

# The Decision Support System and Entrepreneurial Communication: The Essentials for Small Farmers

Sankhyashree Roy<sup>1</sup> and S K Acharya<sup>2</sup>

<sup>1,2</sup>Dept. of Agricultural Extension Bidhan Chandra Krishi Viswavidyalaya  
E-mail: <sup>1</sup>sankhyasree06@gmail.com, <sup>2</sup>acharya09sankar@gmail.com

**Abstract**—Information starvation is a serious crisis for small farmers of India. No matter how costly or what applicable the input speaks on, it is the methodology and market information that dictate the fate of the production and product both. A decision to grow what and to send the product where delivers to the destiny of a farmer. Even with golden harvests, farmers of thousands hanged themselves out of desperation, and this would be good enough to advocate the need for making farmers capable of making good decision by using a Decision Support System (DSS) and delivering the best possible entrepreneurial communication at the same time as usual. The present paper conceptually examines the frame of a DSS as applicable for rural entrepreneurship process and elucidating the efficacy of business communication to take proper decision and proper entrepreneurial communication. It throws light on making small farmers well receptive to different mode of communication with framing up their information seeking behavior, enterprise-friendly kinesics, layering entrepreneurial behavior at different stages of production and product positioning process, and also, the unique suitability of small and fragmented land resources in this complex entrepreneurial process designing.

**Keywords:** Business communication, DSS, entrepreneurial communication, kinesics, small holding.

## 1. INTRODUCTION

Agriculture plays a pivotal role in the Indian economy. Although its contribution to gross domestic product (GDP) is now around one sixth, it provides employment to 56 per cent of the Indian workforce. Also, the forward and backward linkage effects of agriculture growth increase the incomes in the non-agriculture sector. Most of the farmers here are small farmers, consisting of land holding between 1 to 2 ha. The growth of some commercial crops has significant potential for promoting exports of agricultural commodities and bringing about faster development of agro-based industries. Thus agriculture not only contributes to overall growth of the economy but also reduces poverty by providing employment and food security to the majority of the population in the country and thus it is the most inclusive growth sectors of the Indian economy. However, there have been exclusion problems in the country. In other words, real development in terms of growth shared by all sections of the population has not taken place. We have problems of poverty, unemployment,

inequalities in access to health and education, poor performance of agriculture sector and nowadays the most important problem is lack of adequate and timely information about business, marketing and communication.

## 2. COMMUNICATION

Communication is the act of conveying intended meanings from one entity or group to another through the use of mutually understood signs and semiotic rules. It is an essential part in our day to day life.

The basic steps of communication are:

1. The forming of communicative intent
2. Message composition
3. Message encoding
4. Transmission of the encoded message as a sequence of signals using a specific channel or medium
5. Reception of signals
6. Reconstruction of the original message
7. Interpretation and making sense of the reconstructed message.

## 3. BUSINESS COMMUNICATION

**Business communication refers to how information is shared between employees at a company for the commercial benefit of that organization.** It can also refer to the way a business communicates with its consumers by advertising and sharing information about its services or products. The different types of communication in business include verbal, written and electronic communications. Telephone conversations, video conferences, in-person interviews and meetings are several examples of verbal communication.

#### **4. ENTERPRISE**

A business, also known as an enterprise, agency or a firm, is an entity involved in the provision of goods and/or services to consumers. Businesses are prevalent in capitalist economies, where most of them are privately owned and provide goods and services to customers in exchange for other goods, services, or money. Businesses may also be social non-profit enterprises or state-owned public enterprises targeted for specific social and economic objectives. A business owned by multiple individuals may be formed as an incorporated company or jointly organised as a partnership. Countries have different laws that may ascribe different rights to the various business entities. Small Farmers are mostly engaged in business by selling their farm produced in the market.

#### **5. ENTREPRENEURSHIP**

It has traditionally been defined as the process of designing, launching and running a new business, which typically begins as a small business, such as a startup company, offering a product, process or service for sale or hire.

Traditionally, an **entrepreneur** has been defined as "a person who organizes and manages any enterprise, especially a business, usually with considerable initiative and risk". Rather than working as an **employee**, an entrepreneur runs a **small business** and assumes all the risk and reward of a given business venture, idea, or good or service offered for sale.

#### **6. ENTREPRENEURIAL BEHAVIOUR**

- Understand the nature of entrepreneurship;
- Understand the function of the entrepreneur in the successful, commercial application of innovations;
- Confirm an entrepreneurial business idea;
- Identify personal attributes that enable best use of entrepreneurial opportunities;
- Explore entrepreneurial leadership and management style.

#### **7. ENTREPRENEURIAL COMMUNICATION**

It means the communication between farmers and different line departments about getting various types of entrepreneurial information, marketing information, auction, weather, new upcoming enterprise, etc.

