

Development and Marketing Strategies for Functional Foods

Cecilia Mark-Herbert

Swedish University of Agricultural Sciences, Uppsala

As the boundaries between food and medicine are fading, businesses face new challenges. These challenges include integrating research and development and marketing processes that shorten the time to market a new product. A "market pull" business model is presented for creating awareness among consumers.

Key words: business model, functional foods, innovation, marketing, medicine, strategy.

Introduction

Research leads the way in the development and marketing of new biotech products. Some of these products take the shape of medicines, food products, or health products, which are a combination of the two. Consumers accept these novel products to varying degrees (Zechendorf, 1998). In fact, most new food products are discontinued within a year of their often-costly market entry (Stewart-Knox & Mitchell, 2003). In developing new products, therefore, it is crucial to integrate the development and marketing processes in a business strategy. This article presents a business strategy model for development and marketing of radically new products—for example, functional foods and biotech products—that take different product shapes and thus meet the needs of different markets.

The study consists of four longitudinal case studies in which collaboration led the way for the development and marketing of radically new food products: functional foods (Mark-Herbert, 2002). This article is focused on one of these case studies, in which a conceptual model for the developmental process was especially clear. The model was developed in collaboration with a large American food business, CAG Functional Foods (a division of ConAgra Foods, Inc.), and a Swedish biotech business, Probi AB. The model is based on a case study in which a probiotic product, Culturelle, was developed and introduced on the American market as a dietary supplement. Culturelle is sold as a capsule filled with beneficial lactic bacteria, which are needed especially when the body is subjected to stress in different forms (such as an infection, a stressful lifestyle, or a bacterial disorder in the intestinal tract; see <http://www.culturelle.com>). At the time of this case study, the collaboration between CAG Functional Foods and Probi AB was proceeding successfully. This joint effort has now ceased, but the model illustrates the ongoing collaboration with Valio (a Finnish dairy that owns proprietary rights to another strain of lactic bacteria).

A Business Strategy for Value-added Products

A strategic base for developing and marketing radically new biotech products is expressed in an approach that builds on advantages (Figure 1). In this strategy, the primary step is acquisition of proprietary rights to an active ingredient that shows health-related effects in independent clinical studies. These results of these studies are used as a platform for building a brand.

The three strategic cornerstones provide a sustainable competitive advantage, which results in continued growth of sales and profits to meet the financial objectives. The *proprietary ingredient* or product gives exclusive rights to sales for a certain time. Consumer recognition and altered consumption are achieved through the use of *branded products*. Product testing provides a basis for health experts to evaluate the product scientifically.

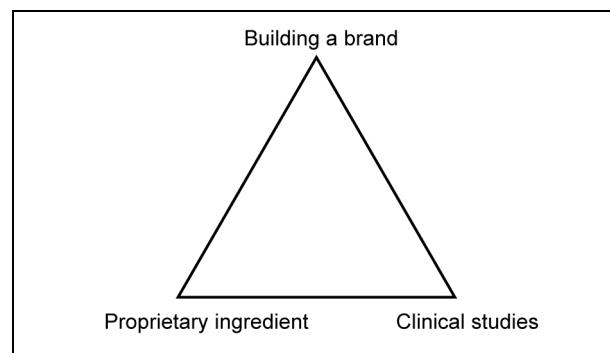


Figure 1. A platform for a biotech business strategy (Mark-Herbert, 2002).

A Business Model

In a business model, the strategic platform (Figure 1) meets the market strategy. In this case, it refers to building awareness of the functional ingredient among consumers (as shown on the Y axis in Figure 2). Depending on the segmentation of the market, different segments

