Indian Journal of Library and Information Science
Volume 6 Number 2, May - August 2012

# Marketing of Agricultural Information in Cyber Era

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**ABSTRACT**

The objective of marketing of information is to enhance the use of information; to generate resources for running the service continuously; to facilitate production of user oriented rather than producer-oriented product. The present article deals with marketing of agricultural information in cyber era. Discuss the availability of information technology and its use in agriculture. Proposed web based Agricultural Information Dissemination System(AgrIDS). Stressed the need for mechanization of agricultural information for easy marketing and the employability skill required to disseminate the information.

**Key words:** Agricultural information; Marketing; Agricultural technology; Web-based agricultural information.

## INTRODUCTION

India farming community is facing a multitude of problems to maximize crop productivity. In spite of successful research on new agricultural practices concerning crop cultivation, the majority of farmers is not getting upper-bound yield due to several easons. One of the reasons is expert/scientific dvice regarding crop cultivation is not eaching farming community in a timely manner. Due to several reasons the current agricultural extension system, in India is unable to deliver the advice to all the farming community in a personalized manner. The traditional ways of advice dissemination through radio, newspapers, magazines, television are not meeting the expectations of the farmers due to the lack of coverage, accountability and personalized advice.

Marketing is planning and managing the organization's exchange relations with its clientele. It consists of studying the target market's needs, designing appropriate products and services, and using effective pricing, communication, and distribution on inform, motivate, and serve the market. The American Marketing Association defines 'marketing as those activities, which direct the flow of goods and services, from production to consumption'. Marketing is also includes identifying more active and demanding users; study their demand characteristics; and study the underdeveloped utilization patterns. Marketing means 'many things to many people'. It may be selling or it may be promotional (Conner & Chakrabarti, 1971).

### *Need for marketing of information*

Marketing of information is an aggregate of activities directed at satisfying human information needs and wants through exchange process; marketing involves viewing the whole information service or product from the point of view of final results i.e., from the use and user point of view. Libraries and information centers and quite recently the information brokers have been putting considerable efforts in the design of information services/products for the purposes of marketing them. An in-depth

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**(Received on 12.12.2011, accepted on 24.07.2012)**

analysis of several such services/products revealed that many of them were not user oriented, largely because of the non-involvement of the users in the product design. Also, the extent of use remained unknown to the generators, because of the lack of proper feedback.

The objective of marketing of information is to enhance of use of information; to generate resources for running the service continuously; to facilitate production of user oriented rather than producer-oriented products. This requires:

1. Identification of target customers/user groups.

2. Determination of their needs.

3. Designing of services / products appropriate to their needs.

4. Choosing right type of distribution channel.

5. Feedback and evaluation of products.

There are certain specific features of information that makes it very difficult to market it. Information is a consumable item, but unlike the other consumables, it does not get exhausted with use. At the same time, it costs to produce and deliver and requires substantial efforts to consume information (Proctor, 1991).

*Agricultural technology*

On the positive side, as a result of intensive research on advanced seeds, technologies and agricultural practices, a large amount of agricultural knowledge has been produced at agricultural research labs and educational institutes. Also, India has a large pool of qualified agricultural experts to provide appropriate advice to the farmer given a crop situation. Also, using the current advances in agricultural technology, the effect of the several factors on the crop growth can be understood and the possible corrective steps can be known in advance. For example, the effect of the improper, excessive and untimely application of fertilizers can be reduced by providing information about the amount and type of fertilizers required to get the maximum yield, given the type of the soil, and the crop details. Also, the information about the type and dosage of the pesticide can be provided, given the type of pest and corresponding crop details (Drucker, 1954).

*Problems of information gap*

Even though agricultural expertise and knowledge is available, in India, the majority of farming community is practicing old methods due to the fact that research and scientific advice is not researching the needy farmers in a timely manner. Also, as most of the farmers are illiterate or with little education, there is a large gap between agricultural research and its application, resulting in continuous suffering in the farming community due to low crop yield. There is a room to reduce the negative effect of several factors that disturb the crop by providing the timely expert information. It is necessary to improve the method of dissemination of advanced scientific advice to the needy farmers in a timely manner. Indian farmers need timely expert advice to make them more productive and competitive. So the problem here is, with the available resources and technology, to investigate methods to disseminate expert advice to the farming community in a cost effective manner (Baker, 1984).