#### **8. INFORMATION COMMUNICATION TECHNOLOGY**

Changes in information technology will help in a big way to improve agri-business and incomes of small farmers. Indian private companies and NGOs are global leaders in providing information to farmers, as a spinoff from India's meteoric rise

as a world leader in ICTs. E-Choupal has expanded access to internet in rural areas. Up to 6,400 internet kiosks were set up between 2000 and 2007 by ITC Limited, one of the largest agricultural exporters. It reaches about 4 million farmers growing a range of crops - soybean, coffee, wheat, rice, pulses or shrimp - in over 40,000 villages. They get free information in their language about local and global market prices, weather forecasts, farming practices and crop insurance. It serves as a purchase centre, cutting marketing costs and allowing farmers to obtain a bigger farm price. The M. S. Swaminathan Research Foundation established Knowledge Centers in Pondicherry in 1997. With the support of the Indian Space Research Organization, centers in each village are connected by satellite to a hub at Villianur. The women self-help groups use the centers' computers to manage their business accounts and coordinate their activities, using video links with the other villages.

#### **9. ROLE OF INFORMATION TECHNOLOGIES IN THE ENTERPRISE COMMUNICATION SYSTEM**

The risk of doing business is closely related to the need of good knowledge in business area and terms of business in real condition by their partners as well as by their competitors – it's the key to whichever successful business deal and effective collaboration between partners or clients. As it was stated - changes happen even without planning and so it is necessary to change a way of information support provision in dependence on what type of changes occurs. Currently accessible information systems only in a small scale or not at all provide information about slough in a company and in farming community and that is why also an ability to suppose in advance if suggested solution will present benefit or lost investment of a company or farm is quite low. This situation brings the requirement to look for a simple solution aimed at risk elimination. This means to find the right solution concerning optimizing and investments to development of network, communication and information systems as well as people knowledge databases which help managers to concentrate on their core competencies.

#### **10. RELATIONSHIP BETWEEN SMALL BUSINESS AND ENTREPRENEURSHIP**

The term "entrepreneur" is often conflated with the term "small business" or used interchangeably with this term. While most entrepreneurial ventures start out as a small business, not all small businesses are entrepreneurial in the strict sense of the term. Many small businesses are sole proprietor operations consisting solely of the owner, or they have a small number of employees, and many of these small businesses offer an existing product, process or service, and they do not aim at growth.

## 11. DECISION SUPPORT SYSTEM (DSS)

There is a need for development of dynamic website for farm entrepreneur which could help them in day-to-day decision taking. The business of farming has entered a new era – an age where key to success is perfect, timely information and careful decision-making. International competition has resulted in a continued pressure on profit margins. Moreover, the farmer has to decide about various production options utilizing the results of latest developments of research and technology. Informed and quick decision making is therefore required to ensure profitable performance of the farmers

Decision support systems are a class of computer-based information systems including knowledge based systems that support decision making activities. DSS is a computerized system for helping make decisions. A decision is a choice between alternatives based on estimates of the values of those alternatives. Supporting a decision means helping people working alone or in a group gathers intelligence, generate alternatives and make choices.

Decision Support System with all the ready information, help the farmers in a very useful manner. The farmers can get all the information at just a click of the mouse, and they need not to travel to Agricultural Universities for that.

## 12. OPERATIONAL CONCEPT

The concept of a **Decision Support System (DSS)** emerged in the 1970s following developments in IT which allowed the interactive use of computer technology. The DSS concept reflected dissatisfaction with previous inflexible modelling approaches which did not allow management intervention in problem solving.

The early definitions of **DSS** emphasised the role of DSS as flexible systems combining database and model components aimed at less structured decisions. These modelling and database components are under the control of the user through an interface or dialogue system.

**DSSs** include knowledge-based systems. A properly designed DSS is an interactive software-based system intended to help decision makers compile useful information from a combination of raw data, documents, personal knowledge, or business models to identify and solve problems and make decisions.

Typical information that a decision support application might gather and present are:

- Inventories of information assets (including legacy and relational data sources, cubes, data warehouses, and data marts),
- Comparative sales figures between one period and the next,
- Projected revenue figures based on product sales assumptions.

DSS help executives make better decision by using historical & common data from internal information systems & external sources .By combining massive amounts of data with sophisticated analytical models & tools,& by making the system easy to use ,they provide much better source of information to use in decision making process.DSS are a class of computerised information system that support decision making activities.DSS are interactive computer-based system & subsystem intended to help decision makers use communications technologies, data, documents, knowledge or models to successfully complete decision process task.

A decision support system or DSS is a computer based system intended for use by a particular manager or usually a group of managers at any organizational level in making a decision in the process of solving a semi structured decision (Figure 7). The DSS produces output in the form of periodic or special report or the results of mathematical simulations (Raymond, 1990). It is difficult to pinpoint that are completely structured or unstructured. The vast majorities are semi structured. This means that the DSS is aimed at the area where most semi structured decision is needed to be made.

