Strategies for the Marketing of Innovative Products-A Case Study of Biotech Sector in India

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In today’s environment, innovations are critical for the firms to achieve competitive advantage. Innovations are an outcome of rapidly changing technologies and rising competition in the marketplace. But innovative products present a unique challenge in front of the marketers. This challenge emerges from the fact that innovative products are linked to social, psychological, performance and economic risks which obstruct their adoption and diffusion. Intensifying competition, rising awareness among customers and increasing interdependence between the players further makes it difficult to market them. As a result, a number of innovations fail to gain ground and sustain them in the market. Thus even the strongest technological innovation needs to be made sellable in order to achieve success. Marketing strategy is a key driver that can help in generating trial and propel their adoption and diffusion. The role of marketing strategy becomes all the more important in case of radically innovative products. Radical innovations are those innovations which revolutionize product categories or define new categories. They have potential to create new markets. These types of innovations are associated with higher level of risks and uncertainties. This study aims at examining and developing the strategies for marketing of innovative products especially the radically innovative ones. The case study of Indian Biotech sector (focusing Bt cotton) is taken to develop this framework.

The study identified the factors which impact adoption and diffusion of innovation and grouped them as- target market characteristics, environmental factors and the effect of other stakeholders and publics. Target market characteristics pertained to the demographics, psychographics and economic conditions of the potential market. Environmental factors include the effect of various environmental variables as well as the other stakeholders which could inhibit or boost the growth of technology. The study
recognized the ways as to how these factors were built into marketing strategy for promoting GM crops (especially Bt cotton).

Linkages between the marketing strategy, adoption and diffusion of innovations were conceptualized through a theoretical model. The theoretical framework was used to draw a coherent picture of all the factors that influence the adoption and diffusion of innovations and how they impact or are impacted by the marketing strategy elements. This framework was supported by the case studies on radical innovations and the need of marketing strategy was further highlighted.

In order to make note of the studies which have explored the relationship of these factors with GM cotton adoption, literature survey was carried out. This study further tested and analyzed these factors in context of GM cotton (Bt cotton) especially focusing upon India.

Findings reported in this study are based upon primary and secondary data survey. Secondary data survey was conducted in Indian and international context. In India, zone wise analysis was undertaken to track the changes in total cotton production since the launch of Bt cotton. It was found that there is significant impact of legal, social, technological, cultural and geographic environment on the adoption and diffusion of GM crop technology in the country. The survey discussed the case of launch of Bt cotton in India and the issues which propped up at that time. It also pointed that though the private sector has been incidental in the launch of the technology, the role of government in sustaining and propelling its growth cannot be undermined. The competitive and marketing scenario of the country which affected the dispersal and adoption of Bt cotton seeds was explained through the concept of Product Life Cycle.

Secondary research at international level revealed that there is a wide difference in the legal regulations framed by multiple regulatory bodies which govern the development, processing and trade of GM crops. The barriers erected by this international regulatory framework and other environmental factors to the diffusion of the GM cotton at the
global level were discussed. It was found that there are some countries where the technology was able to penetrate well while in others it was launched but was withdrawn due to various issues. However, in some of the countries the technology introduction was not smooth but later; it was well adopted and diffused in the economy. The survey detailed the effect of environmental factors on the technology acceptance by the market and how the promoters were able to cross various hurdles through their marketing strategies.

The primary survey based data was generated through extensive interviews with the farmers who are the customers of Bt cotton seeds. Primary survey attempted to explore the relationship of various demographic, psychographic and economic characteristics of the farmers with the adoption of Bt cotton seeds. It reviewed the marketing strategy used by the technology promoters in the country from the perspective of the customer. Various elements of marketing strategy like the promotion, product, price and distribution were explored and the farmer’s perception towards them was analyzed. Further their relationship with the Bt cotton seed adoption was also examined. The survey was conducted for three cotton producing states across the northern zone of India through fully structured questionnaire.

Analysis pointed to the growing trend towards the adoption of Bt cotton in the zone. The relationship of Bt cotton adoption with age, experience and education was found to be negative. The study also revealed that Word of mouth, Company representatives and Agricultural Area development officer were the major sources for spreading awareness regarding cotton seed brands. These sources were also important for spreading awareness regarding certification of Bt cotton seeds/ brands and generating their trial.

The results of survey further highlighted that farmers were concerned about the high price of Bt cotton seeds though they were convinced about its overall low cost of cultivation. Low overall cost of cultivation was supported by the lesser need for pesticide sprays and seeds per acre for Bt cotton compared to Non Bt. The major reasons quoted
for non adoption of the technology were- Low availability of seeds and lack of awareness regarding Bt cotton seeds/ brands.

Thus this study concluded that the marketing strategy must reflect all the factors which are responsible for the adoption and diffusion of an innovation. In case of Bt cotton, effect of all the environmental variables was found to be significant in India and international contexts but legal environment and the role of government seemed most important for the technology dispersal. Primary survey highlighted the need for various marketing strategy elements to act cohesively in order to effect the adoption and diffusion of the innovation.