTP values from two elicitation mechanisms: Becker-DeGroot-Marshak auction mechanism and conjoint analysis. In addition, we also compare hypothetical and non-hypothetical values from these mechanisms and discuss the issue of hypothetical bias inherent in hypothetical valuation experiments. Our results suggest that auction WTP values are higher than conjoint analysis WTP values. Moreover, the hypothetical WTP values are higher than the non-hypothetical WTP values in both elicitation mechanisms. Our results imply that the decision a researcher or manager makes with respect to the elicitation mechanism and their implementation can have a direct impact on estimates of the value of novel products. Since agribusinesses are continuously shifting toward a more consumer and demand-driven marketplace, this finding is of utmost importance due to cost of developing and launching novel products. Having appropriate estimates of consumers' valuation of these novel products can assist agribusinesses in their product adoption and optimal pricing decisions.

**Bio-ethanol Production from Wheat in the Winter Rainfall Region of South Africa: A Quantitative Risk Analysis** *James W. Richardson, Wessel J. Lemmer, and Joe L. Outlaw*

Contrary to developments in other parts of the world, South Africa has not developed a bio-ethanol industry. In spite of interest from government, financial institutions and investors, there are no bio-ethanol plants supported by grains as feedstock established yet. Public and private players expect the national government to issue an investment incentive dispensation for the bio-ethanol industry. In the mean time the government needs a better understanding of the risks and prospects for the industry. The objective of this paper is to quantify the risks and economic prospects that influence the profitability of bio-ethanol production from wheat in the winter rainfall region of South Africa.

A Monte Carlo simulation model of the economic activity for a bio-ethanol plant in the region is developed and simulated for 10 years to quantify the risk that investors will likely face. Under the Base scenario a 103 million liter bio-ethanol plant would not offer a reasonable chance of being economically viable. Average NPV was -R88.5 million and average ROI was -8.4 percent, and there was more than a 97 percent chance that NPV would be negative.

Alternative price enhancing policies were analyzed to determine the type of policy changes needed to make a bio-ethanol plant economically viable in the winter rainfall region of South Africa. The policy scenario which showed the most promise for making wheat bio-ethanol economically viable is to implement a price floor of R3.325/liter that is tied to inflation and to increase the reimbursement on the fuel levy to 70 percent.

## **EXECUTIVE INTERVIEW**

### **An Overview of the Global Economy: Markets, Competitiveness and Trade Facilitation** *Olubukola .A. Oyewumi*

*The Honorable Carole L. Brookins,  
U.S. Executive Director to the World Bank, 2001 - 2005*

The global economy is growing increasingly more integrated. The dawn of the 21st century was marked with cutting edge technologies creating the platform for greater connectivity and competition among global markets. The evolving economic paradigm is re-defining the way products are moving across markets, regions and continents. The combined effect of technological advances, global political economy and seasonal weather variability has called for dynamism in the way businesses are run. The potential benefit of this development is that it could culminate into increased productivity through the involvement of more people in economic activities across the globe, and the development of new efficiencies and new technologies to better manage our environment and create the right economic blocs. This synopsis is an interview conducted with the Honorable Carole L. Brookins, former Executive Director to the World Bank, 2001-2005. The objective was to relate current and evolving global economic trends to their importance on markets, competitiveness and trade facilitation across the globe. This interview was conducted at the 16th Annual World Forum, Symposium and Case Conference in Buenos Aires, Argentina in June, 2006.