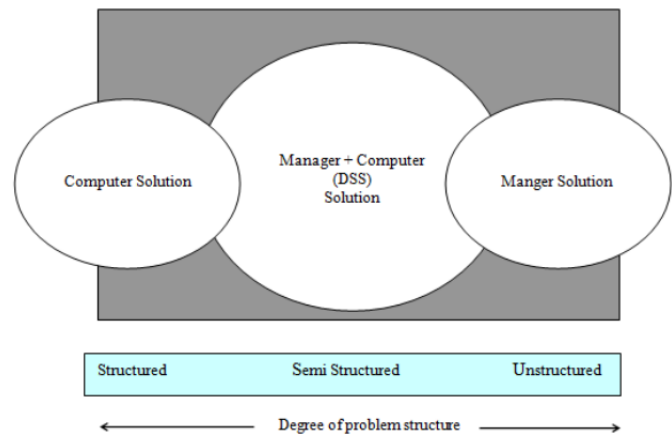
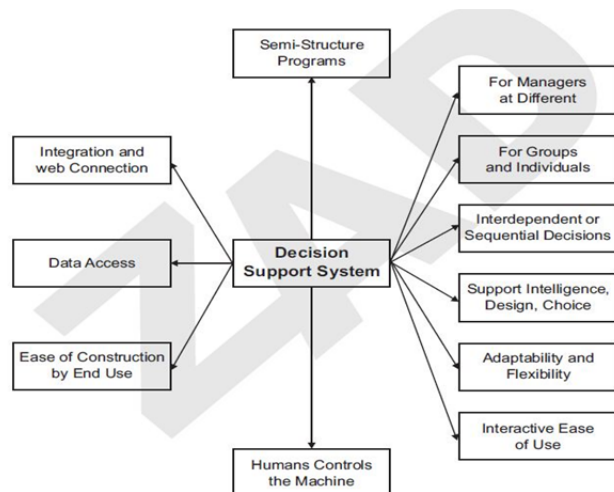


Fig. 1: The DSS focuses on semi structured problems (Raymond, 1990)

## 13. CHARACTERISTICS OF DSS:

- DSS focuses on towards providing help in analyzing situations rather than providing right information in from of various types of reports.
- DSS is individual specific. Each decisions maker can incorporate his own perceptions about the problem and analyze its effect.
- DSS incorporate various mathematics, statistical and operations research models.
- DSS is only supportive in nature decisions makers still retain their supremacy. It does not thrust its outcomes on the decision maker.
- DSS is effective in providing assistance to solve semi-structured problems at all levels. It is used at first line, middle level and top level management.

- DSS needs an effective database management system. It extensively uses database.
- DSS helps decision makers to carry out ‘what- if’ analysis.



#### 14. DSS IN FARM SYSTEM:

- The model will help the farmers in increasing their productivity by raising the yield/hectare in food grains: thus, leading to their economic growth. This system has been developed to keep track of farmers all type of information related to crops.
- Certain applications that are successfully developed using this database are:
- Farmers can manage their cash flow through the DSS system in a more predictable and efficient way. It is a more common problem with the farmers to manage the cash received at time of harvesting the crop.
- They can avail full benefit of their cash management by co-relating it with the loans and advances.
- The administrator can add information to the database without stopping the application.
- If implemented at Village, District and State level, the model will provide valuable information to other agencies

and panchayats in particular.

Growing population and demands for improved watershed management, there is an obvious need to implement sustainable resource use that best serves the communities and the nation. To satisfy this need, the DSS is developed to aid decision – makers and various stakeholders in identifying and assessing options for resource uses. The DSS applies an integrative approach, combining biophysical data, perceptions and socioeconomic conditions of the farmers in the given area. The DSS attempts to stimulate the farmer’s behavior in selecting farming systems given relevant constraints and then aggregating up to the node.

A large number of database queries can be generated according to Crop, Water Availability and Requirement, Socio-economic constraints and so on. Design and Development of this database is purely based on Relation Database Management System Model, so the large volume of queries can be easily handled.

DSS with all the ready information help the farmers in a very useful manner. The farmers can get all the information at just at click of the mouse, and they need not to travel to Agricultural Universities for that.

#### REFERENCES

- [1] C. Badiger “Patterns of decision making among farm families” Karnataka- Journal-of-Agricultural-Sciences, Vol. 3, 1990, pp.290-293.
- [2] T. R. Hedges “Farm Management Decisions” Prentice-Hall, Inc. Englewood Cliffs, N J, 1963, pp.577-609.
- [3] V. S. Janakiraman and K. Sarukeshi “Decision Support Systems” Prentice-Hall of India Private Limited, New Delhi, 2001, pp.26-77.
- [4] P. S. Kidd (1998) “Economic motivator for safe farming: changing perceptions through learning” Journal of Agricultural Safety and Health, Vol 2, 1998, pp. 205-212.
- [5] S. Singh, C. J. S. Pannu and J. P. Mittal “Pre-harvest energy use and crop yield relationships for growing wheat in Punjab” Journal of Energy Conservation and Management, Vol 3, 1998, pp. 1377-1382.