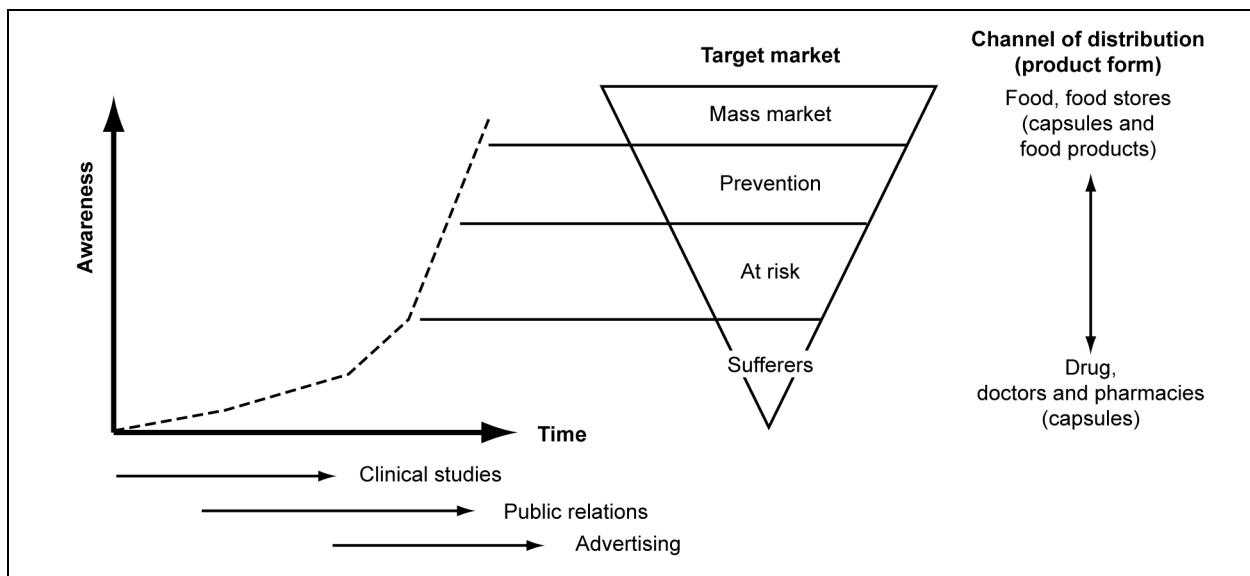


Figure 2. The US Business Model of CAG Functional Foods for building awareness among consumers (Mark-Herbert, 2002).

are targeted in different phases (as shown by the triangle in Figure 2). Gilbert (2000) presents an alternative market segmentation for functional foods. The segmentation in Figure 2 matches the business strategy of building awareness. It should be noted that a primary step—acquiring the proprietary rights to the product or ingredient—is not part of the model.

The development and marketing of radically new products relies heavily on each earlier phase of the innovation process (as shown on the X axis in Figure 2). For example, the advertising phase is dependent on the public relations and clinical studies phases. In the public relations phase, medical facts from the clinical studies are communicated via television and radio news. This process essentially builds awareness in different consumer segments. Each of the phases in this model is discussed in depth below.

Phases of Creating Awareness

Clinical Study Phase

Clinical studies are associated with rather large investments. Once the phase of clinical studies is started, it would be of great consequence if the proprietary rights were jeopardized. Therefore, contracts to guarantee proprietary rights are drawn up prior to such investments.

Clinical studies are preferably carried out at reputable universities and hospitals, with results published in internationally recognized peer-reviewed journals (Vanderhoof & Young, 1998). The studies must show

effects on humans (as opposed to effects on experimental animals) using the actual product or ingredient.

Public Relations and Advertisement Phases

Public relations and advertisement include a number of programs in which different segments of the market are targeted. Channels for these programs include television, radio, magazines, newspapers, direct mail brochures and samples, toll-free telephone numbers, web sites, conventions, and newsletters. Much of the public relations activities are related to consumer interest in the new health-related effects (Schmidt, 2000). For example, national and local television programs may ask a doctor who has conducted clinical studies to share experiences from these studies. Millions of viewers can be reached this way.

The free press is of enormous value, not only because it does not bring a direct cost, but more so because product information from nonpaid media is far more reliable in the eyes of the consumers. (S. Stirling, personal communication, Nov. 11, 1998)

The marketing strategy is built on the notion of “market pull” for information about these new health-associated products. Consumer research, conducted in parallel with PR programs, gives a picture of how previous information is perceived and to what kind of food product the consumers could see the ingredient added (e.g., yogurt, juice, etc.). Product concepts are tested in

terms of "newness," probability of future consumption, and beliefs in the health effects from the product in different market segments.

Market Segments

The segment labeled "sufferers" (the lowest part of the triangle in Figure 2) is most inclined to try a new product to relieve symptoms from the onset of a disease. This is often done on the advice of a doctor or pharmacist. Consequently, for the producer of a functional food or biotech health product, one of the first target groups is the medically skilled professionals, who may be reached at conferences, seminars, meetings, and by personal letters. These professionals are made aware of results from published articles on clinical studies; samples are provided for their own testing as well. The medically skilled professionals are also essential to success in the following programs.

For the "at-risk" segment, the program looks similar to that of the sufferers, except that this group is approximately twice as large as the sufferers segment—in the United States, there are an estimated 50 million sufferers, whereas the at-risk segment is estimated at 100 million. The at-risk segment includes persons who take antibiotics or live a stressful life. Like sufferers, they are generally aware of the risks of illness, and they often seek ways to minimize the risks—ideally without changing their lifestyle at all. Health-related TV news and talk shows are one way that at-risk persons find information. The Culturelle information, for example, reached about 60 million viewers in one month during the fall of 1998 (S. Stirling, personal communication, Nov. 11, 1998).

Positive personal experience from any of the above consumer segments also helps spread the news to the "prevent" segment and the broader market. The prevent segment includes people who take vitamins, minerals, and herbs—people who are aware of health in general. This brings us one step further up the market segment triangle shown in Figure 2, to the phase of advertising. A broad range of consumers is reached through magazine, newspaper, and radio advertisement. Efforts are made to target health magazines and papers to raise the general awareness of the product and its benefits.