One of the methods to provide the crop status to Agricultural Expert (AE) is to facilitate them to visit each farmer's field on a daily or weekly basis to understand the crop situation. An AE is a person who possesses an advanced nontrivial knowledge about the management of crops. He also possesses an expertise to recommend the possible steps based on the current crop situation. However, even though India has a large pool of agricultural scientists with appropriate expertise, it is difficult to cover all the farmers on a weekly/daily basis due to the cost and time factors. Moreover, such a system will be expensive to build and maintain (Sergeant,1999).

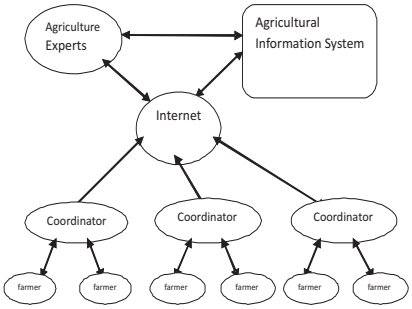
*Information technology opportunity*

Recent information technology revaluation (mainly the database and Web technology) provides an opportunity to build a cost-effective and scalable agricultural expert advice dissemination system to disseminate to fresh expert agricultural advice to the farmers, both in a timely and personalized manner (Levitt,1960). The basic idea here is rather than taking agricultural expert to the crop, the crop status is brought to agricultural expert in the form of both text and image information. In the proposed system only information moves; agricultural experts and farmers stay at their respective places. In this way it is possible to build a cost-effective and scalable agricultural information system (Bateson,1989).

The main objective of the proposed system is to increase the profitability of the farmer by increasing the efficiency of agricultural input and reducing the cost of production. This should be achieved by keeping the soil alive for long run (health of soil). The achieve of these objectives by giving timely advice to the farmers in the following areas.

1. Choice of the crops to be based on soil tests.
2. Pest warning and pest control.
3. Fertilizer use in terms of amount and timing.
4. Marketing.
5. Scheduling of crop activities.
6. Weather information and the type of the crop to be raised by forecasting weather.
7. Strategic planning.

*Web-based Agricultural Information Dissemination System* (AgrIDS)




*Source: An agriculture information dissemination system.*

In the proposed system, the agricultural experts get the information about the crop situation through internet in the form of both text and image data, and then generate the appropriate advice which is sent to the farmer through the internet (Berry,1991). The AgrIDS contains four parts: Farmers, coordinators, agricultural Information System (AIS). See source: All parts are connected through Internet.

*(i) Farmers*

farmers are the end users of the system. They form the bottom layer. They can be illiterate and speak a local language. They are not expected to use the system directly. However, if they are educated and have an Internet connection, they can use the system themselves.

*(ii) Coordinators*

A coordinator is associated with a group of farmers. The coordinator possesses agricultural experience and basic data entry skills. He visits the crop fields of the farmers associated with him and enters the relevant data (through text and images) into the system. Also, when the system produces the advice, the coordinator contacts the concerned farmer and explains the personalized advice to him.

*(iii) Agricultural Experts*

AEs use research data, soil data historical data, and other information data, and other information to generate appropriate recommendation and store this advice in the system. The AEs interact with the knowledge base and crop environment by staying at the same place; the AEs rarely visit the farmer's crop. Instead, the crop environment itself is provided to the AEs in the form of both text and images. So in AgrIDS, both the users and the AEs stay at their respective place of work; only information moves around through Internet.

*(iv) Agricultural Information System*

It is a computer based information system which contains all the related information such as the details of the farmer with corresponding soil and crop information. The information's are sent by the coordinators, the details of various crop properties and so on.

