

## **The Complexity of New Product Introductions in Agribusiness: The GMO Case**

Terry Obert, Ph.D.\*  
Associate Professor of Quantitative Analysis  
TObert@cobilan.msstate.edu

Linda B. Wright, Ph.D.  
Assistant Professor of Marketing  
LWright@cobilan.msstate.edu

Debbie Thorne LeClair, Ph.D.  
Assistant Professor of Marketing  
DLeClair@cobilan.msstate.edu

Mississippi State University  
College of Business & Industry  
Department of Marketing, Quantitative Analysis, and Business Law  
PO Box 9582  
Mississippi State, MS 39762  
(662) 325 3163 phone  
(662) 325 7012 fax

\*contact author and presenter

All authors contributed equally

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## ABSTRACT

The introduction of controversial agribusiness products, such as genetically modified organisms (GMOs), carries with it a range of benefits and risks to various stakeholders. This paper will explore the impact of such new product introductions on various stakeholders. The recent problems associated with the introduction efforts for GMO products in Europe will serve as an example of this challenging situation. The purpose of this paper is to create a dialogue and framework so controversial new product introduction situations can be more effectively managed in the future.

## INTRODUCTION TO THE GMO CASE

Few would argue that the genetically modified organisms now on the market have endured anything less than a thorough technological development and testing. After all, field testing of genetically engineered plants resistant to insects, bacteria, and viruses began in 1985, nearly ten years before the FDA approved sales of such seeds (The Life Sciences Knowledge Center). Millions of dollars have been spent on research, development, and testing of GMOs. So why the backlash against them?

In hindsight, the answer to this complex case appears to be three-fold, including 1) an inadequate promotion strategy, 2) lack of comprehensive stakeholder analysis, and 3) no full consideration for the context within which the technology was introduced. In sum, the GMO backlash partly resulted from the failure to adequately examine the nature of the innovation (and thus how to promote it), the nature of the market (a complete stakeholder analysis), and the nature of the technology (the risk inherent in the product and the stakeholders' tolerance for this risk) as advocated by Balachandra and Friar (1999).

Monsanto was at the forefront of the GMO introduction and bore much of the burden of media, governmental, and consumer scrutiny. For example, according to the United States Agriculture Secretary, Daniel Glickman, “they’ve (Monsanto) taken the position that this is good for you, this is the way of the world, and get out of my way” (Consumer Reports 1999). This approach has been variously described in the open press as ham-fisted, arrogant, and insensitive to public opinion (St. Louis Post-Dispatch June 7, 1998, The Commercial Appeal October 28, 1999). Other biotech firms blame Monsanto for a “public relations disaster that has crippled short-term prospects for European acceptance of engineered food” (New Scientist October 31, 1998). A \$1.5 million ad campaign undertaken by Monsanto to “convince European consumers of the value and safety of genetically engineered foods failed miserably” (Wilson 1999). As Robert Shapiro, Chief Executive of Monsanto Co., admitted, “We have probably irritated and antagonized more people than we have persuaded. Our confidence in this technology and our enthusiasm for it has, I think, been widely seen – and understandably so – as condescension or, indeed, arrogance” (The Commercial Appeal October 28, 1999).

## CONTROVERSIAL NEW PRODUCT INTRODUCTIONS

The introduction to the world of genetically modified organisms (GMOs), such as cotton, soybeans, corn, tomatoes, rice, and potatoes, poses a full range of risks and benefits, some of which are particular to this class of products. All new product introductions are inherently uncertain, and GMOs carry special concerns. For example, while there is an important benefit of increased crop yield, there are fears about losing crop diversity, inducing resistance in pests, and creating cross-pollination that results in resistant weeds. There are also concerns because long-term effects of consuming GMO products are not yet known (Lyddon 1997).

While new products are usually introduced after thorough technological development and testing, firms need to also consider other factors, including those factors outside of the firm's control, to get a better understanding about the potential for new product success. For example, typical new product success factors include sales force strategy, market size, or promotion strategy. Another critical consideration for new product success examines customer reactions, including the analysis of perspectives about the product and its role in the marketplace and society. Along these lines, Balachandra and Friar (1999) suggest the use of a contextual model that proposes looking at the nature of the innovation, the nature of the market, and the nature of the technology to explain successful new product processes. When products are new in all three areas, the new product management process needs to be especially flexible and responsive to this complexity.

The context of a product introduction includes the three areas listed above, along with current sentiment or other factors that may affect the marketing activity for the new product. Stakeholder analysis is especially relevant to this analysis process because it takes into account the interests, legitimacy and power of groups that may be affected by the product (Blair 1995). This enlightened view of new product marketing is important to all organizations, but is especially warranted for industries whose products affect large numbers of people and markets and when the product impact is uncertain or controversial.

## STAKEHOLDER ANALYSIS

Clarkson (1995) defines stakeholders as "...persons or groups that have, or claim, ownership, rights, or interests in a corporation and its activities, past, present, or future." (p. 106). The stakeholder approach assumes corporations are responsible to a number of

stakeholders, such as suppliers, customers, employees, investors and shareholders, governments, communities and many others. Just as the term implies, these constituents have a "stake" or claim in some aspect of the company's products, operations, markets, industry, and outcomes. The stakeholder orientation also implies that business is fundamentally connected to other parts of society and has responsibilities beyond the economic realm. Increasingly, business people and researchers have recognized the reflexive nature of financial performance and an organization's commitment to stakeholder welfare and concerns (Harrison and Freeman, 1999). According to Henriques and Sadorsky (1999) there are four main organizational stakeholders: (1) organizational stakeholders including employees, customers, shareholders, suppliers, (2) community stakeholders, (3) regulatory stakeholders including the government and trade bodies, and (4) the media. These groups not only develop expectations of organizational behavior, but also exert influence on this behavior and resulting outcomes.

## IDENTIFYING STAKEHOLDERS IN THE GMO CASE

Market factors for the GMO introduction, and other potentially controversial agribusiness products, should be considered from multiple stakeholder perspectives. For example, in the recent GMO case, both farmers and consumers are important customers, but their uses and goals related to GMO products are quite different. Farmers, obviously recognized as a key stakeholder group, received consistent and effective promotional messages. For consumers, however, the message and the response to GMOs has not been uniformly positive. To explain the consumer reaction, it is necessary to consider the reasons behind it. Factors such as culture, education, political ideologies, and living in a rural versus urban setting influence consumer responses to environmental issues, including acceptance of GMO products (Bechtel, Verdugo, and Pinheiro 1999, Dietz, Stern, Guagnano 1998). When following a successful new product introduction

process, specific reactions to specific new seed products must be evaluated, but it is also necessary to focus on reactions to the entire concept of technology. In this case, the cultural values and life experiences related to GMOs should have been effectively researched and integrated in the marketing process. As Li (1999) noted, export markets with large numbers of sophisticated consumers need to be examined for the fit between product features and benefits and consumer expectations. If not, marketers run the risk of product failure and associated problems. This was the case in the GMO introduction in Europe, where consumers are both knowledgeable and opinionated on the issue.

## SUMMARY

In conclusion, the decision to enter new markets, especially with complex and controversial products, should be tempered with a thorough stakeholder assessment. Many of the problems experienced in introducing GMO products were the result of an incomplete analysis, including the stakeholder approach. While this paper has only briefly addressed these issues, the conference presentation will include a representative stakeholder analysis and further discussion on the complexity of new product introductions in agribusiness.

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