The product is a capsule sold in a pharmacy, not in a general food store, and will remain so until awareness has reached a certain level. Once consumers reach this level of awareness, the product may take on a new shape. A medical product may thus become an ingredient in a food product. A capsule and a dietary supple-

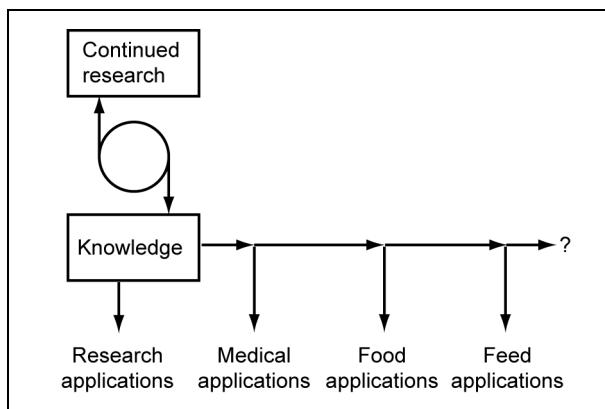


Figure 3. Possible areas of application for new biotechnologies (Mark-Herbert, 2002).

ment is the entry point of this product, around which a brand name is built up. As a dietary supplement, a research-supported claim can be made in product information. Once there is awareness about the effects of the ingredient, the next step is to make it available in a food form—for example, yogurt, juice, or ice cream. Consumers then know to look for the established brand or that specific ingredient in the food product in order to get the health benefits. A brand extension allows for continued development of products in different areas.

Continued Development and New Markets

Research in the area of health-related products gives rise to new technologies (i.e., new knowledge). Ideally, immaterial property rights protect these technologies, so that the return on investment is prolonged in terms of both licensing agreements and sales of value-added products (Figure 3).

New knowledge is developed in cross-disciplinary research projects. These areas of possible applications for new technologies are research, medical, food, and feed. Distribution channels will vary depending on the strategy. If a functional food product were sold as an over-the-counter medication, for example, the distribution channel would be a pharmacy. The marketing strategy would include information for medical professionals and marketing activities at medical congresses (for example). On the other hand, if a product is sold as a normal food or a health food, the expected distribution channel would be the retail market, where consumers would find the product in a food store or health food store.

Selling a product through a food retail channel assumes large volumes and a willingness to compete for exposure on the shelves. Consumers will compare prices

of new products with those of existing products that may fill their needs equally well. This strategic choice results in a low price margin but a larger volume. On the other hand, if the distribution channel is a medical professional (e.g., a doctor or pharmacist), the volumes are smaller, and it is expected that the price margin is higher. The distribution channel also has an effect on revenues through differentiated taxation.¹ This difference may amplify the effects of difference in sales volume, as explained by the choice of marketing channel.

Making ethical (Burkhardt, 2002) and strategic choices in the development and marketing of radically new products may determine not only the product shape, market channel, and the use of marketing information, but also the long-term payback on investments and the willingness to engage in continued biotech development.

Acknowledgements

The SJFR research council (now FORMAS) in Sweden granted financial support as a part of a PhD project. Special thanks are due to those responsible for and participating in the Ohio Agricultural Biotech conference 2003, "Emerging Value Added Opportunities: Pharming

a Future Harvest," for encouraging conversations (<http://www.osuagbiotech.org>).

References

- Burkhardt, J. (2002). Biotechnology's future benefits: Prediction or promise? *AgBioForum*, 5(1), 20-24. Available on the World Wide Web: <http://www.agbioforum.org>.
- Gilbert, L. (2000). Markeing functional foods: How to reach your target audience. *AgBioForum*, 3(1), 20-38. Available on the World Wide Web: <http://www.agbioforum.org>.
- Mark-Herbert, C. (2002). *Functional foods for added value: Developing and marketing a new product category*. Agraia 313. Uppsala, Sweden: Swedish University of Agricultural Sciences. Available on the World Wide Web: <http://diss-epsilon.slu.se/archive/00000298>.
- Schmidt, D.B. (2000). Consumer response to fuctional foods in the 21st centruy. *AgBioForum*, 3(1), 14-19. Available on the World Wide Web: <http://www.agbioforum.org>.
- Stewart-Knox, B., & Mitchell, P. (2003). What separates the winners from the losers in the new food product development? *Trends in Food Science & Technology*, 14, 58-64.
- Vanderhoof, J., & Young, R. (1998). Use of probiotics in childhood gastrointestinal disorders. *Journal of Pediatric Gasternterology and Nutrition*, 27, 323-332.
- Zechendorf, B. (1998). Agricultural biotechnology: Why do Europeans have a difficulty accepting it? *AgBioForum*, 1(1), 8-13. Available on the World Wide Web: <http://www.agbioforum.org>.

1. Value Added Tax (VAT) for food is 12% and for medicines is 25% in Sweden (2003).