*Mechnization of agricultural information*

Agricultural Mechanization is a yearlong, lab intensive course in which students develop an understanding of basic principles of selection, operation, maintenance, and management of agricultural equipment in concert with utilization of safety and technology. Topic covered include: small and large gas and diesel engine repair, power transfer systems including hydraulic, pneumatic and robotic systems, arc, metal fabrication such as MIG, TIG and SMAW welding, concrete, wood, metal, electricity and electronics, recalculating aquaculture systems, hydroponics systems, surveying, precision farming equipment, remote sensing technology and global positioning systems equipment, building agriculture related buildings and structures including greenhouse, tillage, planting, irrigation, spraying, grain and forage harvesting, feed and animal waste management systems, agricultural industry communications and customer relations, safety the safety resources career opportunities in the area of agricultural mechanization and employability skills (Lovelock,1984).

*Farm Management*

Farm Management is a yearlong course that introduces students to the principles of farm management on a farm, economic principles, decision-making, methods for organizing and planning getting started in the farming business, farm record keeping systems risk management, and career opportunities in the field of farm management.

*Landscape Management*

Landscape Management is a yearlong course that provides the student with an overview of the many career opportunities in the diverse field of landscape management. Students are introduced to the procedures used in the planning and design of a landscape using current technology practices, the principles and procedures involved with landscape construction, the determination of maintenance schedules, communications, management and employability skills necessary in landscaping operations, and the care and use of equipment utilized by landscapers. Upon completion of the programme, students have the opportunity to receive an industry State Certificate of mastery in Landscape Management.

*Natural Resource Management*

This course is a yearlong programme that provides students with a background in natural resource management. Students are introduced to career opportunities in natural resource management and related industries, understanding forest ecology importance, recognizing trees and their products, tree growth and development, forest management, measuring trees, timber stand improvement and urban forestry, soil features, erosion and management practices, conservation practices, water cycles, uses, quality standards, reducing water pollution, conducting water quality tests, watersheds, and its importance to natural resource management, hazardous waste management, native wildlife, waterfowl, wetlands, and fish management, topography map use, management of recreational areas, game bird and animal management, outdoor safety, and weather. "hands-on" learning activities encourage students to investigate areas of environmental concern including: identification and management of ecosystems, natural succession identification, natural communities, recycling and management of waste in the environment, soil conservation management practices, land uses, and air quality (Coote,1994).

*Advance in Life Science*

Advance in Life Science, is a standards-based, interdisciplinary sciences course that integrates biology, chemistry, and microbiology in an agricultural context. Students enrolled in this course formulate, design, and carry out animal-based laboratory and field investigations as an essential course component. Students investigate key concepts that enable them to understand animal growth, development and physiology as it pertains to agricultural science. This course stresses the unifying themes of both biology and chemistry as students work with concepts associated with animal taxonomy, life at the cellular level, organ systems, genetics, evolution, ecology, and historical and current issues in animal agriculture. Students completing this course will be able to apply the principles of scientific inquiry to solve problems related to biology and chemistry in highly advanced agricultural applications of animal development.

*Plant and Soil*

Advanced Life Science, Plant and Soil, is a standards-based, interdisciplinary science course that integrates the study of advanced biology, chemistry, and earth science in an agricultural context. Students enrolled in this course formulate, design, and implement agriculturally-based laboratory and field investigations as an essential course component. These extended laboratory and literature investigations focus on the chemical reactions of matter in living and nonliving materials while stressing the unifying themes of chemistry and the development of physical and mathematical models of matter and its interactions. Using the principles of scientific inquiry, students examine the internal structures, functions, genetics and processes of living plant organisms and their interaction with the environmental. Students completing this course will be able to apply the principles of scientific inquiry to solve problems related to both biology and chemistry in the context of highly advanced agricultural applications of plants and soils.

*Foods*

Advanced Life Science, Foods, is a standard-based, interdisciplinary science course that integrates biology, chemistry, and microbiology in an agricultural context. Students enrolled in this course formulate, design, and carry out food based laboratory and field investigations as an essential course component. Students understand how biology, chemistry, and physics principles apply to the composition of foods, food nutrition and development, food processing, and storage. Students completing this course will be able to apply the principles of scientific inquiry to solve problems related to biology, physics and chemistry the context of highly advanced agricultural applications of food.

*Towards and information market model*

The marketing of consumer products has developed into a sophisticated operation, largely in response to the maturation of markets and the consequential increased completion (Jain, 1994). The market of information, in contrast, is relatively low standard, and whilst information has some characteristics which differentiate it from conventional consumer products, there is nevertheless considerable similarity which allows an analogous model for the information market to be constructed.

*A Generalized consumer product marketing Model*

The generalized market model thus has four major components:

1. The manufacturer/Supplier.
2. The delivery system (wholesaler/ distributor/retailer).
3. The market research/advertising sector.
4. The consumer.

All four components interact strongly each other, and their relative importance reflects the type of market, the level of competition, and the opportunities for adding value. The total value of a market can only increase if

more consumers become involved or if more value can be added to the product and hence higher prices can be charged. Moreover, this total added value has to be partitioned between the principles in the market, and if the market is not growing, then competition increase between the participants for market share competition thus encourages mergers, vertical integration, and new types of selling (e.g. mail order, telephone selling, computer selling).

*An Information market model*

The analogy between information and consumer products is sufficiently strong to enable a market model to be derived from the consumer products model. However, there are differences, and these must be considered in taking the analogy to its extreme. The most important difference is that consumer products cease to exist once they have been used. Whereas information can be reused in time and again. In case information may increase its value through use. Again, most consumer products start deteriorates as soon as they are produced and much of their value derives from processing to preserve their lifespan. Information is contrast, does not deteriorate over/time, although it has a value in time related to its use but not production (Kotler,1994).

*Struture of organizational framework*

Modern agriculture libraries do not run by themselves; they require a lot of organization and administration strategies to run with multifarious activities and resources. The libraries have to deal with different types of knowledge resources and in the present context the multimedia information sources and communication media to meet the contemporary changing demands of the users and the changing formats of materials. An array of responsibilities is vested upon the librarian as an entrepreneur in the industry of knowledge. These demands of him to have an adequate knowledge of the management techniques for adjusting the working force to the working environment and, the working force to maximize the library service to the academicians at the lowest cost and with reasonable effort. It requires specialized organizational skills to bring semblance between the user demands and the varieties of information sources. The libraries have possessed written documents, printed documents, and non-print media consisting of audio-visuals, microforms, maps, atlases and innumerable varieties of traditional multimedia resources. The profession of Librarianship is encountering this contemporary transformation in the media change as well as meeting the equally changing demands of the users.

In addition to above the technological impact on libraries in the last two decades have thrown out new challenges with the advent of magnetic, optical and other electronic sources of information. Most of the traditional multimedia sources are still in existence in large number in many academic libraries and they would ever vanish from the scene of the academic library environment like the maps, atlases, photographs, other audio-visuals and the microforms. Most of these sources are also held on the modern media that is the optical devices, hence the academic libraries have challenging tasks to handle the varieties of these media and put them into use.

As regards to the collection, though the libraries under survey are not very strong in possession of traditional as well as current multimedia collection, but the fact is very conspicuous as most of university libraries are not completely conversant with their multimedia wares. However considering the emerging trends in the new media it is obvious that libraries will have to possess the new media particularly CD-ROM based information sources. Besides they have to depend largely on Internet based resources, digital libraries and access to library web-sites through the growing number of library networks. It becomes incumbent upon all library fraternity that they acquire the organizational skill and the knowledge of handling them and also to meet the user demands in the context (Adeloye, 2003).

## CONCLUSION

The library can be called an information treasury and the library user is a communication of information. Information is a vital resource for national development, increasing realization of the role of information has resulted in the establishment of information systems to provide a variety of information services and products. It is an essential step in the planning, designing, and use of such services and products for optimal use of information. Library acquisition, organization and dissemination must be based on the modern concept of marketing to achieve reader satisfaction. It must endeavor to nature, culture of customer service to enhance its image in the eyes of the users.

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